

the OTTER TRUST HANDBOOK



This booklet sets out to tell you something about the Otter Trust, its work and its collection of otters.

Times of Opening: Daily 10.30 a.m. to 6.00 p.m. or sunset if

earlier from 1 April to 31 October

School Parties: A responsible adult must take charge of a

maximum of six children.

Free Car Park at Entrance

Buses: Eastern Counties Omnibus Co. No. 631 stops

in Earsham.

Refreshments: Light lunches, teas, ices and other refresh-

ments are available in the Tearoom.

Shop: The shop supplies postcards, stationery,

souvenirs, etc., and specialises in the sale of

unusual gifts.

Dogs: Dogs are not allowed in the Trust's grounds

under any circumstances. Please leave your dog in your car with the window slightly

open.

Plan: A plan of the Trust's grounds will be found

at the end of this booklet.

Feeding of Otters: All otters have specialised diets so please do

not feed them.

Litter: Please help to keep the Trust's grounds tidy

by placing all your litter in the bins provided,

Children: All otters bite so parents and teachers are

requested to make certain their children do not put their fingers anywhere near any of the otters. Small children should not be allowed close to the lakes or along the River

Walk unattended.

The Otter Trust

The Trust is a registered charity and was founded by Philip and Jeanne Wayre in 1971. After searching for several years for a suitable site upon which to set up the Trust's headquarters and keep its collection of otters, they purchased River Farm in 1975. The collection of otters which you will see here is unique, being the largest in the world.

In several countries of Europe, notably the Netherlands, Belgium, France and Germany, the number of otters has declined alarmingly in the past decade. The otter's position in England and Wales is now so critical that it has been added to the list of animals protected by law. Fortunately the position is not quite so serious in Scotland.

Otters are also decreasing at an alarming rate throughout the rest of the world and 5 of the 19 species or kinds of otter known to science are now considered to be in danger of extinction in the wild. Most of them have been trapped or shot almost out of existence for their skins.

The precise reason for the decline of the otter in Britain is not known but it seems likely that pollution of the waterways is a major factor. Like all predators, including ourselves, the otter is at the end of the food chain and if fish and frogs become contaminated by poisonous chemicals used in agriculture and industry it eventually accumulates a lethal dose from which it dies. At the same time marshes are being drained, rivers canalized and their banks cleaned up and straightened. All these activities deprive the otter of its home.

WHAT THE TRUST SETS OUT TO DO

- 1. To promote the conservation of otters throughout the world wherever it is necessary for their survival.
- To maintain a collection of otters in semi-natural but controlled conditions both for research and for the interest and education of the general public and children in particular.
- To carry out research into the breeding of otters in captivity
 with the ultimate aim of releasing young animals in suitable
 reserves in the wild where such action is considered necessary
 to reinforce a depleted wild population.
- To promote and support field studies of otters in order to collect factual scientific information to help in their management and conservation.



Indian Smooth-coated Otters with cubs

The Trust's Achievements

BREEDING

Three species of otter have been bred at the Trust including the European or British Otter Lutra l. lutra, the Indian Smooth-coated Otter Lutra (Lutrogale) perspicillata and the Asian Short-clawed Otter Amblonyx cinerea. The Trust at Earsham and Philip Wayre's Norfolk Wildlife Park at Great Witchingham are the only places to have bred the British Otter in captivity in this country during the present century. We can now claim that we are breeding the European (British) Otter regularly and are in a position to make the first re-introductions to the wild of young animals bred at Earsham.

CONSERVATION

The Trust has been the leader in practical otter conservation for a number of years. Its achievements include:—

1. The construction of the first two otter underpasses in Britain

These are tunnels made from large diameter drainpipes set one metre beneath the surface of a main road where an otter's traditional pathway crosses such a road resulting in the animals getting run over from time to time. With the help of the Norfolk Highway Authority two such underpasses have been put beneath the main coast road at the mouth of the River Glaven near Cley.

2. The establishment of Otter Havens

While it was very desirable that the otter should be added to the list of animals protected by law in this country, it was not enough to ensure the otter's continued survival. More practical measures were necessary. Researchers from the Trust have now surveyed more than a dozen rivers in East Anglia and with the help and co-operation of landowners and farmers have established Otter Havens or sanctuaries on eight of them. Briefly an Otter Haven is an area of river which may vary in length from 1 or 2 kms to 5 or 6 kms or even more, where the habitat is ideal for otters. This means there must be unpolluted water, plenty of fish and water plants in the river, plenty of growth on the banks and cover in the form of trees and bushes, particularly bramble. If there are nearby marshes filled with overgrown dykes and swampy woods of alder and willow so much the better. Once such a Haven is established the landowner agrees to protect the otters there and to prevent any undue disturbance or removal of cover.

Members of the Trust's staff are permitted to visit the site to check for the presence of otters and with the landowner's consent to carry out improvements, such as planting of more trees and bushes.

So far 252 Otter Havens have been established on 11 rivers in East Anglia and this work is continuing.

A complete record is kept of every Haven which includes the name and address of the landowner or farmer, the precise location of the Haven, its size, the type of vegetation on the banks and in the water, the type of fish present, the depth and rate of flow of the water and any likely changes in river management. All these details, including large scale maps, are



Pair of Asian Short-clawed Otters with 5 cubs in their breeding den

drawn up on standardised forms and deposited with such authorities as the Nature Conservancy Council and the County Naturalists Trust as well as with the Anglian Water Authority. In this way all concerned know exactly what Havens have been established and where they are.

An important part of the Trust's work is to continue to monitor the movement of otters after the Havens have been established. In this way we are able to learn whether or not they are being successful in providing a permanent habitat for otters.

Nobody knows just how many otters there are left in England and Wales today but the number is likely to be only a few hundred and in Norfolk and Suffolk, one of the last strongholds of the otter in England, there may be less than 150 animals remaining in the wild.

3. Population Surveys

If otters are to be protected adequately it is important to know just where they are to be found in this country and the Trust is doing this by setting up a chain of otter surveyors all over Britain. Usually they are members of the Trust who agree to search their own particular river for signs of otters at regular intervals throughout the year, sending in regular reports to the Trust's headquarters.

These are just some of the ways in which the Trust is making a practical contribution towards the conservation of the otter in Britain.

Mobile Exhibition Centre

The Mobile Interpretative Centre constructed within a large caravan provides a most important link between the living collection of otters and the Trust's conservation work. The exhibit explains the importance of wetlands with particular reference to the social and economic history of a river valley like the Waveney, using the otter as the link and giving as much detail as possible of the otter's life and habits.

During the year the Trust's staff take the caravan to agricultural shows, game fairs and wildlife exhibitions and in this way help to spread the news of the Trust's work and encourage more members to join. When not out on location, the Mobile Exhibition is positioned near the Tearoom so that all visitors to the Trust can see it. Of course it is also especially useful for school parties and young people visiting the Trust for the first time as it not only increases their knowledge of the otter, but helps them to understand what the Trust is trying to do. It is in this field that the exhibit has proved particularly successful.

Exterior of the Trust's Mobile Exhibition Centre





Interior of one side of the Mobile Exhibition Centre with displays showing otter territory etc.



The Trust's Headquarters at Earsham

How the Trust Works

Being a charity the Trust is administered by a Council consisting of about twelve members of the Trust. The Council meets twice every year to decide on policy, but the day to day running of the Trust is conducted by an Executive Committee consisting of five members of Council who meet once each month.

For its financial resources the Trust depends on the subscriptions of members, donations and receipts taken at the gate and in the tearoom and shop. Jeanne and Philip Wayre both work for the Trust in an entirely voluntary capacity and do not receive any financial reward, although of course the land belongs to them and they have given the Trust a ninety-nine year lease, for which they receive rent.



Philip and Jeanne Wayre with their tame Asian Short-clawed Otter, Mouse

PhilipWayre

As founder and Hon. Director, Philip Wayre is mainly responsible to Council for carrying out its policies and for supervising the Trust's conservation activities. He is also responsible for the maintenance of the collection.

JeanneWayre

Jeanne Wayre is responsible for the administration of the Trust and for everything connected with public relations which includes writing the twice yearly Newsletter for members, organising Open Days and handling the Trust's publicity generally. As Chairman of the Education Committee, Jeanne Wayre is also responsible for all the Trust's educational activities including the Junior membership.

The work of the Trust's Conservation Officer includes research into the biology of the otter, the study of otters in the wild, the monitoring of the effectiveness of Otter Havens or sanctuaries and the establishment of new Havens.

Nigel Palmer is Manager in charge of the collection.

There are of course other members of staff both voluntary and paid who make a most important contribution to the running of the Trust.

The Grounds

If you cross the wooden bridge in front of the tearoom the first thing you are likely to notice is Bubo, the European Eagle Owl Bubo b. bubo who during the daytime sits on her block either in the corner of the Water Garden or if it is very windy or extremely hot in the shelter and shade of the trees behind. Bubo is really Philip Wayre's mascot. She has appeared with him on more than one hundred T.V. programmes and has been with him for more than twenty years. She came from the Norfolk Wildlife Park at Great Witchingham where more than 60 European Eagle Owls have been bred, 18 of which have been presented to the Swedish Nature Conservation Authorities and 11 to the German Conservation Authorities for release in their forests where the Eagle Owl used to be found but had become extinct.

The WATER GARDEN on your right is inhabited by fish including Common Carp Cyprinus carpio, Golden Orf Leuciscus idus and Rudd Cyprinus erythrophthalmus. In sunny weather when the water is clear you may be lucky enough to see some of them, particularly the Golden Orf which often bask near the surface. In addition to the many different kinds of aquatic plants, Water Voles Arvicola terrestris live wild on the islands and around the banks and can often be seen. In addition you may notice some very tame Mallard Anas platyrhynchos and other species of waterfowl.

The Marsh in front of you is known as the Home Marsh and out on the lake there is a varied collection of ducks and geese, including the Western Bean Goose Anser fabalis fabalis which breeds in northern Scandinavia east to the White Sea. In recent years this form of the Bean Goose has declined in numbers due to human disturbance of its breeding grounds. World Wildlife Fund Sweden are breeding this goose in captivity with the aim of reinforcing the wild population with captive-bred birds. Several pairs of Bean



The Trust's Headquarters and the house seen across one of the waterfowl lakes



Geese bred at the Otter Trust have been presented to Sweden to help this scheme. The Western Bean Goose spends the winter in Eastern Europe although one or two hundred visit Britain for a short mid-winter period, particularly in south-west Scotland and in Norfolk. Also on the Home Marsh are some Lesser White-Fronted Geese Anser erythropus, small birds which breed in Arctic Siberia with, in addition, a few pairs breeding in Finnish and Swedish Lapland and in northern Norway. This goose migrates south to spend the winter on the shores of the Caspian Sea and eastern Mediterranean as well as in eastern China, Korea and Japan. The Lesser White-front is often seen in Western Europe among flocks of European White-fronts or even Bean Geese.

In addition to the geese there are many species of ducks on the Home Marsh, ranging from the gaily coloured Mandarin Aix galericulata which originated in China but now breeds wild in this country, to the more usual British and European species like the Common Shelduck Tadorna tadorna, a familiar bird of the Norfolk coast which nests down rabbit burrows, the Wigeon Anas penelope which winters in Norfolk in large numbers, the drakes having a most attractive "whee-oh" whistling call, the Gadwall Anas strepera which breeds in East Anglia, the Northern Pintail Anas acuta, perhaps one of Europe's most distinctive and elegant ducks, the male's white chest and the white strips extending on either side of its chocolate-coloured head stand out when the bird is on the ground, the Shoveller Anas clypeata, with its very long flat bill and the Red-crested Pochard Netta rufina, the male of which has a bright orange-red crested head.

Also on this marsh is the small Marbled Teal Anas angustirostris. This bird breeds in very small numbers in Europe in the Andalusian Province of Spain. It nests in larger numbers in Morocco, Algeria and Egypt. Another population occupies southern Turkey and Iranian and Soviet areas bordering the Caspian. The Marbled Teal is one of the rarest European breeding wildfowl.

As you turn right to walk through the Home Marsh towards the Far Marsh, the otter breeding enclosures are on your right hand

A typical enclosure for breeding European Otters





side stretching for nearly a quarter of a mile. Each enclosure is built across a stream and has a large pool with a natural growth of aquatic plants. At the time of writing these notes three species of otter are exhibited in the Trust's collection.

Looking across to the next marsh which is called the Far Marsh you will see another lake which has its own collection of waterfowl. There are three species of goose on this marsh, the most numerous being the Bar-headed Goose Anser indicus which has a pale grey body with white hind quarters, a neck striped vertically in black and white and two black horizontal bars on its white head. The Bar-head breeds in the Himalayas migrating, sometimes at 9,000 metres, over the mountains to winter in northern India, Pakistan, Bangladesh and Burma. Odd individuals sometimes wander in winter as far as southern and eastern Europe. Also to be seen on this marsh and coming from the East is the Eastern Greylag Anser a. rubrirostris. This bird is very similar to the Western Greylag Goose Anser a. anser, which is resident in northern and eastern Europe and has been introduced to the Norfolk Broads. The Eastern Greylag, as its name suggests, breeds in Asia, eastwards into China and migrates to southern Asia to winter. Another goose from China, the Swan Goose Anser cygnoides is also to be seen on this marsh. The ancestor of the domesticated Chinese Goose, the Swan Goose breeds in central and southern Siberia, migrating south in winter to Japan and south-east Asia.

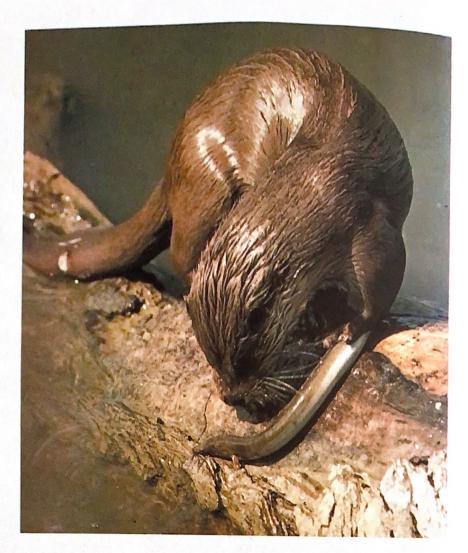
The ducks on this marsh include most of the species already mentioned together with the Ruddy Shelduck Tadorna ferruginea which breeds mainly in southern Russia, Mongolia and China with smaller populations breeding in Greece, Rumania and the Ukraine. Like the Common Shelduck it is a hole nester, often using rabbit burrows. The Falcated Duck Anas falcata, gets its name from the drake's long sickle-shaped scapulars. In the breeding season the male has a grey body, white chin and metallic purple and green head and mane. The Falcated Duck breeds in eastern Siberia migrating south to winter in China, southern Japan and south-east

Asia.



Left: Lesser White-fronted Geese

Western Bean Goose



The Otters

EUROPEAN OTTER Lutra l. lutra

This is the most numerous otter in the Trust's collection and the one upon which our breeding efforts are concentrated. Many of the enclosures contain breeding pairs of European Otters, particularly towards the end of the range of pens. Being nocturnal European Otters are not easy to display, but if the weather is fine and mild non-breeding animals are shut out of their dens during the middle of the day so that visitors can see them. This is not at all cruel as there is plenty of cover such as reeds *Phragmites sp.* and other aquatic plants as well as trees and bushes under which they can hide and find shade.

The European Otter is a shy, nocturnal animal which is extremely difficult to see in the wild — for details of its life history see page twenty-one.

As the European Otter is a solitary animal with the male playing little or no part in the upbringing of the family, we remove the dog otter as soon as we know a bitch is about to have cubs leaving her alone in her enclosure. The pair are reunited after the cubs have been weaned.

Young otters for re-introduction purposes must not become tame or used to seeing people and as one of our main aims is to re-introduce otters which have been bred at the Trust to the wild, we are building two large pens outside the area open to visitors where young otters destined for release will be kept. They will be allowed to dig their own holts or burrows and will not be disturbed in any way so that they retain their natural wildness.

The European or Common Otter as it is sometimes known is found from Ireland in the extreme West, eastward through Europe into Asia where there are various forms or sub-species reaching as far as China, Japan and Taiwan south into the Indo-Malayan regions. One of these sub-species is called *Lutra lutra barang* which comes from Thailand, Laos and Vietnam. It is in all respects similar to the European Otter except that it is considerably smaller, rather greyer in colour with more extensive white on the chin, neck and chest. Its habits in the wild are probably very similar to the European Otter and although it lives in tropical countries it is confined to mountain streams at an altitude where the climate is more temperate. The first breeding in captivity of this race of the European Otter took place at the Norfolk Wildlife Park in 1967.



European Otter photographed underwater

INDIAN SMOOTH-COATED OTTER Lutra(Lutrogale) perspicillata

This is the largest otter in the collection. It has a very extensive range from the Tigris Marshes in the west throughout India wherever the habitat is suitable, south of the Himalayas, throughout Burma Assam, the Malay Peninsula, southern China and south into Sumatra, Java and Borneo.

Like the Asian Short-clawed Otter, the Indian Smooth-coated Otter can often be seen in day-light in its native land. It is also sociable and family parties may be seen fishing together. It is an animal of the large deep rivers, but also occurs on the coast wherever there is undisturbed forest or mangrove swamps close to the

Up to four cubs are born in a litter and, as with the Asian Shortclawed Otter, both parents help to look after them and the family stays together for up to a year until the adults are ready to breed again and the cubs have to move on to find their own territory. These otters are powerful swimmers and feed on fish up to 1 or 2 kilos in weight.

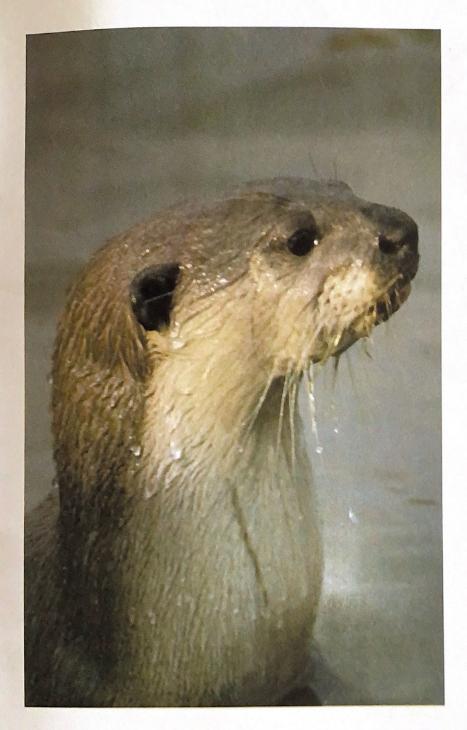
They can be distinguished from the European Otter by the rounded head, more prominent eyes and ears, much larger webbed feet, particularly the hind feet and by the flattened rather than rounded tail or rudder. Being social animals they are far more vociferous calling frequently to keep in contact with each other.

FEEDING

All otters are specialist feeders with fish forming the major part of their diet although in the wild different species also eat other things including small mammals, birds, crabs, crustacea, shellfish and so on.

All the otters in the collection are fed three times daily. First thing in the morning they are given pieces of fish, usually whiting, smelt or herring, or dead day-old chicks which are highly nutritious. These are obtained in bulk from a local hatchery and are all males which are useless for egg production. They are humanely killed usually by gassing and are frozen before delivery.

The otters' main diet consists of a special mix which is made up largely of minced raw beef with smaller proportions of yeast and grated carrot. This is freshly mixed every day and each otter has as much as it can consume. In addition they all receive whole fish, including trout or eels, as well as the kinds mentioned above. This diet is expensive and a single otter may cost more than a pound a day to feed depending upon its size.



Portrait of an Indian Smoothcoated Otter



The River Walk

Retracing your steps along the otter enclosures you can pass through the gate onto the River Walk with its massive Crack Willows Salix fragilis along the north bank of the River Waveney which forms the boundary of the Trust's property. Wild otters live in this river and we see signs of them including foot prints and the remains of fish from time to time.

Towards the end of the River Walk you will come to the Heronry built over the stream with its nesting colony of Night Herons Nycticorax n. nycticorax. Crossing the wooden bridge on your left you will find yourself on the banks of the Trout Lake which was once a gravel pit. Nearly two hectares in extent, it is six metres deep at the far end. Various species of waterfowl live on the lake including a pair of Whooper Swans Cygnus cygnus which have a pen to themselves in the far left-hand corner of the lake. This is because they become very aggressive when breeding and if given the run of the lake would attack the other waterfowl.

Almost as large as the Mute Swan Cygnus olor, wild specimens of which can often be seen on the lake, the Whooper Swan breeds in Iceland, northern Scandinavia and Siberia, migrating south to winter in Britain, Europe, on the Black and Caspian Seas and in large numbers in Japan, Korea and mainland China.

The black and white geese on the lake are Barnacle Geese Branta leucopsis which in the wild breed in eastern Greenland, Spitsbergen and in the islands of Novaya Zemlya north of Siberia. The Green-

land and Spitsbergen birds migrate south to winter in the British Isles and the Russian ones in the Netherlands.

The breeding grounds are in uninhabited parts of Spitsbergen, the birds nesting on off-shore islands, hillsides and cliffs. When the goslings hatch they throw themselves off the ledges but are so light they land unharmed on the rocks beneath.

Several species of duck can be seen on the lake including the Eider Duck Somateria mollissima which is probably the world's most abundant sea duck. It is resident in Britain and large numbers breed in Iceland and the Baltic. When she has completed her clutch of eggs the female plucks the down from her breast to line her nest; collected and cleaned this provides the famous eider down.

Another diving duck to be seen on the lake is the Common Goldeneye Bucephala clangula which breeds in Finland and Russia and very occasionally in Britain. This bird winters in north-western Europe, the Mediterranean and the Black Sea. The male has a strikingly white breast and a circular white cheek patch. Another diving duck often to be seen in large numbers on the lake is the Tufted Duck Aythya fuligula, the drakes resplendent in their black plumage with white flanks. This is a common British breeding bird and in the winter up to 150 wild Tufted Ducks make the Trout Lake their home, along with another diving duck the Pochard Aythya ferina, again a common British breeding bird.

Talking of wild birds, in the summer you may be lucky enough to see a pair of Great Crested Grebes Podiceps cristatus which sometimes breed here. Large numbers of Coots Fulica atra also winter on the lake and, of course, there are always Moorhens Gallinula chloropus to be seen.



Muntjac Deer at the Trust

Increasing numbers of wild Wigeon and Shelduck also spend the winter on the Home and Far Marshes and when the Waveney Valley is flooded we sometimes receive a visit from wild **Bewick's Swans** Cygnus bewickii which look like a small version of the Whooper Swan.

If you go through the gate to the small wood you are likely to see the Muntjac Deer Muntiacus reevesi which live there. This small deer originated from India and China and was introduced to Britain before the First World War. It is now found wild in many parts of the southern half of the country. It is also called the Barking Deer on account of the male's call which is not unlike the barking of a small dog. These deer breed at any time of the year and young are regularly born here.



ASIAN SHORT-CLAWED OTTER Amblonyx c. cinerea

Retracing your steps from the Trout Lake towards the Tearoom, you will pass more ofter pens on your left. They are all for these little otters which are the smallest of the nineteen different kinds of otter found in the world. The Short-clawed is a tropical otter found in India and throughout south-east Asia where the habitat is suitable. It has the distinction of having finger-like toes on its front feet with only rudimentary claws. The hind feet are more normal with claws and the usual webbing. These otters are highly dexterous with their forepaws, using them like hands to winkle shrimps, crustacea and small fish out of crannies between rocks or from beneath stones. Unlike the European Otter Lutra l. lutra, the Short-clawed Otter is often to be seen in day-light though it is most active at night. The pair bond is strong in this species, the two animals hunting together and rarely moving out of each other's sight. They become so attached to one another in captivity that when cubs are born we leave the pair together and both parents help to look after them. They are creatures of the smaller, shallower waterways and are often found in overgrown paddyfields and swamps. Unfortunately they are extensively trapped in many parts of the East for their pelts which are sold to western Europe to make fur coats.

The Natural History of the European Otter

Shy, silent and secretive, the otter is perhaps the most elusive and most mysterious of British wild mammals. The European or British Otter is a member of the mustelidae, a family which includes Pine Martens, stoats, weasles, polecats and badgers. In all the members of this family the male is larger than the female. Adult male otters measure up to 120 cm (48 ins) or even more in length, while females are usually considerably smaller. A male or dog otter can weigh up to 14 kg (30 lbs) although the average is probably nearer 10.3 kg (23 lbs). A bitch or female otter may reach 12.3 kg (27 lbs) with 7.4 kg (16 lbs) about average.

The otter's eyes and ears are small but it has strong sensitive whiskers or vibrissae on each side of the snout and below the chin. Its valvular nostrils can be closed at will when the animal dives beneath the surface of the water. As in other members of the family like polecats, the otter has two small scent glands at the base of the rudder or tail. These produce a strong smelling fluid and are used to mark the otter's territory.

Its feet are broad and rounded with five widely-separated toes on each, though all five may not show up clearly in an otter's footprint or seal as it is sometimes called.

As would be expected in an animal which spends so much time in the water, the otter's coat is dense and waterproof. It consists of two layers, a short velvety undercoat and a top coat of long stiff guard hairs. When the animal is on land, air is trapped between these two layers and acts as insulation when the otter dives. Then some of the air is forced out leaving a chain of bubbles which rise to the surface showing just where the otter is swimming underwater.

Owing to its perfectly streamlined body, the otter swims faster submerged than on the surface, this is because it can then use its hind feet, rudder and its rear quarters in powerful up and down strokes like the tail flukes of a whale. On the surface the otter has to dog paddle with all four feet, or kick with its hind feet and neither method produces such a turn of speed.

At one time the otter was found throughout Britain wherever suitable waterways existed, but with the spread of towns and increase in the human population the undisturbed marshes and rivers disappeared and the otter went with them. In more recent years marshes have been drained for farming and rivers have had their banks canalised and all cover removed by the various Water Authorities. In this way the habitat which the otter needs for its existence has been destroyed and this, coupled with pollution from chemicals used in agriculture and products from sewage

works, has further decimated the otter population.

Today the otter is still found in parts of England although it has disappeared from large areas of the Midlands and the North and even in other parts of the country.

On the west coast of Scotland otters live along the rocky shores of remote sea lochs where they are safe from human disturbance and where they can easily hide in the caves and tunnels amongst the rocks. By day the otter lies up in burrows, drains, hollow trees or on couches in the middle of a reed bed. These are pads of flattened reed or sedge which form a dry bed. They are always well hidden, often beneath bramble clumps.

Every otter has its home range or territory and on a typical smallish lowland river a dog otter may claim as much as 20 kms (12.5 miles) of river for his territory. A bitch otter needs less space, up to 14 kms (8½ miles) of river and this means that a dog may have more than one bitch otter in his area.

An adult otter probably needs at least 1.0 to 1.5 kg (2 to 3 lbs) of food each night and this may be one of the reasons why an otter requires such a large territory. If it always fished in the same stretch of river it would soon wipe out its own food supply, so otters are constantly on the move, rarely fishing in the same area more than a night or two.

Throughout its range each otter has traditional places where it regularly deposits its faeces called "spraint". Sprainting places are often prominent rocks, grassy mounds near the water, on top of a bank, or on the sill beneath a bridge. It bears the otter's characteristic scent and since any other otter passing that way will use the same sprainting place the owner of the territory soon knows about it.

Bitch otters with young cubs remain near the centre of their home range even when the cubs are old enough to follow their mother. Dog otters wander much more, patrolling their territory to keep out rival males.

Otters are carnivorous and live mainly on fish, though at times they will catch and eat a variety of other creatures including birds, especially wild ducks and moorhens, rabbits, rats and voles. In faster flowing rivers crayfish are often found and otters are very fond of them.

Given the choice, otters seem to prefer fish 10 to 15 cms (4 to 6 ins) long and they prefer coarse fish like roach, rudd, bream, perch and pike, while eels are undoubtedly their favourite food. Even small fish like sticklebacks are eaten, especially when they form dense shoals which enables the otter to catch large numbers easily. If the fish is any size the otter swims ashore carrying it in its mouth, to eat it on the bank, but when it catches minnows and sticklebacks the otter swims on the surface munching them as it goes.

Otters sometimes catch salmon and trout but scientists have shown that in rivers where these fish are found as well as coarse fish, salmon and trout account for less than ten per cent of its

Female European Otter and cub born at the Otter Trust

food, the other ninety per cent being coarse fish. Eels eat a lot of salmon and trout fry and as otters like eels best of all they help rather than harm the fisherman.

Bitch otters are able to breed by the time they are two years old while dog otters reach maturity sooner.

When a bitch is ready to mate she gives off a characteristic scent and is very interested in the sprainting places, visiting them frequently as she moves about her territory. In this way the dog otter soon picks up the scent and finds her. Mating takes place in the water and the cubs are born nine weeks later. By this time the bitch will have made a holt or burrow in the river bank, often amongst the roots of a sycamore or ash tree. Occasionally bitch otters enlarge a rabbit hole or have their cubs in a cave amongst rocks. In East Anglia they quite often have them in the open on a platform or couch of flattened reeds or sedge hidden in the middle of a large reed bed or beneath a thick clump of brambles.

If the cubs are born in a burrow or holt the bitch otter will have lined the nest chamber with reed, grass and waterside vegetation.

When they are born otter cubs are about four inches long and covered with pale grey, velvety fur. Their little square muzzles, tiny ear orifices and miniature pads are all bright salmon pink and their eyes are shut. Whenever the bitch ofter moves the cubs chirrup softly like small birds. They suckle their mother for about ten minutes every two or three hours at first, kneading their mother's stomach with their front paws, their little tails wagging.

The cubs grow slowly; at first they can only just crawl, their eyes open when they are about five weeks old (30–35 days) and by the time they are seven weeks old they weigh about 1 kg and can run quite well, if unsteadily. At about this time they begin to nibble the fish which the female ofter brings into the holt and

soon they venture outside for the first time to deposit their spraint nearby. Up to then the bitch ofter has kept them clean by licking

up their droppings.

At ten weeks the cubs begin to follow their mother and to play rough and tumble games near the holt. By then they are eating fish regularly, but will continue to suckle until they are over three months old.

At about this age the cubs take to the water for the first time. Some cubs are very bold while others are more timid and have to be encouraged by the bitch.

Soon the cubs follow her wherever she goes, learning by example how to fish. For them a life of wandering has begun though they will remain dependent on their mother for several more months and will not finally leave her until they are about a year old.

The otter is a rather silent animal although it can make a variety of noises of which the most well-known is the so called whistle. This is really an ultra high-pitched squeak which carries a long way and which is a contact call. Cubs use it a great deal when separated from each other or from their mother. It means, "Here am I, where are you?"

Perhaps the commonest sound is the huff, a kind of snort which is really a question-mark. Otters do this when they are curious about something and it is quite a gentle noise.

A much harsher, louder, snort is a threat and is made when an otter is angry and about to bite or fight. If provoked the snort turns into a low growl which gets louder and higher in pitch until it becomes a scream of rage.

One of the gentlest noises made by otters is a kind of low, quiet whikkering. This is a greeting and is often made by a bitch when returning to her cubs.

