Amphibian Fauna of the Harrogate District

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by R H Deaton
Lower Vertebrate Zoology Recorder
Harrogate and District Naturalists' Society

with photographs and artwork
by J Counter

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Foreword

We live in a time of growing awareness of the need to protect our heritage of wildlife and to conserve its habitat. If we are to conserve anything, we need to know what we have, where we have it and to up-date that information regularly.

Much of our knowledge results from interest generated by dedicated enthusiasts who have coordinated collective effort within a Natural History group or society. Initially, most of the interest centres around the eye-catching plant and bird life that is relatively easy to locate and observe. As a Natural History Society matures, there grows a desire to specialize and to research into the less easily observed species and orders, thereby deepening and broadening our knowledge. This booklet is part of that trend and is the result of dedicated and specialized research into the amphibians found in the Harrogate and District Naturalists' Society study area.

Drawing together historical records and recent field studies, it presents an up-to-date picture of status and distribution. However, true changes of status must be distinguished from changes in observer activity, so this publication is not a final statement. Indeed, no greater compliment could be paid to Ron Deaton's infectious enthusiasm and hard work than that it should stimulate still more effort by the growing band of helpers in amphibian field research, causing this report to become the first of a continuing series.

In the meantime, it stands as a valuable record of our knowledge of local amphibians in the Harrogate area.

Michael G H Garnett
President
Harrogate and District Naturalists' Society

Introduction

Amphibians, like so much of our wildlife, are today under enormous pressure and some species are now quite scarce or even absent from certain parts of the country. Their status and distribution does, of course, depend to a large extent on the availability of suitable breeding sites and the destruction of habitat has been a major factor in the national decline of amphibian populations.

Throughout the sixties and seventies local observers repeatedly pointed out that there had been a noticeable decline in the amphibian fauna of the Harrogate district. But, unfortunately, these comments gave us no more than a rather general and somewhat sketchy picture of the situation and the dearth of published information made it impossible to accurately assess any recent or long term status fluctuations.

What we needed were facts. Lots of cold, hard facts. Facts that would, for example, enable us to take action to ensure that important breeding sites wouldn't be lost as a result of apathy or ignorance. And facts that would also serve as a yardstick against which future population trends could be measured.

With these objectives in mind the Society decided, early in 1981, to sponsor and organise a three-year survey to record the status and distribution of amphibians in the Society study area.

Response was tremendous and the information gathered not only added to our local knowledge and ensured that the short term objectives of the survey were achieved but also enabled us to contribute towards two national surveys sponsored by the Nature Conservancy Council – one concerning changes in the status of commoner amphibians and the other involved with research into Great Crested Newts and their habitat requirements.

This report is a summary of the survey results plus records from spring 1984 and, in addition to photographs of the five amphibians found locally, contains habitat profiles, brief notes and maps of

the study area showing the tetrads in which each species has been recorded. To put our findings into perspective, a note on the current national status of each species is included together with extracts from Riley Fortune's contribution to Harry Speight's 'Nidderdale and the garden of the Nidd; A Yorkshire Rhineland' which was published in 1894.

Records have originated mainly from Society members but a valuable contribution came from readers of the Harrogate Advertiser following the publication of a letter appealing for information about amphibians. Unfortunately it has not been possible to thoroughly survey all the local waters. Some parts of the area are relatively inaccessible and consequently visited far less regularly than others. Certainly there is still plenty of scope for original herpetological study in the Harrogate district and indeed, if the work we've done is to be of lasting value, we must not only attempt to add to but also regularly up-date the records.

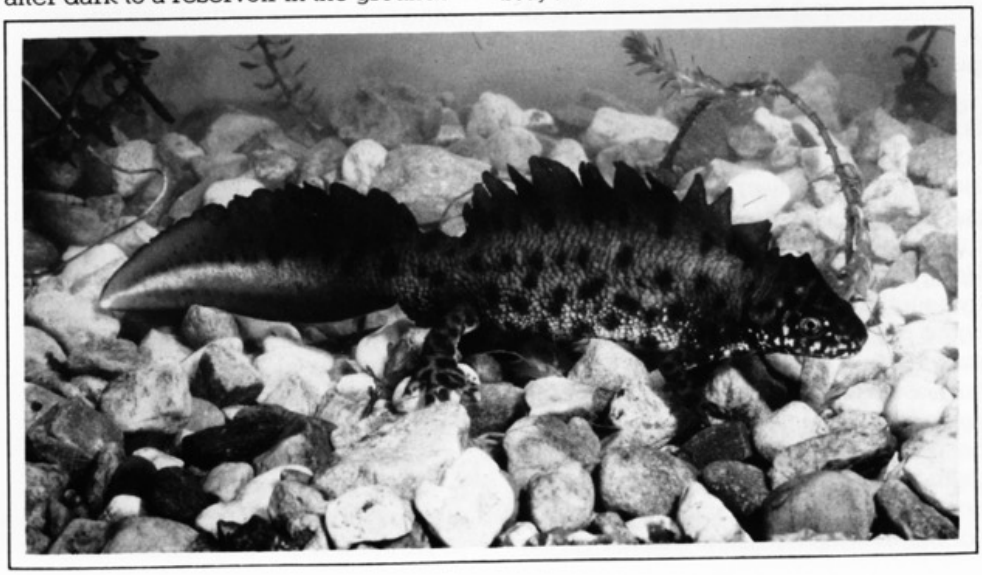
If this report either entertains or informs readers its production will have been justified. But if the contents stimulate further study or can be used in ways which will benefit the amphibians then its production will have been really worthwhile!

Great Crested Newt *Triturus cristatus*

The Wildlife and Countryside Act, which received Royal Assent late in 1981, has given comprehensive protection to the Great Crested Newt. Its scarcity in our study area certainly justifies the legislation and, despite a considerable amount of field work during the survey, only four breeding colonies were recorded between 1981 and 1983. However, during the spring of 1984, a single-minded effort by a group of enthusiasts led to the discovery of several more sites bringing the total number of recorded breeding colonies in the area to fourteen.

Records usually involved less than a dozen animals with the highest concentration – 62 – being observed by torchlight on 22 April 1984 in a small, disused reservoir near Harrogate. Three junior members of the Society found the species in May 1981 at a Rossett Green pond which, at the time of writing, is threatened by a proposed housing development. Both adults and immatures were found, mainly beneath stones, at Farnham in the summer of 1981 and '82 and 31 were counted in ponds at the same site on 18 April 1984. Six ponds in the parish of Markington with Wallerthwaite were found to hold breeding colonies in April '84 and a visit after dark to a reservoir in the grounds of Whixley Hospital proved the presence of both Crested and Smooth Newts. In the north of the study area colonies were discovered at Ripon Parks

During the breeding season male Crested Newts develop a spectacular serrated crest above their body and tail.



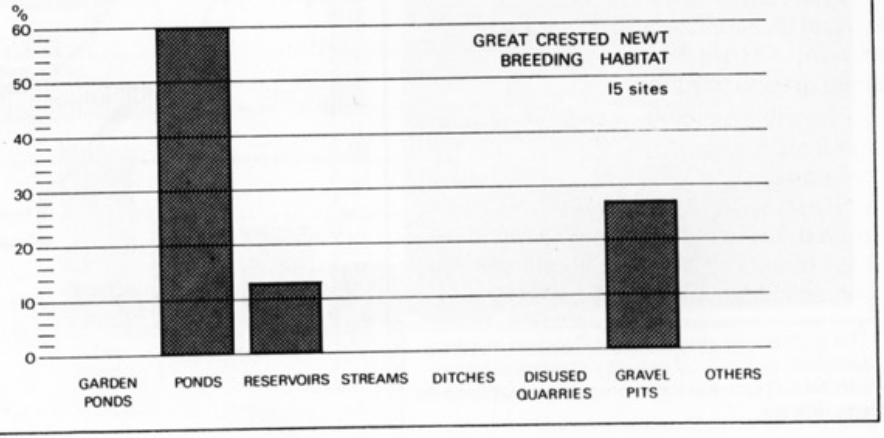
and near West Tanfield.

Although Crested Newts undoubtedly favour the larger and deeper waters a small garden pond on Forest Moor Road, Knaresborough held a pair plus a single immature on 21 March 1982 and a male was seen in a garden pond at Burton Leonard the following week.

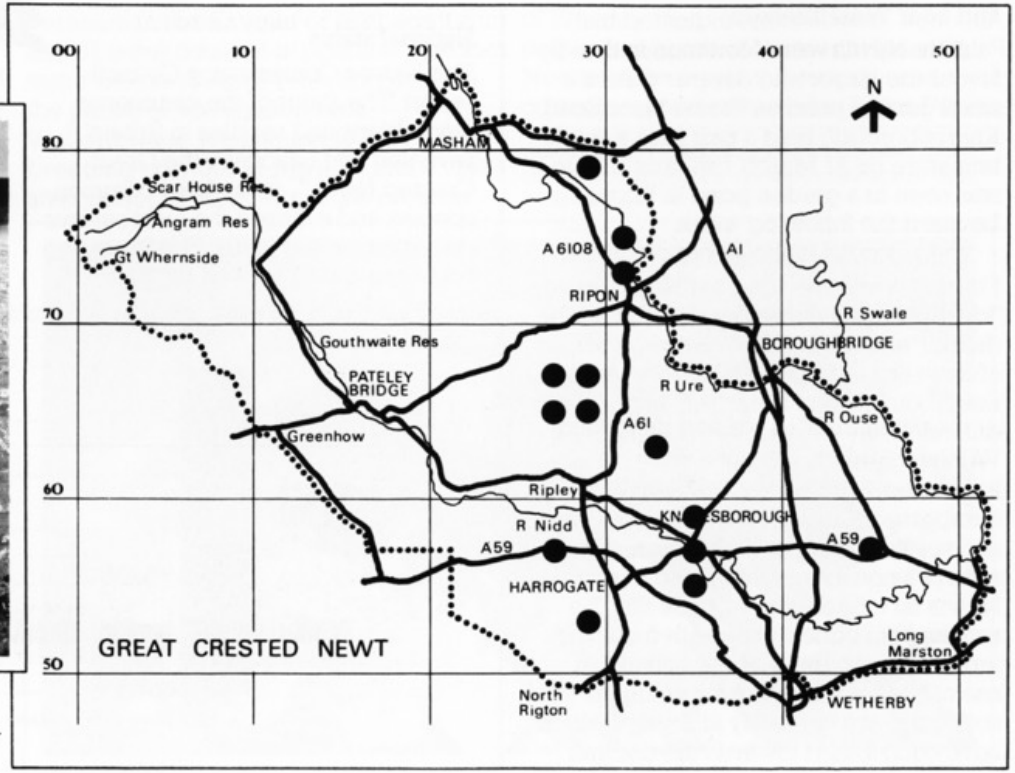
Eminent Victorian naturalist Riley Fortune wrote that Crested Newts were "local but fairly numerous throughout the district" and added that "all three species of newt are very plentiful in the neighbourhood of Harrogate and...it is difficult to say which is the most plentiful". Without doubt the ensuing ninety years have seen a dramatic decline in numbers and, in addition to urban sprawl and resulting habitat destruction, several sites previously known to hold Crested Newts no longer appear to do so. The removal of hedges and scrub from around ponds, the introduction of fish, use of pesticides and indiscriminate collecting are probably all factors which have contributed towards the decline.

National status

The Nature Conservancy Council report 'The status of the commoner amphibians and reptiles in Britain' revealed that nationally the Great Crested Newt "...is the least common species and suffered the most serious decreases in the 1970s. The larger breeding sites favoured by this species are frequently lost to development of various types, and it appears not so well adapted as other amphibians, such as the Smooth Newt or Common Frog, to take advantage of the creation of garden ponds" (Cooke and Scorgie: 1983).



The worked-out gravel pits at Farnham are an excellent example of recently created wetland habitat and provide ideal breeding conditions for amphibians.



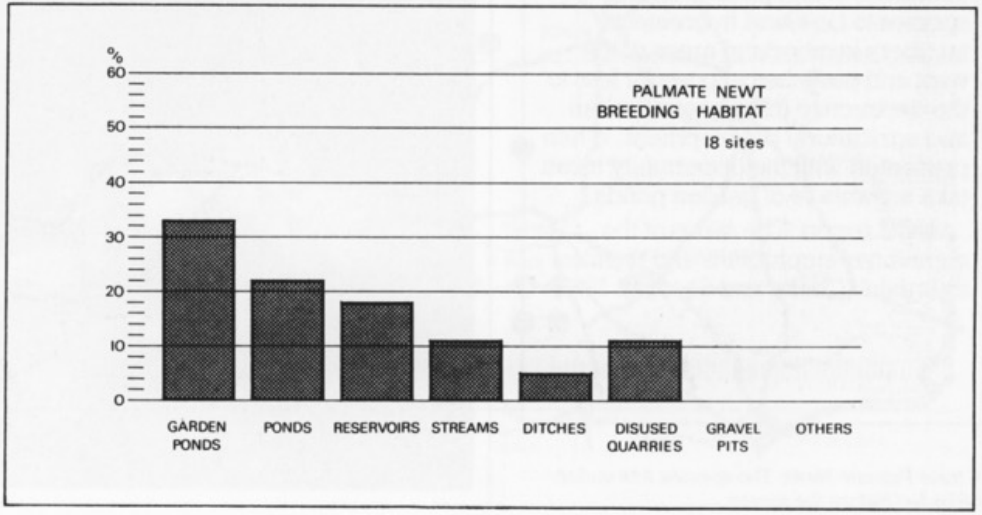
Palmate Newt *Triturus helveticus*

Although Riley Fortune indicated that Palmate Newts were "common in the neighbourhood of Harrogate" the species was thought to be our scarcest amphibian until quite recently and, apart from occasional references during the fifties, did not feature in the Society's Annual Report until 1974. This particular record referred to the discovery of Palmate Newts at Bogs Lane and remained the only known local breeding colony until 1981 when six "new" sites were found. Impetus was maintained throughout the survey, and beyond, and by the summer of '84 we had increased our knowledge of the number of breeding sites from the odd one to eighteen.

Habitat proved not only diverse but in some instances quite surprising. In addition to a number of "traditional" sites such as farm ponds, water-filled quarries and reservoirs the species was frequently encountered in garden ponds and also in the fast-flowing Scargill Beck in Haverah Park and the stream which runs through the Valley Garden's rockery.

The absence of records east of Knaresborough is consistent with scarcity in other low-lying areas of Britain. Although generally regarded as being a montane species it appears that distribution of all three British newts is influenced more by water "quality" than altitude.

Unlike the other four species of amphibian, Palmate Newts were not recorded on terra firma and this is certainly the most aquatic amphibian with records from mid-March to mid-July.



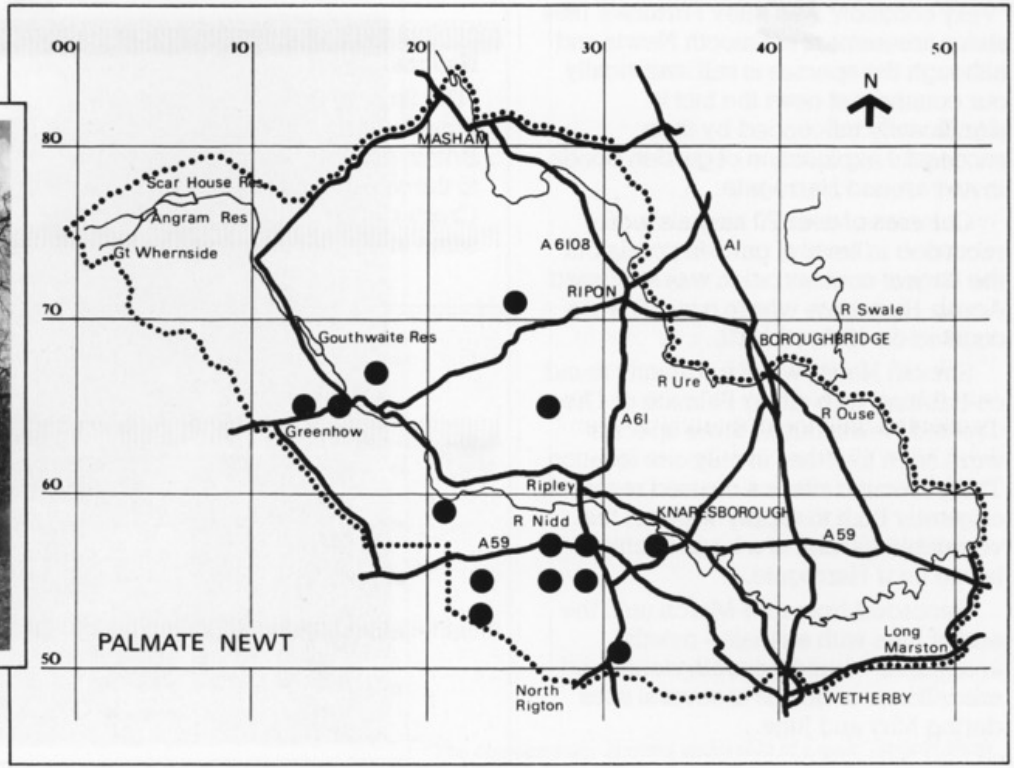
National status

"Widespread and common over much of Britain, particularly in upland soft water areas, where it may be locally abundant. The tendency for this species to be found in greatest numbers in moorland areas of the west and north has exposed it less to the destructive influences of urban and agricultural development. When presented with the opportunity it can take advantage of garden ponds."

NCC report 'The status of the commoner amphibians and reptiles in Britain' (Cooke and Scorgie: 1983).

A male Palmate Newt. The species was under-recorded before the survey.

This disused reservoir near Harrogate is the only 'local' site where Palmate Newts have been found co-habiting with both Crested and Smooth Newts.



Smooth Newt *Triturus vulgaris*

"Very common" was Riley Fortune's 1894 status assessment of Smooth Newts and although the species is still statistically our commonest newt the fact is significantly influenced by their successful exploitation of garden ponds in and around Harrogate.

Colonies of over 20 animals were recorded in several garden ponds but the largest concentration was at Rossett Acres, Harrogate where over 60 were counted on 15 April 1983.

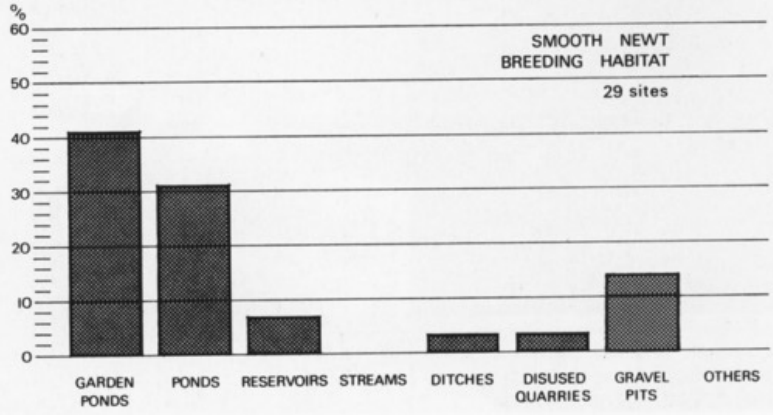
Smooth Newts were frequently found co-habiting with either Palmate or Great Crested Newts but all three species were seen together in only one location. This particular site is a disused reservoir originally built to supply water to the vegetable garden of a large country house near Harrogate.

Recorded from mid-March until the end of June with animals – mostly immatures – found beneath stones and miscellaneous debris at several sites during May and June.

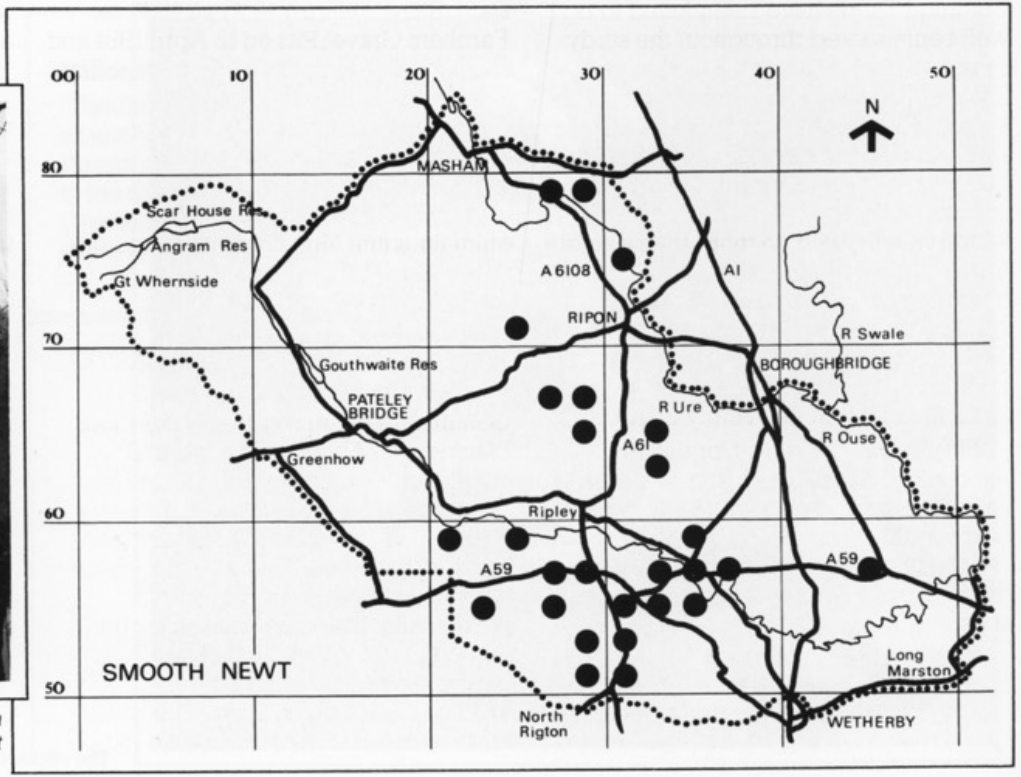
National status

"The Smooth Newt is the most abundant newt in England and also in Britain as a whole...has not declined to the same extent as the Warty (Great Crested) Newt. Although, living in the same areas, it will have suffered from loss of habitat, it is much better able to take advantage of garden ponds."

NCC report 'The status of the commoner amphibians and reptiles in Britain' (Cooke and Scorgie: 1983).



The characteristic spotted underside of a male Smooth Newt.



Four species of amphibian – including the Smooth Newt – have been found in this rather nondescript looking ditch at Starbeck.

Common Toad *Bufo bufo*

Common Toads have been found to be well represented throughout the study area but comparatively selective in their choice of breeding habitat with the larger, deeper waters of reservoirs, water-filled quarries and old gravel pits being preferred. Exceptions were a handful of shallow garden ponds each of which usually held no more than a single rope of spawn. One such pond at Bewerley provided the earliest date on which Toad spawn was recorded; 4 April 1982. In contrast to this 'early' record quite small tadpoles were seen as late as 13 June 1981 in the Valley Gardens.

Single animals were frequently encountered well away from water in a variety of urban and rural situations with perhaps the most bizarre being an adult which had resided for several years in the cellar of a Starbeck fish and chip shop.

Counts of over 200 were made at Studley on 29 March 1981; at Gallow Hill, near Knaresborough in April 1982; at two Markington ponds in April 1984; at High Dam, Shaw Mills on 12 April 1984; at Farnham Gravel Pits on 18 April 1984 and Sun Wood Quarry three days later. The spectacular, explosive migration of Toads was witnessed after dark on a mild, damp April evening in 1983 at Bogs Lane pond. On that occasion the ground around the pond was 'littered' with animals, some already paired, and the observers had to carefully pick their way through several hundred animals.

Many Toads perish on the road each spring with Bogs Lane and the Pateley Bridge to Ramsgill road alongside Gouthwaite Reservoir being notorious black spots. Although the internal combustion engine wasn't taking its toll when Riley Fortune was putting pen to paper many amphibians suffered an equally lethal fate: "Frogs and toads are not so numerous as formerly, toads particularly. The chief reason for this decrease is the fact that when at the beginning of April they awake from their winter torpor they make their way in large numbers to the reservoirs for the purpose of spawning; the keepers, who are well aware of this fact, keep a sharp look out for them, making frequent tours round, with scoop and a bucket containing salt. The toads are lifted out with the scoop and dropped into the bucket where they soon perish; hundreds are destroyed in this manner..." In spite of this abhorrent practice Toads were still considered by Riley Fortune to be "...fairly abundant".

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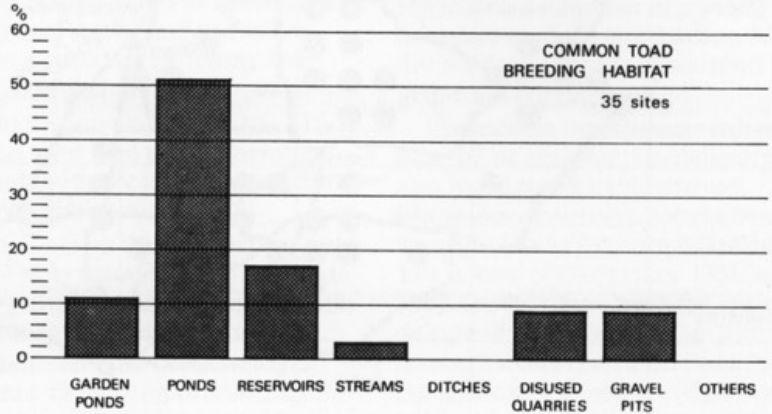
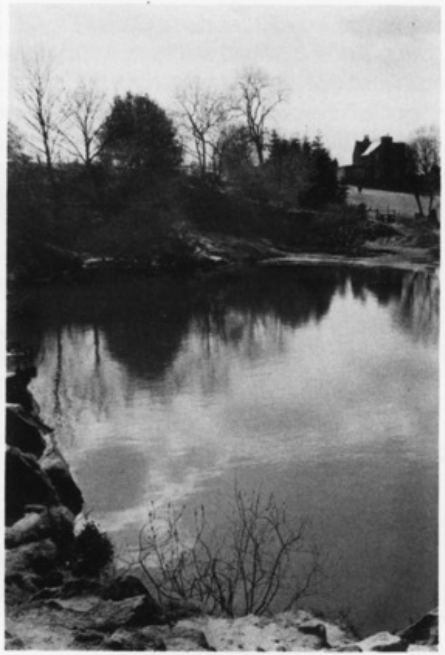
Several sites in the area attract hundreds of Common Toads to their waters to breed each spring.

National status

"The Toad is widespread and common/abundant throughout Britain although more local in central and eastern England. There has been little change, but some areas (e.g. north east England) have experienced slight decreases."

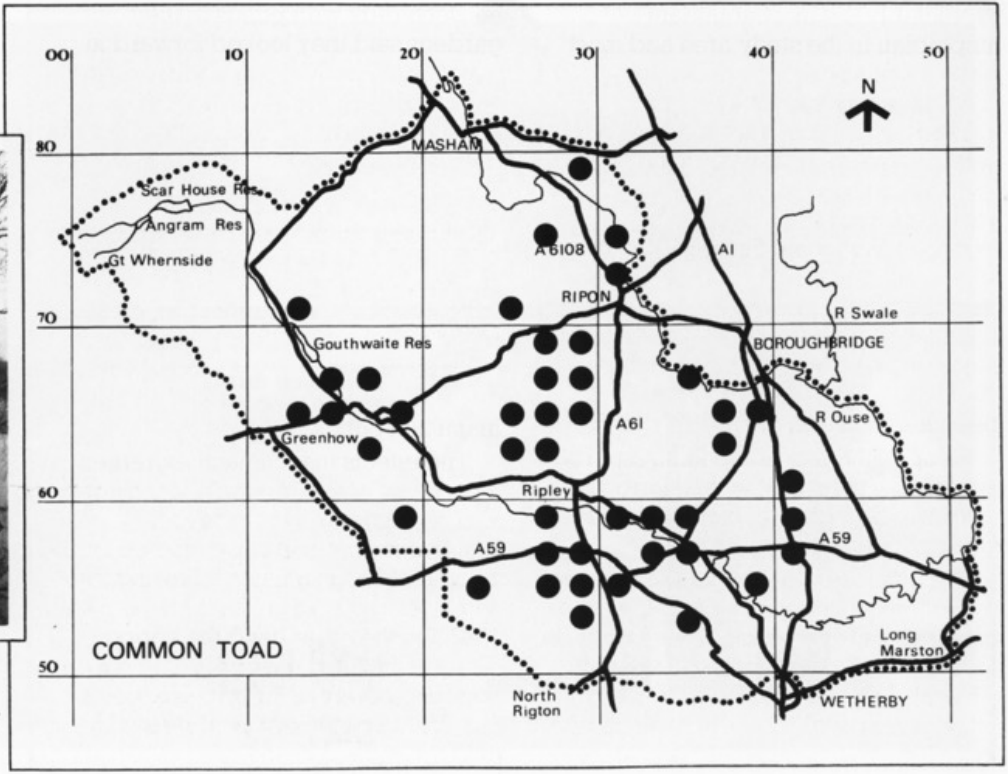
NCC report 'The status of commoner amphibians and reptiles in Britain' (Cooke and Scorgie: 1983).





Common Toads prefer larger, deeper waters in which to breed and this water-filled quarry at Birk Crag is one of their strongholds.

Bogs Lane pond was constructed last century to satisfy the insatiable thirst of steam locomotives based at Starbeck depot. Today its waters support one of the largest breeding colonies of Common Toads in the area.



Common Frog *Rana temporaria*

Predictably the most abundant amphibian in the study area and most waters visited in early spring were found to contain spawn. However, the indiscriminate choice of breeding habitat resulted in several reports of spawn and tadpoles perishing each year. One such site was an effluent lagoon at Harrogate Sewage Works where there was little or no likelihood of successful metamorphosis. Similarly, deposits of spawn found in water-filled ruts along cart tracks and in shallow floodwater ponds will probably have been left high and dry.

Despite the inevitable failures, Frogs are fareing very well in the Harrogate district and certainly much better than forecast before the survey.

A major factor in the success has been the fashionable trend in recent years to construct garden ponds. These provide excellent habitat in which Frogs and other amphibians can breed and, to some extent, have compensated for the loss of 'traditional' rural habitat. Most householders with ponds in their gardens said they looked forward to 'their' Frogs putting in an appearance each spring but a few were less enthusiastic and requested the removal of excess or unwanted spawn and livestock to more suitable sites.

The 'clutter' of records in and around Harrogate reflect the bias created by garden pond records and this was accentuated by a letter published in the Harrogate Advertiser appealing for information about amphibians. Most of the readers' records concerned Frogs in garden ponds.

The effects that climatic extremes have on amphibian populations were also highlighted by the survey. Numerous observers commented on the volume of Frog fatalities following the 'big freeze' of December 1981/January 1982. On the other hand the spring deluge of 1983 ensured that there were no reported evaporation casualties as the shallower ponds and dykes which held spawn and tadpoles retained water well into summer.

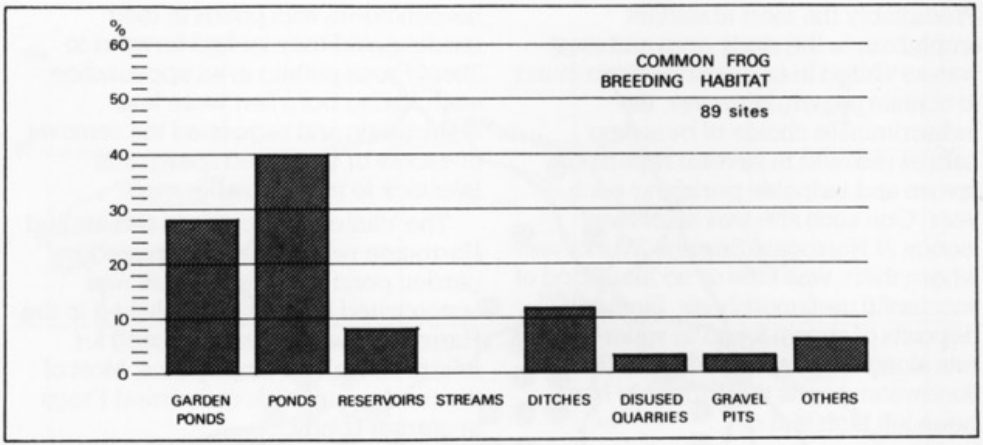
Blue Plain Dam, near Glasshouses, has the distinction of the highest adult count of over 300 animals and also the first date on which spawn was recorded during the survey i.e. 28 February 1982. Spawn was seen in the dale as late as 22 April 1981 and on 10 April 1983 spawn was present in a ditch near Scar House Reservoir at an altitude of over 1,000 feet.

Other unusual records include the discovery of a dead adult in a Kestrel box at Knaresborough Ringing Station on 14 June 1981 and an immature active at Brackenthwaite Lane, near Burn Bridge, on 6 November 1981 when a nearby thermometer was recording two degrees of frost.

National status

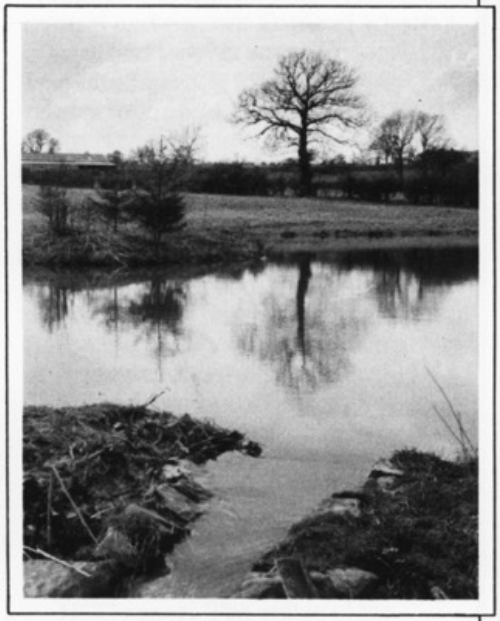
"Widespread and common except in central and eastern England where it is local and less common. The frog has benefited greatly from garden conservation and in many areas is now more numerous in suburbia rather than rural habitats. Overall the level of the British frog population changed little during the 1970s. But while the decline in the frog population appears to have been halted, the previous decade or two has seen a marked decrease in frogs. especially in areas of high human population density. There is therefore room for improvement, especially in heavily populated areas, which hopefully will benefit most from the creation of garden ponds followed by the deliberate or unintentional conservation of amphibians."

NCC report 'The status of the commoner amphibians and reptiles in Britain' (Cooke and Scorgie: 1983).

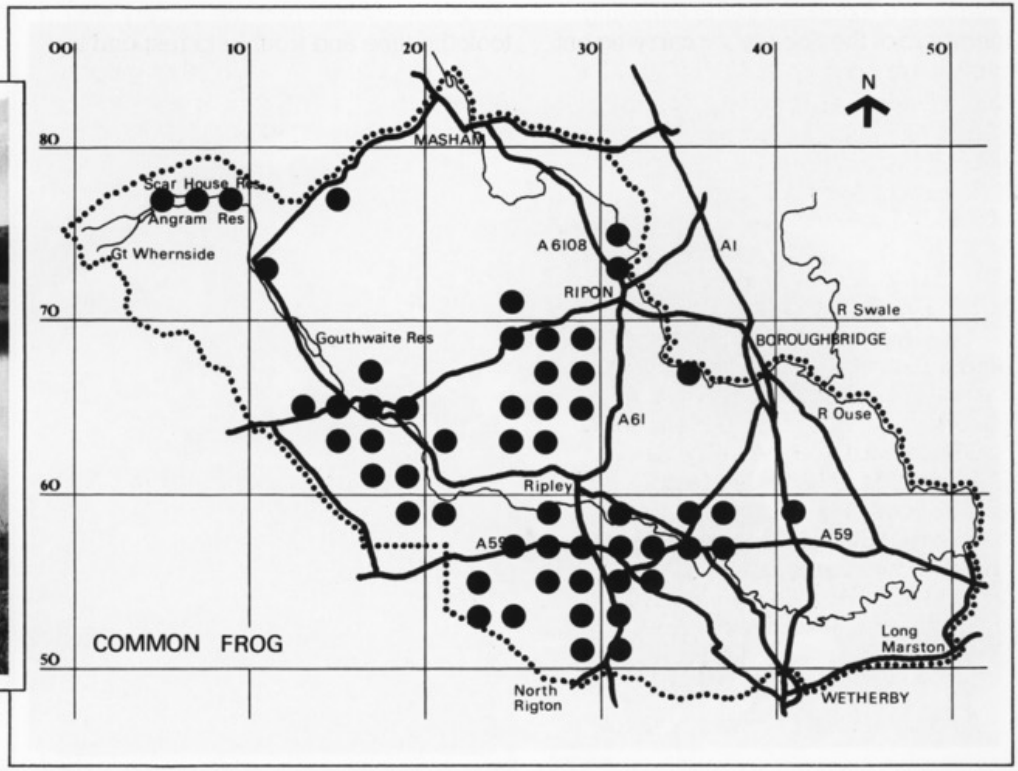


Garden ponds provide suitable breeding sites for Common Frogs and have, to some extent, compensated for the loss of 'traditional' rural habitat.

The survey confirmed that Common Frogs are still plentiful in the Harrogate area.



Within months of completion Common Frogs had colonised this recently constructed pond at Throstle Nest Farm, Bishop Thornton.



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*Major contribution

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References

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'Nidderdale and the garden of the Nidd: A Yorkshire Rhineland' (Speight/ Fortune: 1894).