London and South East ARGs' Regional Conference Notes

Brief notes to give a flavour of the range of interesting talks that our speakers gave at Arundel Wetland Centre

Dr Jeremy Biggs, Freshwater Habitats Trust (FWT). 'Environmental DNA; What Will It Mean for Monitoring Amphibians and Other Freshwater Animals?'.

Environmental DNA analysis is a promising new survey method for showing the presence of many species in fresh water bodies, both still and flowing. Organisms shed DNA into their surroundings via faeces, mucus, gametes, shed skin, hair and carcasses. DNA analysis techniques are now sufficiently sensitive to show an animals presence from a small, easily collected sample at a cost of around £135. FWT at 35 sites, have been comparing standard survey techniques, with eDNA results, using volunteer surveyors and found good correlations between the data for presence of GCN. At known GCN sites, eDNA gave a 91% detection rate and the method has now been endorsed by Natural England. Correlation between abundance and concentration of DNA does not at present give reliable data, Work on bullfrogs gave reliable results in France, but in Sussex, outside of the breeding season, the detection rate was only 1 in 7.

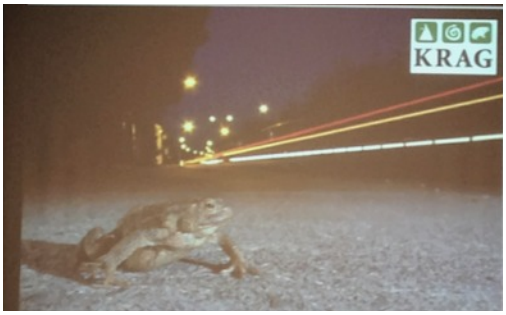
Aidan Mackay, SxARG, Durrel Institute of Conservation and Ecology. 'Are Marsh Frogs Affecting Common Frog Distribution'

Marsh frogs are widely distributed over Europe and the Middle East and are making inroads into UK. First introduced into Kent in 1935 and Sussex 1973. There seems to be some indications that common frog populations are declining, where marsh frogs are advancing. There are other pressures on common frogs. As they forage away from water, they are more affected by the pressures of intensive farming than marsh frogs Also common frogs often prefer smaller water bodies than marsh frogs. However marsh frogs are known to predate common frogs, Another factor is an increase in grass snake population which predate both frog species; marsh frogs are still advancing and these advances seem to be accompanied by common frog decline.

In Kent, marsh frog presence correlates well with common frog absence and vice versa. In Sussex this correlation is not found. The difference could be because of difference in land use, Kent being predominantly arable/horticultural and Sussex improved grassland. For the future it is hoped to increase the resolution of the models from 1km squares to 100m squares and comparing in some places at the local level and it is hoped a definite answer to the reason for common frog decline will emerge.

John Poland, SARG, 'Amphibian Tunnels'

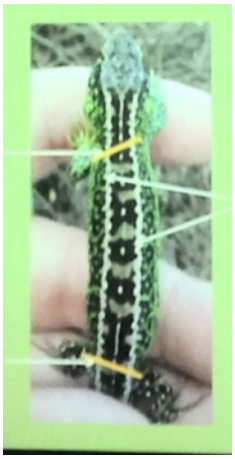
Tunnels are often proposed as a means of mitigating the effect of road traffic on amphibian populations, especially common toads. Various types of tunnel, different materials/diameter, means of ventilation , were discussed. Hard materials tend to damage road surfaces that are themselves relatively elastic. Amphibians were found to be very reluctant to use tunnels, even when 'actively encouraged' by researchers. This is probably due to changes in temperature/humidity/hydrocarbon and road salt residues within the tunnel, which amphibians treat as suspicious. Large diameter tunnels and green bridges have been found to be more effective for amphibians and much larger species, but are much more costly.



Amy Wright, KRAG, 'Getting Toads Out of a Hole'.

There are 880 known toad road crossings, many of which are not patrolled. Roadkill for toads is estimated at 20 tonnes/annum. Toads are 'explosive' breeders and tend to move at dusk, in wet weather.

when temperatures rise above 7C. These conditions tend to coincide with the traffic rush hour, leading to multiple deaths. In Kent 21 patrols moved 5457 toads, 98 frogs and 556 newts last season. Patrol numbers can give information on local population numbers and help predict migration start dates. Toad patrols tend to be more effective in cold winters when migration usually happens over a relatively short time, when the weather warms.



Dr Liam Russell, Russel Ecology, 'The Importance of Being Green; Regional Variation in the Colour and Pattern of Sand Lizards'.

Populations of sand lizard in Merseyside, Dorset and The Netherlands have differing patterns of black and white spots and white areas on the dorsal line. Analysis has been done by examining rhe Red/Green/Black ratios in digital photographs of the backs of sand lizards. Different RGB 'fingerprints' were found for distinct populations. It was assumed that lighting, which could affect RGB ratios was similar for all photos. These differences are probably caused by the different habitat – sand dune in Merseyside, sandy heath in Dorset. Darker colours are better for basking and for camouflage, but bright green, which is energetically expensive to produce was found in all populations. Bright green is linked to breeding success. The scale patterns mirror the habitat type.

Robert Quest, Assistant Director of Animal Health and Welfare Service, Heathrow, 'What Happens at the Heathrow Animal Centre'.

The number and variety of animals passing through Heathrow is huge and creates a formidable problem in control to prevent abuse of animals. The service is able to prosecute airline operators when standards are infringed and also impound animals. Impounded animals are not generally killed, but are taken by other organisations such as zoos and universities. The commonest problem is of overcrowding within the packaging. Amphibians are too small to microchip. Animals in the post are the most difficult to monitor, because of the volume of post. Surprisingly amphibians and reptiles can spend four days in the post without harm.

CiCi Blumstein, Artist, Film Maker, Frog Collaborator and Co-founder of The Lucky Frog Blog, 'Croaking Drain, Hidden Frog: a Study and Art Project Inspired by Common Frogs in an Urban Environment'.

'This presentation was unique and very enjoyable. CiCi explained how she rescued a common frog in her small Brighton back yard and then successfully built up a thriving miniature amphibian habitat in the back yard. This experience inspired her to set up amphibian based, interactive (eg learning to croak) installations in a large prestigious office space in New England House, where she is Artist-in-Residence. From this central Brighton base, she is working locally and internationally to gain wider support for amphibian conservation, creating long-term art projects and developing city & business spaces as living bio-habitats. A more unusual way of raising awareness of the needs of our amphibians.

Paul Stevens, Arundel Wetland Centre, 'Managing a Wetland Nature Reserve'

SxARG smooth snake specialist, Paul, gave us an inkling of the complexities of running a 65 acre Wetland Centre which is home to a large, diverse number of species from water vole and dormouse through to waterfowl, with often contradictory habitat needs. However scrub management is generally beneficial to most species. Common lizard, slow worm, common frog and newt populations are relatively low, but there is a thriving grass snake colony. Individualgrass snakes have been identified by their markings and their movements monitored. Smaller ponds are being created to attract more common frogs and newts. Reed beds are managed by removing willow to slow down succession and the creation of more channels.

Gareth Matthes, SARG, 'Life in a Rut'

This presentation was about species which specialise in temporary ponds, such as tadpole shrimp, mud snail, mudwort and in particular Fairy Shrimp. These fascinating animals, which swim on their backs, pack their life cycle into just a few weeks. In summer soft eggs are produced and in winter more resistant hard eggs. Eggs are carried by wind to the next 'rut'. Fairy shrimps are found in Hampshire New Forest, Dorset, Surrey Weald and 12 sites in Sussex, Common frog and GCN eggs have also been found in ruts.

River Arun