

## NATTERJACKS AT SELLAFIELD

BRIAN BANKS<sup>1</sup> and ROBIN J LUXMOORE<sup>2</sup>

<sup>1</sup>*The Nature Conservancy Council, The Old Candlemakers, West Street, Lewes, East Sussex*

<sup>2</sup>*Petrel Bank, Drigg Road, Seascale, Cumbria, CA20 1NS*

"Sellafield" is not a place that many people associate with nature conservation but over the last ten years British Nuclear Fuels plc, who own the site, have been actively involved with the conservation of Natterjack toads. This article is an account of the success of these efforts and of future plans for the conservation of this attractive amphibian on the site.

More than ten years ago a small group of interested people in Seascale started a local group of the Cumbria Naturalists' Trust and at the first meeting the discussion turned to West Cumbria's only protected amphibian, the Natterjack. Mention was made of a breeding colony on land close to the village and, on further investigation, this was found to be a thriving colony of approximately one hundred adults and thus one that had a good chance of survival given reasonable help.

Soon after its "discovery" it was found that the land it occupied belonged to BNFL, the firm well known for operating the Sellafield nuclear fuel reprocessing factory. It was also found that BNFL were planning to build a footbridge over the River Calder to replace an existing one that was in danger of collapse. Part of this development was to divert the New Mill Beck which fed the toad's breeding pools and to fill in the pools themselves.

The Senior Management of the Company were approached and agreed to delay the bridge building from May to October to allow the toads to have left the vicinity and gone into hibernation and also to dig new pools for them to breed in. This was completed during the winter of 1975/6 and the new pools were used successfully the following spring.

Unfortunately the rerouting of the Beck caused problems with the water level over the succeeding years such that once or twice pools dried out prematurely and stranded tadpoles before they reached metamorphosis. These problems were minimised by the use of sandbags filled with a mixture of sand and cement supplied by BNFL that were used to create temporary dams during the spring and early summer each year. The dams were breached in about August or September to allow the water to drain and let the pools dry and to reduce the risk of flooding in the winter.

These dams were never very satisfactory and during the winter of 1983/84 an agreement between BNFL and the North West Water Authority was reached whereby the NWWA designed and built a dam using materials provided by BNFL. This dam was altogether a much grander affair consisting of four steel girders sunk vertically into the sand in a line across the mouth of New Mill Beck close to its junction with the River Calder. Oak planks were slid in between the girders to produce a wall that was then waterproofed using plastic sheets. The height of the top of this dam was carefully chosen to give a satisfactory level of water in the Beck whilst not risking flooding on the Seascale Golf Course up stream of the toads' pools. Again this dam was dismantled by removing the planks in the autumn and rebuilt the following spring.

In 1977 a public enquiry was held into BNFL's planning application for a major expansion of their facilities which came to be known as THORP. After acceptance of these plans a number of smaller applications were submitted for other work including the use of some waste land for the storage of spoil dug from the construction sites. These spoil heaps were designed to make use of the land occupied by the toads by engineers at the Company's Head Office in Warrington who were unaware of the toads' existence. Luckily it was spotted, and following a warning to the Nature Conservancy Council, an objection was made and the application rejected until the toads had been taken into consideration. The engineers then entered into detailed discussion with the BHS and a revised design that made the spoil heaps higher but ensured that they did not come close to the Beck or the pools was accepted.

During 1985 the Company decided that they needed to improve the rail access to the site and that the best route for this lay across the toads' land. This time consultations between the BHS, the NCC, the NWWA and BNFL's engineers were held right from the beginning and it was decided that a major development should be undertaken that would safeguard the toads' habitat permanently instead of having to make different arrangements every few years. This has resulted in part of the Beck being diverted under the railway-line to the seaward side and making a new channel for it to run down to a confluence with the Calder. Adjacent to this new stream two large pools were to be built with stop-logs to allow the water to flow into them from the stream and which could be used to adjust levels as and when needed. A further stop-log was also to be built downstream of the two pools to aid water level control. On the inland side of the railway large culverts were to be built to take the flood water from the Beck straight to the Calder and thus prevent flooding both of the new pools and upstream as had happened in the past. The total budget for this work, including the preparation of the new rail access was placed at £1M with a substantial proportion of that being due to the work directly for the toads.

Probably the most important feature of this work to the readers of this article is the fact that an agreement has been reached between the Conservation Committee of the BHS and BNFL allowing the Society to manage this new breeding area as a nature reserve. It has all come at an opportune time as in recent years the pools on the inland side of the railway-line had become thickly vegetated. This problem will have to be carefully controlled in the new pools on the nature reserve. The old pools resulted in improved reproductive success for this toad colony, and as a result it is now very easy to find large numbers of juvenile and young adult toads around the pools and on the adjacent golf-course. At the same time the other commoner anuran species have succeeded in establishing larger populations at the site. Up until the early 1980's Common Toads were rather rare in the New Mill Beck pools, but in 1984 about 50 pairs were observed spawning in the pools. The first Common Frogs were found there in 1986. These commoner anurans can out-compete Natterjacks in the tadpole phase, and were starting to be a cause of concern. Experiments over the past two years have shown that if the pools are not flooded until late May the Natterjacks still spawn in large numbers, while the Common Toad and Frog are unable to spawn at all, of course. It is intended to manipulate the water levels like this so that Common Frogs and Toads are able to breed only every other year. This way it should be possible to build up large populations of all three amphibian species.

The Beck has now been re-routed and the breeding pools created for the 1987 season. Before the old site is completely developed an attempt will be made to remove any remaining animals. The remaining terrestrial habitat will then be returned to a condition suitable for Natterjacks.

A public footpath runs across the reserve which BHS members are, of course, free to use. Access to the Natterjack breeding pools is restricted, however and possible only on issue of a permit from the voluntary reserve warden Roger Asquith, c/o BNFL Sellafield Works, Seascale, Cumbria.

BHS members can find the reserve by walking along the coast heading north from Seascale, or by crossing the Seascale Golf Course using the public footpath. Alternatively it is possible to drive almost all the way to the reserve leaving the A595 at Calder Bridge and driving to Sellafield railway station.