

The Baltic Rush on the Sefton Coast, its only English locality

The Baltic Rush (*Juncus balticus*) is a nationally scarce plant of sand-dune slacks and other damp areas near the sea. In Britain, it is largely confined to north and north-east coasts of Scotland and the Hebrides, while its only English locality is a small area of the Birkdale Sandhills where it was first discovered in 1913.

In 1981/82 the population consisted of 71 patches covering 137.7m² at 10 sites, mostly wet-slacks lying east and west of the coastal road at the northern end of Birkdale Sandhills LNR. The easternmost locality was just inside Royal Birkdale Golf Course. Three of the slacks were considered to have originated before World War II but the others were of more recent origin, five having been formed by wind erosion during the 1970s and therefore only recently colonised by the rush. The availability of this new habitat seemed to account for the improvement in fortunes of the Sefton Coast population as, in 1969/70, Clive Stace found only three colonies and predicted the plant's imminent extinction here.

Two Baltic Rush hybrids also occur in the sand-dunes. These are Baltic Rush x Hard Rush (*Juncus inflexus*) and Baltic Rush x Soft Rush (*Juncus effusus*), the former being endemic to Britain. The Hard Rush hybrid has only been found three times: at Lytham St. Annes LNR (Lancashire), Ainsdale Sand Dunes NNR and Birkdale Sandhills LNR. The Soft Rush hybrid is also rare, having been recorded three times on the Sefton Coast at Ainsdale Sandhills LNR and at Hightown dunes (twice). It has also been found recently at two places in Orkney. By 1982, the Soft Rush hybrid was extinct "in the wild" in Sefton but this and the other hybrid had previously been taken into cultivation and also transplanted to several Sefton Coast slacks.

Some 20 years on from the first survey, it was felt appropriate to revisit the sites for the Baltic Rush and its hybrids to update information on their status and distribution. Such a study would also have relevance to the North Merseyside Biodiversity Action Plan (NMBAP) which includes the rush and its hybrids.

Thorough searches of all known and potential sites on the Sefton Coast were made in the summers of 2003 and 2004. Using the same techniques as before, the numbers and areas of patches were recorded and vegetation analysis was carried out.

Eighty-six patches of Baltic Rush were located at ten sites with a total area of 185m², an increase of 34% since 1982. However, the plant's distribution at Birckdale has changed markedly. It has disappeared from six northern slacks, including the Golf Course, but has extended and consolidated its southern range, colonising three new slacks and also the Birckdale Green Beach where 12 small patches were found. There had been a major decline in the old slacks east of the coastal road where the area of patches has fallen from 61.5m² to 3.5m².

Vegetation samples at Baltic Rush localities turned out, in most cases, to be poor statistical fits to known National Vegetation Classification (NVC) communities. Most showed some similarity to dune-slack communities (SD14, 15 and 16) but some Green Beach samples were attributed to salt-marsh communities (SM13 and 16).

Since 1982, one clone of the Baltic Rush x Hard Rush hybrid, that at Ainsdale Sand Dunes NNR, has been lost to sand-blow. The other two still exist in a wild state. The one at Birckdale has prospered having increased in area from about 450 to 2475m². The Lytham St. Annes clone has also done well; its area has gone up from 138 to 221m² since 1982.

The present study located six transplants of the Hard Rush hybrid in Ainsdale NNR, Ainsdale LNR and Birckdale LNR, representing both the Ainsdale and Birckdale clones. Some of these were already known in 1982, others were established in 1992 from material grown on by Prof. Stace. Only one transplant has been lost and all but one have grown considerably in area.

Soft Rush hybrid transplants were found at four sites in Ainsdale NNR, Altcar Rifle Range and Hightown dunes. These represent the original Ainsdale clone and one of the Hightown clones. Two known transplants of this hybrid have been lost; the others are doing well, although the Hightown transplants are relatively small in area.

This survey showed that the Baltic Rush is still well established at Birkdale and occupies an encouragingly larger area than it did in 1982. However it has seriously declined in the northern and eastern parts of its range here for the following suggested reasons:

- The rush is a good coloniser of young, sparsely vegetated slacks and may persist for many years before declining as the habitat becomes dryer and more heavily vegetated. Its sites east of the coastal road originated in the late 19th century, so it is not surprising that it is now much reduced in quantity here.
- The northern slacks, which are of more recent origin, have suffered from scrub invasion, particularly of Sea Buckthorn (*Hippophae rhamnoides*) over the past 20 years. It was not until 2002/03 that the site managers were able to clear the scrub, by which time only small areas of slack vegetation survived. It was also noticed during the 1990s that the remaining rush plants were being heavily grazed by Rabbits.

Fortunately, suitable young habitat in the south of its range has allowed the Baltic Rush to spread to new sites. The largest population is now in slack no. 27 which was completely churned up by illegal motor-cycle scrambling in 1984. Evidently, the ground disturbance encouraged its spread. Other important sites now are Tagg's Island marsh, which began to form in 1978, and the Green Beach which dates back only to 1986 and where the first Baltic Rush patch was found in 2000.

From this study, it is difficult to determine the preferred habitat for Baltic Rush. What can be deduced is that the plant is capable of growing in a wide variety of dune-slack,

salt-marsh, damp neutral grassland, maritime grassland and swamp communities under varying water-table and base-status conditions.

Conservation by translocation has worked well for the hybrid clones, particularly where these are planted in wet sites with sparse vegetation. Further transplantation of the Soft Rush hybrid could perhaps be justified, especially in the case of the Hightown clone which is confined to two small patches. The future here of the Baltic Rush itself seems positive in view of its ability to colonise and persist in a variety of slack types and its apparent resilience to public pressure.

Source: Smith, P.H. (2006). Revisiting *Juncus balticus* Willd. in England. *Watsonia* **26**: 57-65.