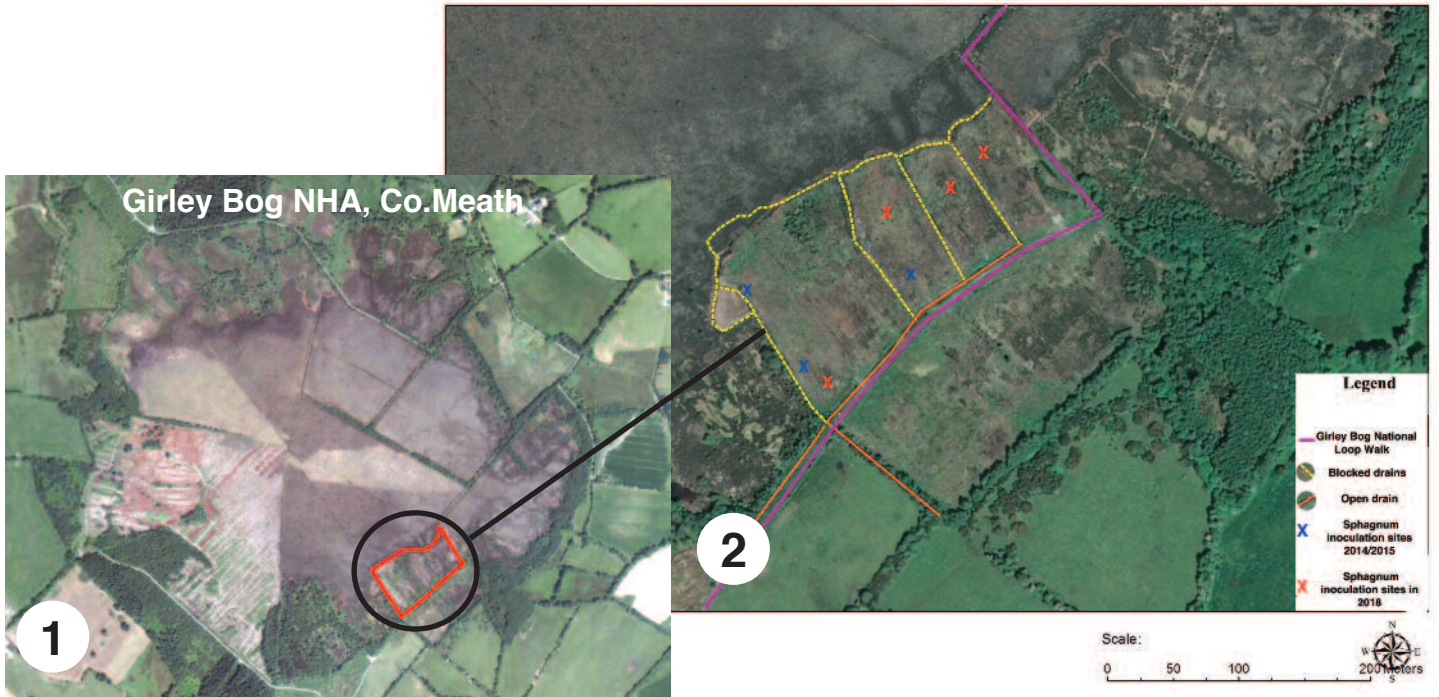


Steps involved in the ecological restoration of bare peat on cutover bog at Girley Bog NHA, Co.Meath using the *Sphagnum* transfer method.  
Photographs © Irish Peatland Conservation Council



1: The sites selected were on the cutover bog. This area was used as a spreading ground from the early 2000's to 2013 when it was purchased by IPCC. The areas selected were mostly bare peat with some *Eriophorum* sp. but with no *Sphagnum* cover. 2: This map shows the locations of the *Sphagnum* trials. The blue X's are *Sphagnum* trials that were completed in 2014/2015, the red X's show the sites completed in September 2018. Each site created in 2018 consists of a 4mx4m area inoculated with *Sphagnum* moss and a 4mx4m control area.

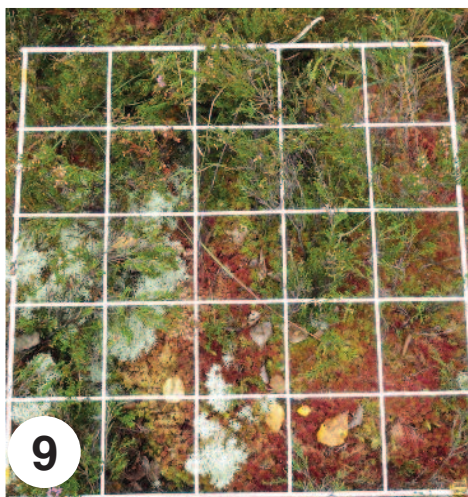


3: Home-made piezometers were installed to measure water levels in each plot and control area. Ideally the piezometer should be in a place for a year before restoration to give a complete picture of the water table levels from measurements taken each month. 4: A plover was used to determine water levels. This device makes a popping sound when it touches the water surface in the piezometer. 5: A 2mx2m quadrat was taken to record the vegetation present before restoration in all 4 plots and in each control area.



6: The plots were profiled to determine the slope. This information along with the water table depth determines how much peat must be removed from the bog surface. 7: The surface peat to a depth determined by water level and slope (varied from 5cm-20cm between plots) was removed by digging and raking and the material removed was piled up around the perimeter of the plot and control areas.





8: The raked peat surface is trampled down and is ready for inoculation. 9: *Sphagnum capillifolium* was collected from a donor site. Before the *Sphagnum* was collected a 50cm x 50cm gridded quadrat was used to measure the % cover of *Sphagnum* mosses at the donor site. 10: The top 10cm was cut from the 50cmx50cm square area using a saw. The donor site will be monitored yearly using the same gridded quadrat to measure the *Sphagnum* regrowth. The rate of inoculation of the restoration site is 1:10. *Sphagnum capillifolium* is moderately peat forming and can withstand fluctuating water levels - it is easy to identify, is common and regenerates quickly after harvesting.



11: The mat of *Sphagnum capillifolium* is broken up into strands and spread across the bare peat in ratio of 1:10 *Sphagnum* to bare peat. 12: the *Sphagnum* strands are completely covered with a layer of straw (that is weed seed free) to ensure that moisture and humidity is retained thus helping the *Sphagnum* moss to take hold and grow on the site. The success of the restoration will be assessed by monitoring the vegetation growth in the plots and comparing it to the vegetation growth in the control areas annually.

## The Future

In September 2019 we would expect to see moist straw beginning to “melt” onto the bog surface. Looking under the straw we would expect to see that the *Sphagnum* is still alive with the red colour being obvious and with some plants actually beginning to grow. On the *Sphagnum* donor site we would expect to see regrowth of new *Sphagnum* plants on the cut surface. On the bare peat in the control areas that were not restored we would expect them to look the same.

In 2020 we would expect to see the straw gone and the beginning of *Sphagnum* hummocks and other associated plants of bogs taking hold. On the *Sphagnum* donor site we would expect to see low hummocks of *Sphagnum capillifolium*. Again on the bare peat in the control areas that were not restored we would expect them to look the same.

This project was funded by the Heritage Council under the EYCH Community Grant Scheme 2018 and the Department of Culture, Heritage and the Gaeltacht Peatlands Community Engagement Scheme 2018.



An Chomhairle Oidhreachta  
The Heritage Council



An Roinn  
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