Hydrological monitoring

Briefing note revised October 2011

The Dartmoor Mires Project 2010-15 is a pilot project which aims to establish the case for restoration of internationally important blanket mire by undertaking limited restoration and assessing the resources needed, the effects and implication for other users and interests on the moor. The three main purposes of the restoration are to provide benefits for biodiversity, climate change mitigation (principally through carbon storage), and water provision. In this pilot stage, gathering evidence of the benefits is considered equally important. This will, in turn help to inform the question of what eco-system benefits Dartmoor provides.

It is anticipated that there may be significant benefits for water provision, both in terms of physical supply and also in terms of its quality. Hydrologists and researchers from the Environment Agency and University of Exeter have teamed up to advise on and deliver, if agreed, rigorous and thorough monitoring which will help to provide real evidence of any effects of restoration on the water resource. For further information please see the Dartmoor Hydrological and Hydrogeological Monitoring Plan (Dr. Sean Arnott, June 2011.)

Where

A site at the north-western end of Broad Down has been identified for this monitoring at OSGR SX613812. The site is located close to but outside of the Merrivale Firing Range (see map on page 3).This site features erosion similar in quality to that found on other high Dartmoor plateaux, so the effects of restoration here should be representative of other sites.

The restoration site at Broad Down is approximately 24 hectares in size. Within this there are 4 areas, totalling 9 hectares, targeted for restoration of which the largest (7 hectares) is where the monitoring will take place.

Locations of equipment

It is proposed that there will be 2 areas where monitoring will take place. One will be 0.4hectare (80m x 25m) and, the other 0.05hectare (25m x 20m). Both will contain a variety of equipment which could be a risk to and at risk from grazing animals, so these will need to be fenced during the period of monitoring. The fencing will also ensure that the ground conditions in the vicinity and immediate surrounds of the equipment do not
change (for example through human and animal footfall) during monitoring. There will no longer be a further area. The weather station will be within the larger enclosure.

Every effort will be made to make the equipment as unobtrusive as possible. It cannot be made invisible but it is hoped its visual impact from a distance will be slight. Photos of similar equipment will be available at the site visit and on request for partners to view. Equipment will be labelled as belonging to the University of Exeter so anyone encountering the equipment will know why it is there and that it should not be interfered with. The proposed enclosures are currently marked out with small flags which cannot be seen until you are closeby.

Legislation and consents

Commons Act 2006 and Dartmoor Commons Act 1985**.** We are obtaining detailed legal advice regarding these and whether Secretary of State consent is required in this instance.

Town and Country Planning Act 1990. The Environment Agency's 'permitted development' powers mean that planning permission is not required. DNPA's Development Management section has provided advice on this. which is also consistent with the view of Exmoor National Park Authority with regard to their monitoring schemes.

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When

It is hoped that equipment will be installed once we have agreement from partners, received legal advice and obtained any necessary legal consent. It is hoped that equipment can be installed over the winter 2011/12.

Installation and Management

It is expected that the equipment will cost approximately £90k and will be purchased by SWW as part of their commitment to the Project. The monitoring and data gathering will be undertaken by the University of Exeter, supervised by Dr Richard Brazier. Data will be shared with the Environment Agency which will undertake some of the analysis and reporting.

Installation will be undertaken by a partnership led by the University of Exeter and Environment Agency, with contractors and facilitation by the Dartmoor Mires Project officer. Where machinery is needed, it will be low ground pressure and surface damage will be avoided.

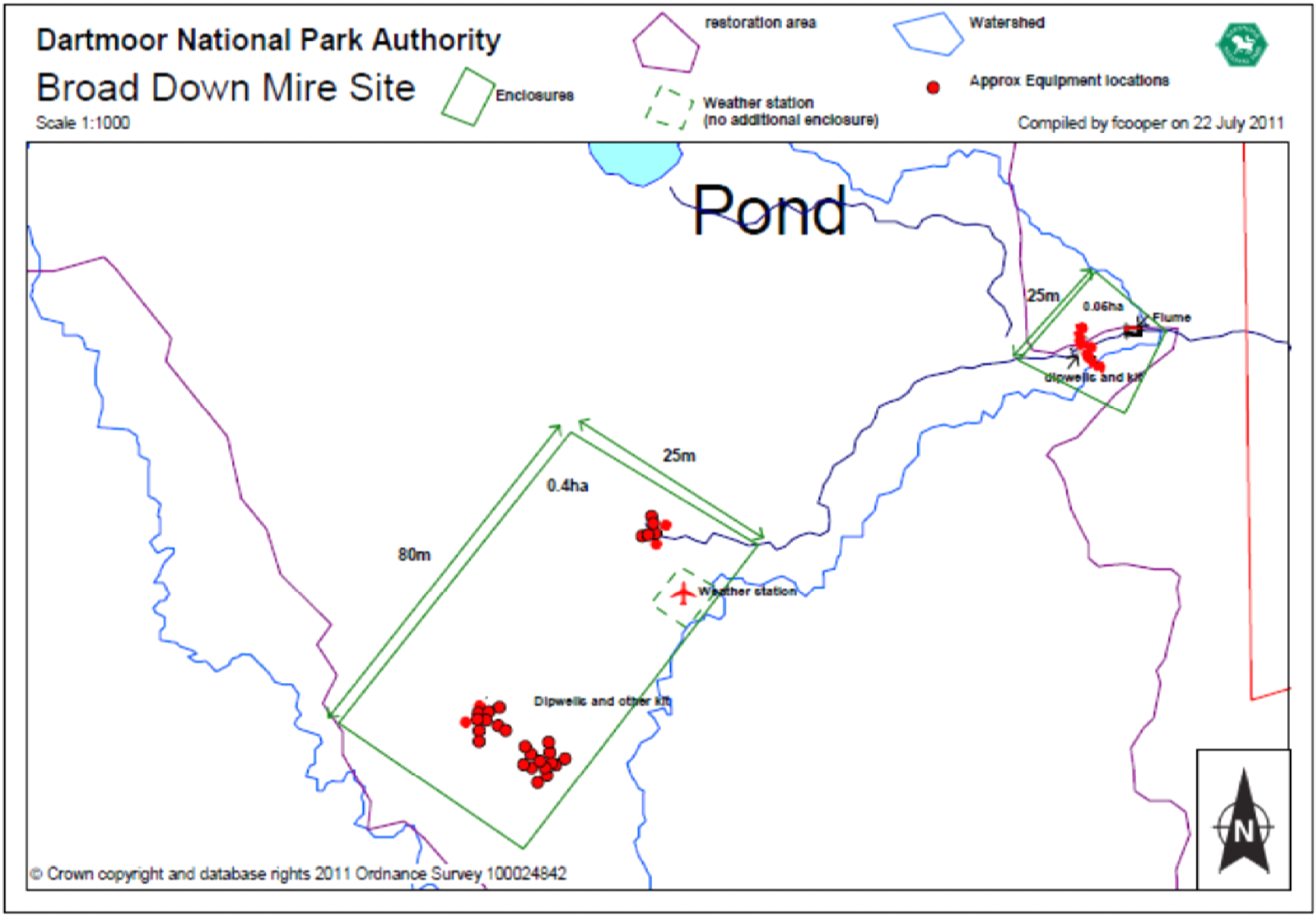
Consultation

The Dartmoor Mires Project has begun consultation with a range of partners and interested organisations. The project is keen to receive advice on both practical aspects and landscape implications of the equipment and required fencing, as well as access routes and other issues arising.

Further information

If you would like any further information in advance of the visit, please contact Frances Cooper, the Dartmoor Mires Project Officer email: fcooper@dartmoor-npa.gov.uk tel: 01626 831027

FC October 2011


Dartmoor National Park Authority
Broad Down Mire Site
Scale 1:1000
Enclosures
restoration area
Weather station
(no additional enclosure)
Watershed
Approx Equipment locations
Compiled by fcooper on 22 July 2011
Pond
25m
0.06ha
Flume
dipwells and kit
25m
0.4ha
80m
Weather station
Dipwells and other kit
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Dartmoor National Park Authority

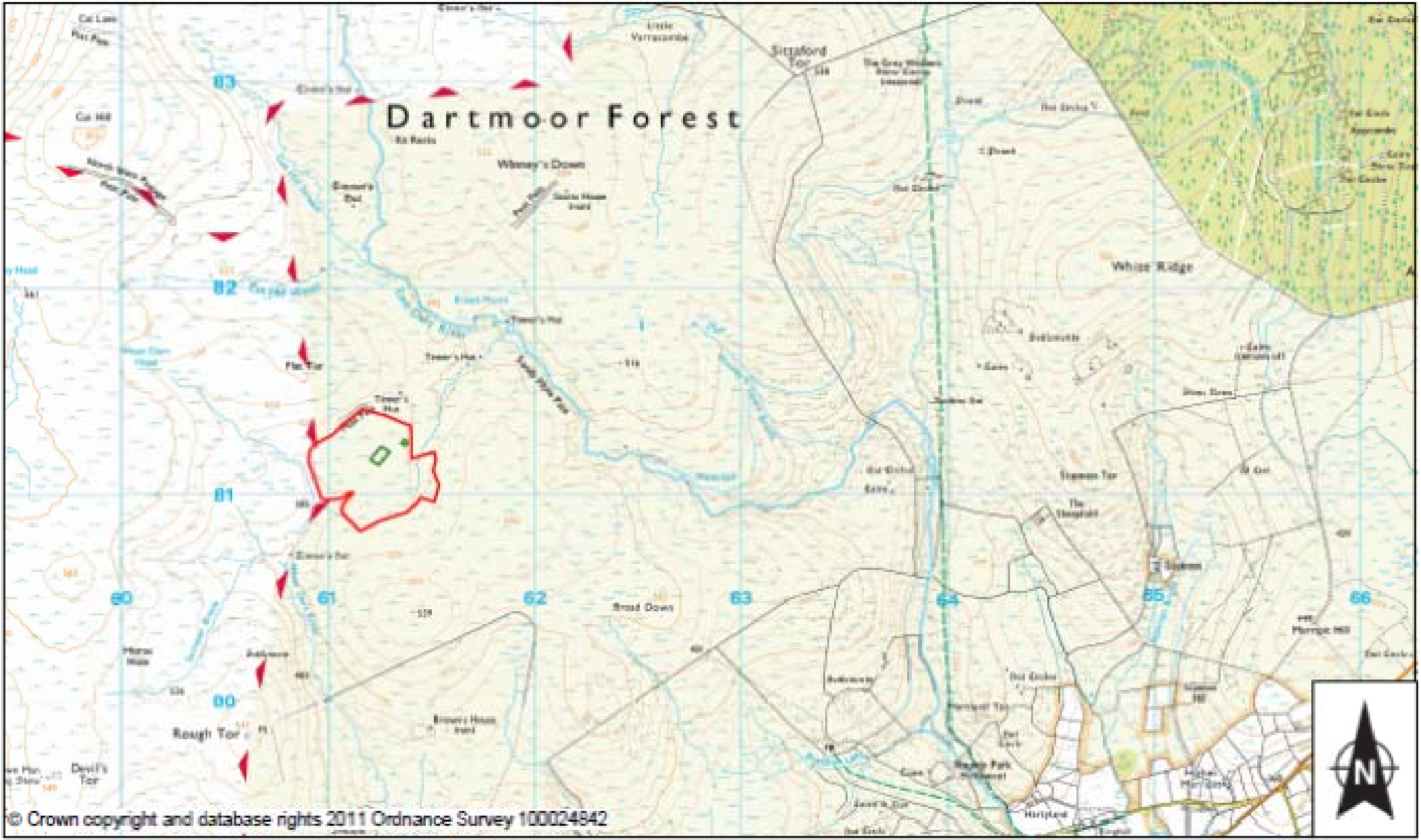
Broad Down Hydrological Monitoring

site boundary

monitoring enclosures

Scale 1:25000

Compiled by fcooper on 21 October 2011



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