

Dynamic Dunescapes Dune Management Case Study

Invasive Species (Sea buckthorn) Removal, UXO (unexploded ordnance) at Pembrey, South Wales

Sand dune system	Pembrey, South Wales
Case Study Subject	UXOs / Invasive species removal followed by unplanned burning of removed materials on site
The Management Intervention	

Site background information

Pembrey was formerly used by the military so there are potentially a large number of UXOs (unexploded ordnance) on site which need addressing prior to large scale works. This site also has areas of dense vegetation, and steep topography.

What was the issue/change you hoped to make?

There were dense stands of sea buckthorn (an invasive species in this area) that are growing rapidly and suffocating the dune system at Pembrey. These need removing so that the system can support specialist dune biodiversity.

What was the suggested intervention?

There are several methods of dealing with Sea Buckthorn, including pulling, cutting and treating, and burying. In this instance the sea buckthorn was pulled using large machinery.

What did you do?

We undertook a desktop UXO study, and used on the ground film/pictures for UXO surveyors to come to a safe solution about how to deal with items found on site.

A method was agreed, and a detailed mitigation and methodology was provided by UXO specialists in a report prior to work; the UXO monitors were on site and surveying as contractors pulled the sea buckthorn using machinery, declaring areas safe. Remote controlled mulcher was used for softer work.

A desktop archaeology study was also completed.

How did you do it?

By following specialist guidance provided by UXO experts and archaeologists. Making sure machine contractors were experienced in this type of terrain/environment and made sure they provided

good details on how they would carry out the work and that they would have to work alongside the UXO specialists and archaeology.

We also ensured that the contractors had suitable kit/machinery to carry out the work, and that good communication was maintained between machine contractor and specialists.

How was the site / intervention monitored?

Citizen science activities will be used to monitor the site: Fixed point photography, transect, quadrats in the cleared area.

What modifications, if any, did you make to your initial plan and why

The method of removal modified significantly after discussion and a desktop study with UXO surveyors and contractors. The plan was to have sea buckthorn taken offsite for incineration/biomass. However, the wood was deemed too 'contaminated' so controlled burning on site of the removed buckthorn took place instead.

Highlight any issues/obstacles & how you overcame them?

Getting permission to burn the removed materials on site instead of taking it to biomass at the last minute was an obstacle. We had to ensure that all parties obtained permission and that the local fire brigade, MOD and Carmarthenshire CC was informed.

How much did the intervention cost?

What size was the area of the intervention?

What else went well?

Engagement Measures

How were the public and others engaged?

Signage was put out before and during works. Due to the work being undertaken in a coronavirus lockdown it was decided that NRW would not make any press statement around the initial works.

Dynamic DunesCAPES and NRW staff worked closely to put out a statement on social media when it was determined at late notice that burning of materials on site would need to happen.

How were communities/volunteers involved?

Not involved due to Covid restrictions

How were local schools or other organisations involved?

Not involved due to Covid restrictions

Is the intervention working?

Please describe how. What has changed?

Yes, we now have more open sand. However, we will be monitoring the site later in the year to see if there is any regrowth. The monitoring will be ongoing to see how the intervention is working.

If the intervention has not worked, detail why not, and what could be done differently next time?

We would prefer not to have had the removed materials burned on site.

Media & Reports

Photos/video clips



Dense sea buckthorn before works commenced



Contractors removing dense sea buckthorn



The site after dense sea buckthorn was removed



The site after dense sea buckthorn was removed, exposing bare sand



An area of low/medium sea buckthorn growth before works commenced



The area of low/medium sea buckthorn growth during mulching



The area of low/medium sea buckthorn growth after works