2 Case Study

Pencalenick Ponds, Truro

A non-chemical approach to invasive species removal, utilising specialised machinery to clear areas of laurel and rhododendron plants, including their roots.

The contractor offered specialist equipment and forestry plant, purpose-built for working in confined spaces, with a range of implements and attachments ideally suited to this type of woodland management.




Location: Pencalenick Ponds, Truro

Water course: Tributary stream flowing through Pencalenick's Victorian ponds into the SAC/SSSI Tresillian river estuary feeding the Fal

Ownership

Pencalenick and Tresemple Farm are part of The Duchy of Cornwall's Estate in the Truro area.

Access

Pencalenick ponds are part of a permissive trail, which is open to members of the public and accessed via the estuary track. Tresemple and Pencalenick School, which are on the boundary are not public access.

About the project

The Victorian ponds and valley bottom have been overwhelmed by the vigorous growth of rhododendron ponticum and laurel varieties that have expanded to exclude light and restrict the growth of other species. In addition, rhododendron ponticum harbours phytophthora — a plant pathogen known to cause the disease known as sudden oak death. Although some work was undertaken a decade ago to cut back growth, it failed to tackle the plant roots, rendering any benefits only temporary and causing subsequent re-growth to be more vigorous. The project objective is to remove the invasive species, tackling the roots and replanting the cleared area with native hardwood saplings.

How it was achieved

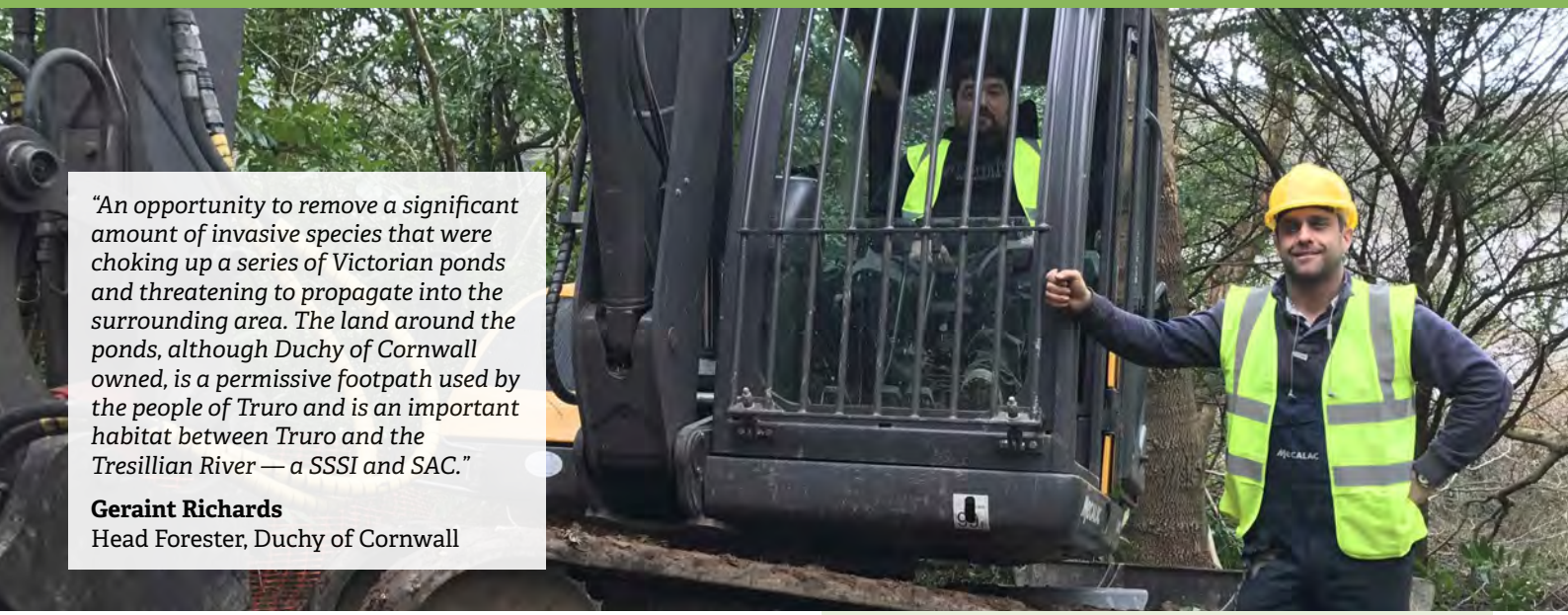
In 2021 Cornwall Wildlife Trust partnered with The Duchy of Cornwall to secure an Environment Agency Water Environment Improvement Grant (WEIF) to undertake invasives removal work alongside a significant tree planting initiative. Pencalenick ponds were part of a larger project but represented the biggest invasive species challenge, due to the density of plants and the steeper areas around this watercourse. From three proposals a non-chemical approach was selected, one involving mechanical methodology where roots would be pulled, and along with other materials removed from site.

The contractor offered specialist equipment and forestry plant, purpose-built for working in confined spaces, with a range of implements and attachments ideally suited to this type of woodland management.

Once a contractor had been selected, an ecological walkover survey of the area was commissioned from Cornwall Environmental Consultants to identify any issues before the physical intervention took place. They also prepared a Habitats Regulations Assessment (HRA).

With method statements/risk assessments in place, the work commenced in February and was completed in March 2021. The methodology involved four stages: removing top growth, leaving stumps; utilising remaining stump to pull and remove the roots, preparation of ground for new saplings; and planting of new saplings (undertaken by another contractor but within the scope of this project).

Case Study 2 : **Pencalenick Ponds, Truro**



"An opportunity to remove a significant amount of invasive species that were choking up a series of Victorian ponds and threatening to propagate into the surrounding area. The land around the ponds, although Duchy of Cornwall owned, is a permissive footpath used by the people of Truro and is an important habitat between Truro and the Tresillian River — a SSSI and SAC."

Geraint Richards
Head Forester, Duchy of Cornwall

Why this work was needed

The Duchy of Cornwall Estate's Natural Capital Project, which involves surveying the estate to consider how best to manage its environmental resources, identified this area as being of significant value, both as a heritage asset and environmentally. The presence of invasive species was stifling the growth of the environmental components and spoiling local enjoyment of the permissive paths. Undertaking the work using non chemical methods also demonstrates an approach that can be considered by future projects, especially those relating to areas within and adjacent to SAC/SSSI designations.

Benefits

Removing invasive species helps to slow the spread of these vigorous plants at the same time as reducing the risk of cross infection to other indigenous species. The non chemical method proved to be much faster and more efficient than conventional 'cut and poison' approaches, making them better value as well as having a lesser environmental impact.

Consents

A report to inform a Habitat Regulation Assessment was commissioned as part of the project.

Scoping process

The project specification included invasive species removal and tree planting. It became apparent early in the exercise that this would need two different contractors. The tree planting component is easy to price conventionally whereas the invasive species removal is less straightforward because assessing the degree of difficulty is problematic over a larger area. To overcome this we settled on requesting day rates in order to compare tenders and had to bear in mind that mechanical interventions with bespoke equipment are very time efficient. The tree planting was more straightforward as it was set against a defined species list and planting specification.

Commissioning data

Invasives removal is difficult to conventionally price so is best quantified and then considered against a specified budget and calculating the number of days available to tackle an area or a series of defined areas.

Two of the methods employed either hand cut and poison or mechanical intervention without poison. It is difficult to compare these approaches on a like-for-like basis as specialist machinery is significantly faster. However, the availability of contractors who offer this non chemical mechanical approach remains limited across the UK.

Capital costs

£525 per day, per supported machine
52 machine days
£1,800 Cost of replanting (700 whips)
£6,900 Specialist Surveying and Project Management
Total Budget **£36,000**

Cornwall Catchment Partnership

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