

Castlehead Fishery

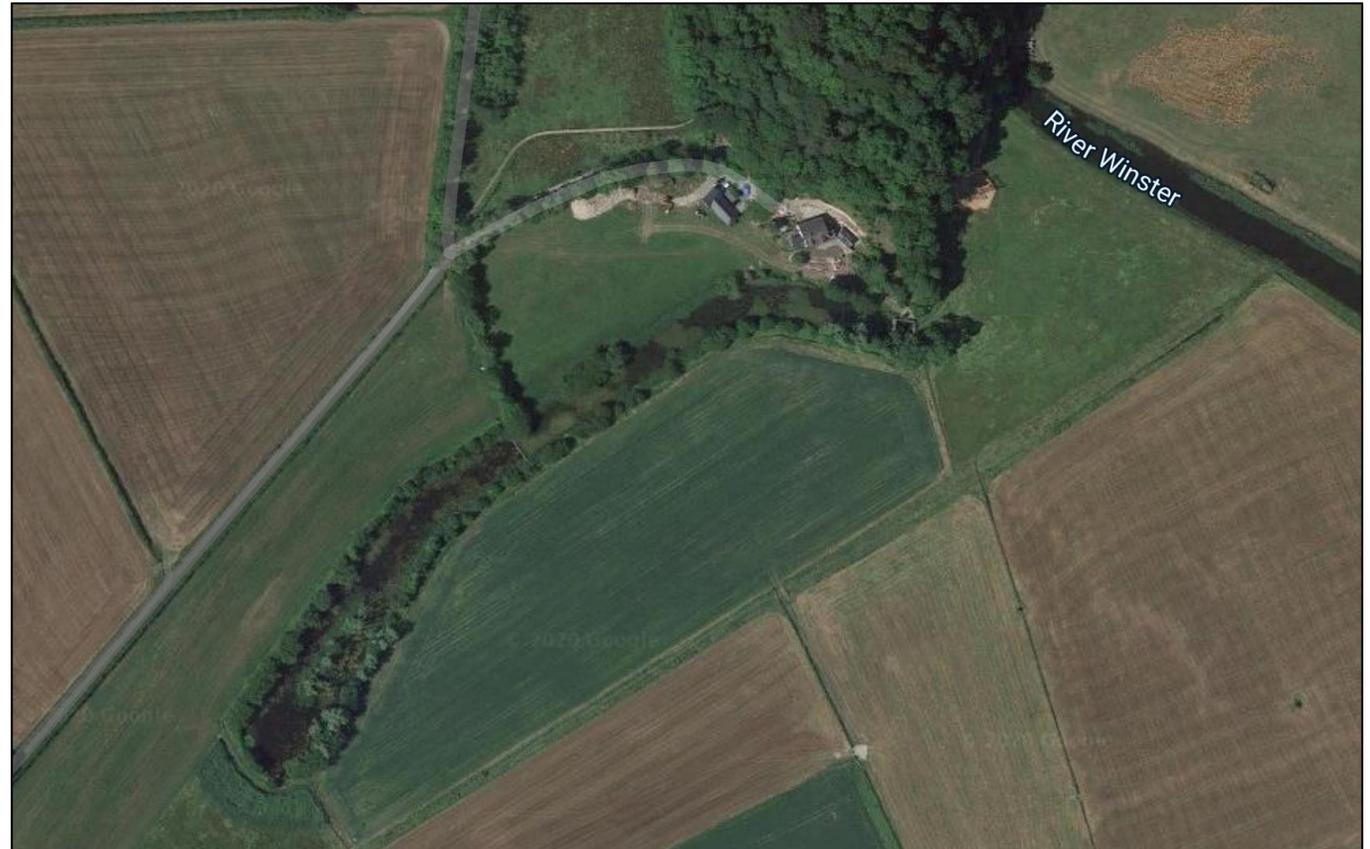
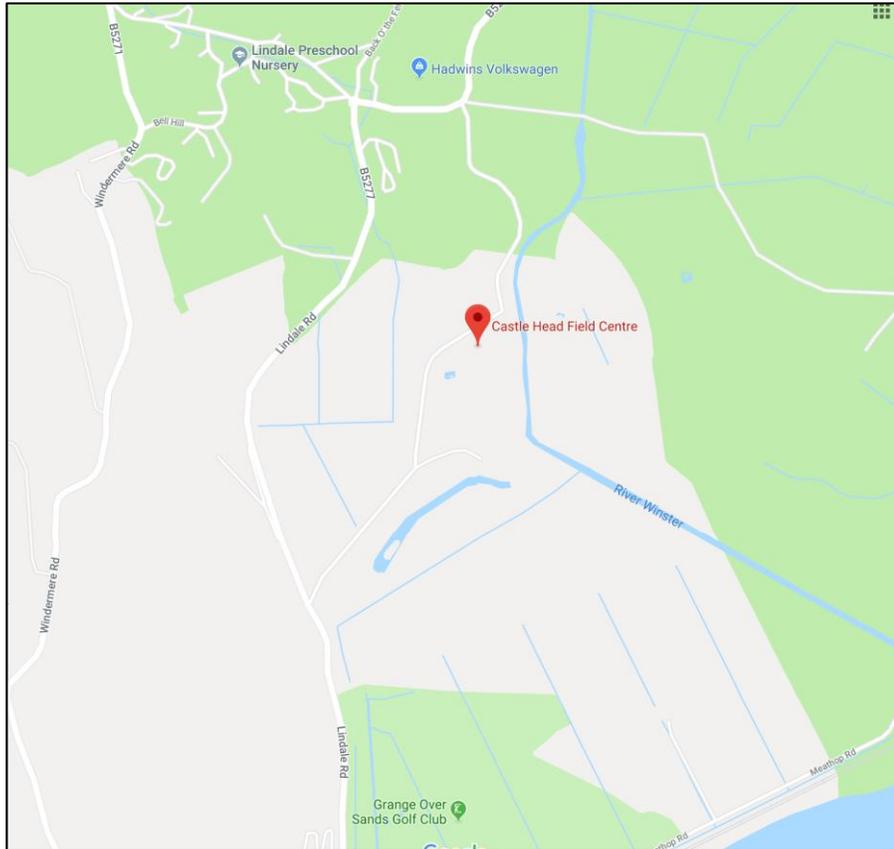


Castlehead Fishery – Background

Castlehead Fishery is situated approximately 1 mile outside of Grange-over-Sands, just off the B5277 Lindale Road. The lake occupies the original route of the River Winster before the course was diverted to create grazing land in the late 19th century. The lake, via a series of underground pipes, acts as a balance with water flowing through an outfall at the western end.

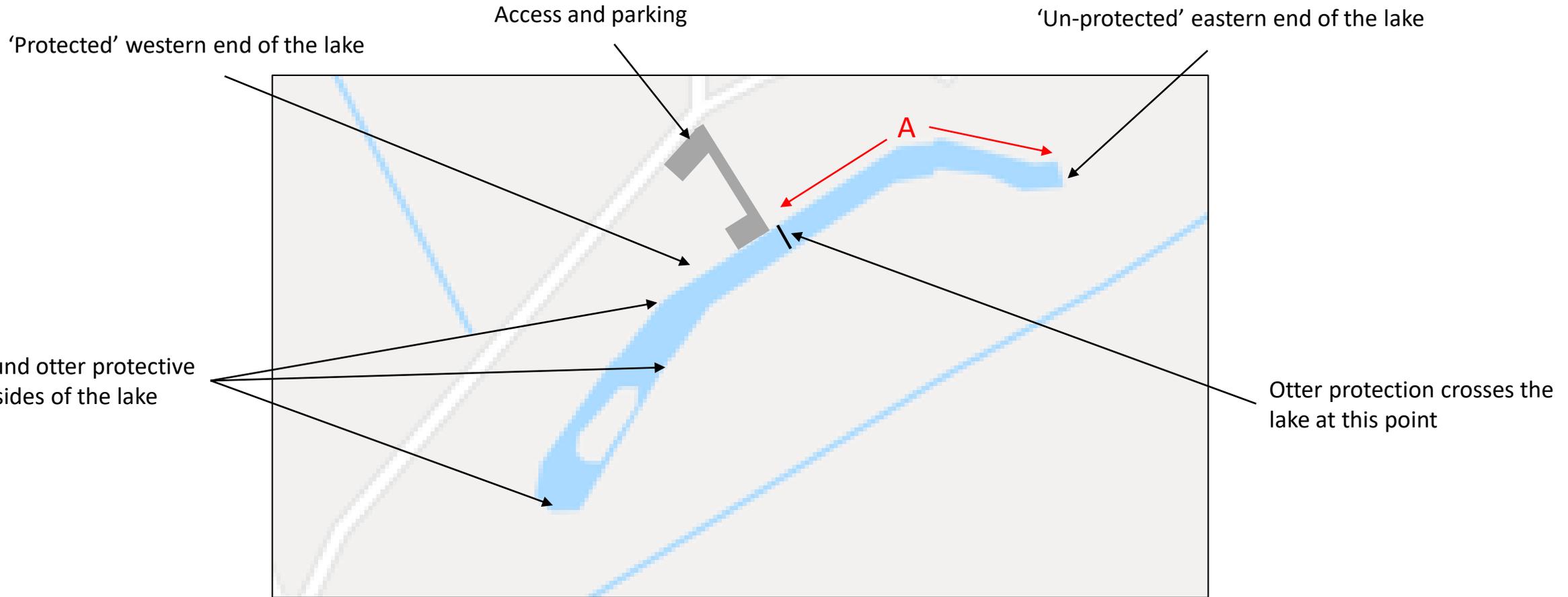
WADAA held the fishing up to 2010 and again since 2018. During this time an otter fence was erected to protect the fish stocks and a dozen wooden platforms installed.

The fishery was extensively planted with trees by WADAA and these are now well established.



Arrangements for Angling

The lake is leased from landowner, Harvey Heginbottom, who owns the surrounding land with the exception of the section marked 'A'.



Castlehead Fishery Improvements To-Date

Background

WADAA worked hard during early 2019 to significantly improve the facilities at Castlehead Fishery, placing particular emphasis on making the venue accessible for disabled and mobility impaired anglers. Working with a number of partners, the club constructed 18 new platforms, including some specifically designed, over-sized platforms for disabled access and coaching. To aid access further, a new car park and access road were also constructed, which necessitated the club gaining the requisite planning permissions. The new car parking allowed the club to create dedicated disabled parking bays adjacent to the water. This parking was also integrated with a new perimeter path around the lake.



The construction project was large – using over 400 tonnes of stone, huge amounts of tanalised timber and cutting down tonnes of overgrown trees to make the fishery accessible. The work was carried out by members, local contractors and with additional support from local businesses.

Details of the work can be found on the following links:

<https://www.youtube.com/watch?v=XXwIWSR0nE&t=65s>

<https://www.youtube.com/watch?v=UQX5vo2Rjk8&t=29s>

Stocking

The club has invested heavily in a variety of fish stocks to create a balanced, mixed fishery. In addition, the EA have donated over 2000 mixed small fish from their hatchery in Calverton, with a commitment to further stockings in the future.



Castlehead Disabled and Easy Access Improvement

The club has invested in stock to support the running of a variety of events on the venue. These were very successful with the venue used by a variety of parties. In addition to the angling interest, the club also partnered with the Field Studies Council, opening the venue to visits from students and special interest groups in order to study the ecology and environment. The facilities developed for angling proved perfect for their special educational needs and under-privileged group activities. In addition, the club has built an off-grid toilet and shelter facility – critical in supporting group activities.



Press Coverage

The work completed attracted some significant local press coverage and has contributed to a significant rise in club membership (now running at almost double the figure prior to the work being completed), including a significant increase in the number of junior anglers.



Above: The fishing platform and Angler Vikas Devise holding a large Perch

New Fishery at Castlehead

Over the past year WADDA has undertaken a major project of building a fishing platform and built the new fishing platform. The new fishery has been built to provide a safe and enjoyable fishing experience for all anglers. The fishery is located in a wooded area and is a great place to catch perch and roach. The fishery is a great place to catch perch and roach. The fishery is a great place to catch perch and roach.

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Predation Protection

Given it's proximity to the coast and local River Winster, protecting the venue from predation from both otters and cormorants has been a key priority for WADAA.

Cormorants

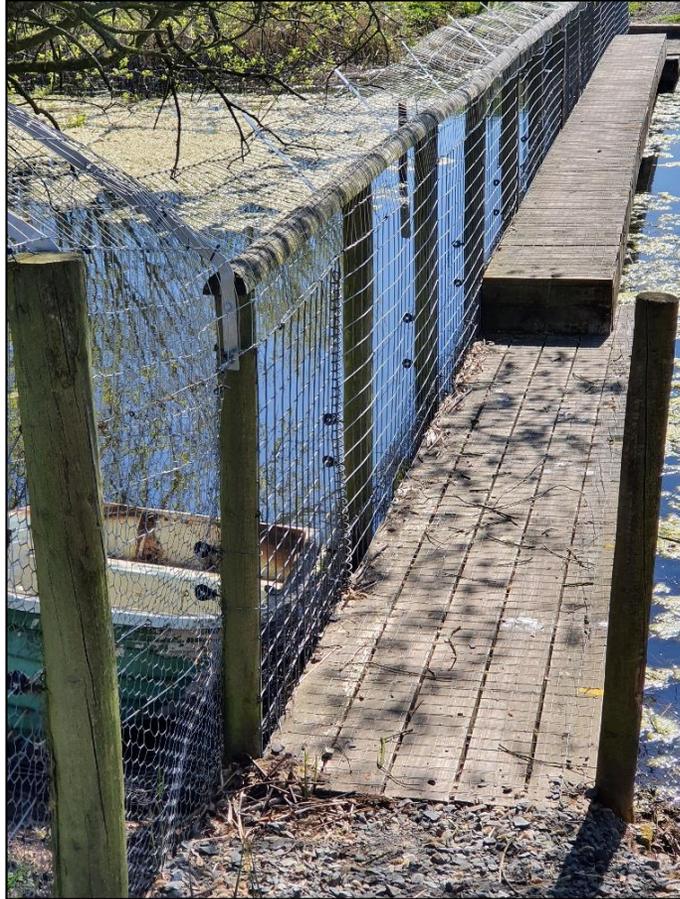
The club has used a number of methods to deter predation; strings, tree cropping and manikins and additionally has the landholder has obtained a control license issued by Natural England.



Predation Continued

Otters

The venue benefits from a perimeter otter protective fence. The fence is electrified and has been further enhanced with an overhang. The power is supplied by battery with a solar panel back-up. However, the routing of the fence is complex as, due to ownership right issues, the fence protection crosses the lake adjacent to a wooden bridge.



Issues

Otter Predation

Despite several attempts to produce an engineered solution to prevent otter ingress under the bridge, the lake has continued to suffer otter predation.



Cormorant Predation

The venue has also suffered with cormorant predation – this primarily focuses on the smaller, silverfish populations

As such, with bird predation taking the small fish and otter the larger carp, the club needs further, significant enhancements in protection to keep Castlehead viable as a fishery into the future. This is critical in order to underpin the investments already made and keep the venue at the forefront of the clubs group and community angling efforts.

Water Quality and Eutrophication

As previously noted, the lake was formed in the late C19 when the River Winster was diverted to create farm land. The lake bed profile is therefore typically concave and over the years, significant accumulations of organic silt have built up. These silts are contributing to high phosphate and nitrate levels in the lake (as noted during water quality tests carried out by the Environment Agency in 2019). This chemical composition increases weed growth, which then adds further to the silt accumulation.

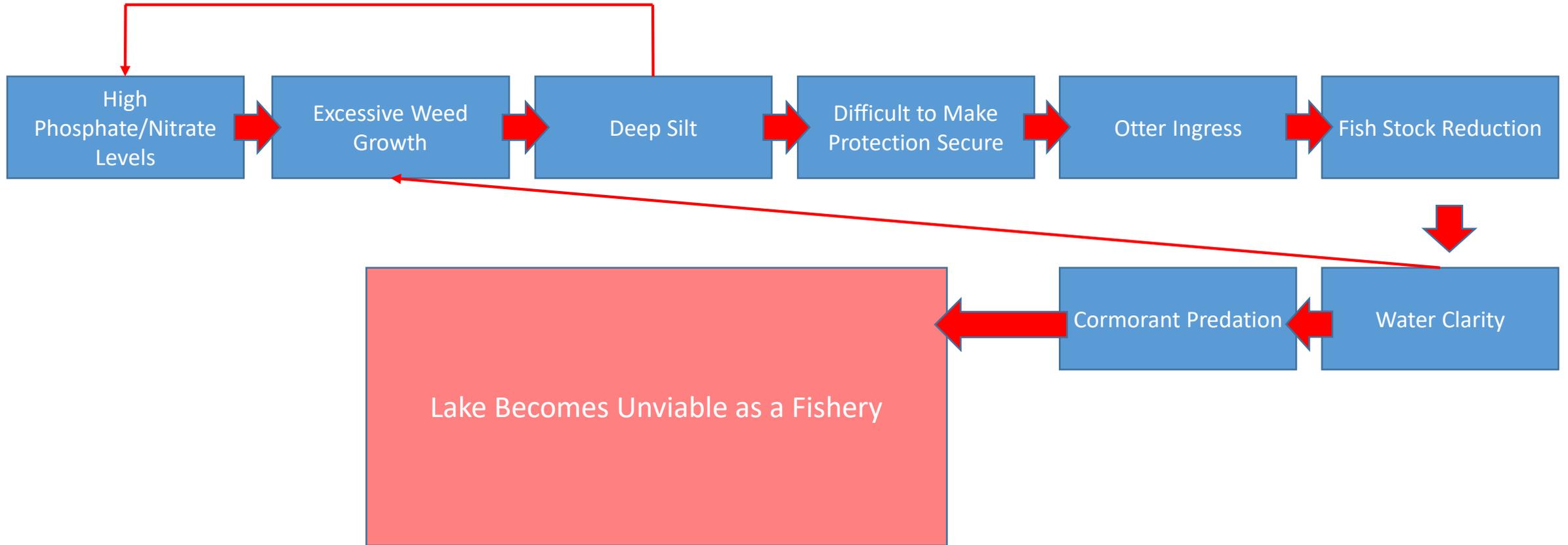


As water temperatures rise during spring, this results in excessive growth of Mares Tail, Blanket Weed and Canadian Pond Weed and significant Phragmites encroachment around the perimeters.



Compound Issues

Following study, the club has come to understand the links between these issues:



Attempted Repairs

The club have made numerous attempts to secure the area under the bridge including deploying a team of divers. However, each attempt has failed to prevent further otter ingress

As a final attempt at a simple fix, the club extended the steel mesh further across the bed of the lake:

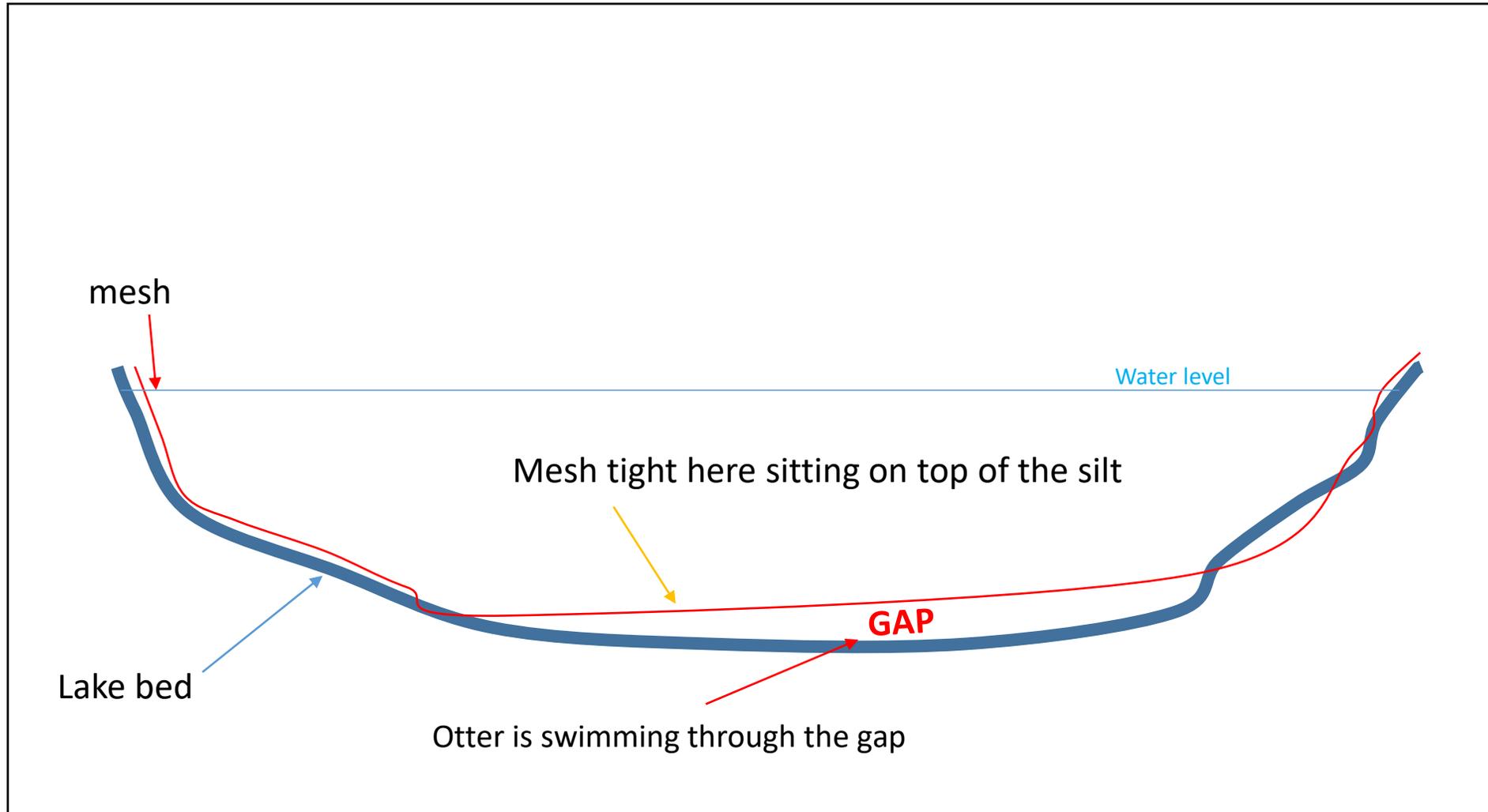


A profiled and weighted mesh was added on the vertical

A 1.8m wide steel mesh was rolled out across the lake here and weighted down to the lake bed with concrete blocks.

Causal Factor

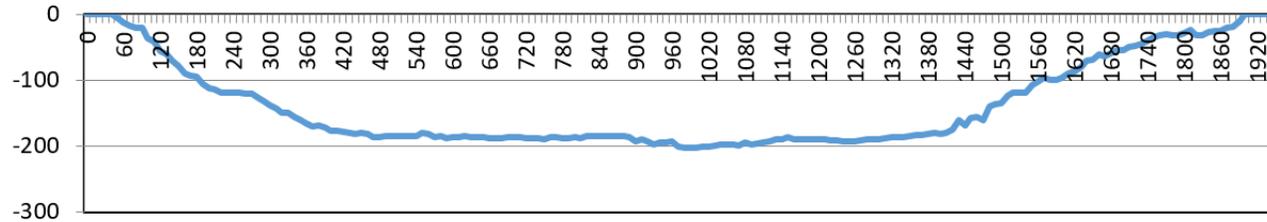
Using a boat and long poles, a survey of the lake bed was carried out. It was discovered that the mesh is sitting on top of circa 45cm of silt on the lake bed. Despite further attempts to pin this down with posts, it has proven impossible to close this gap:



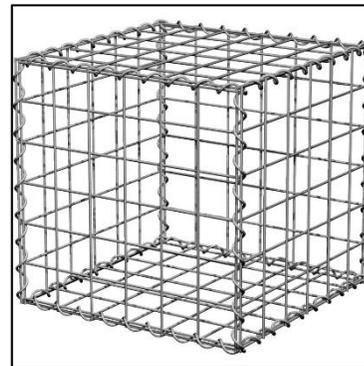
The Fix

From having a full understanding of the issues, the club has been able to identify a viable and cost effective solution which will address both the otter and cormorant predation problems. In effecting this solution, the club can also take the opportunity to remove all the historical silt from the lake bed and reprofile the margins, thereby improving water quality and controlling subsequent weed growth.

1. Drain Lake – the proposal is to drain the water from the lake, using a fishery specialist to hold remaining fish stocks. The water would be removed via the existing drainage system (this method has already been validated by the EA) using pumps.
2. Construction Solution
 1. Create a solid stone bund, replacing the existing wooden bridge. This (with a piped water levelling system), will provide a solid basis for an ‘above water’ otter protective fence to be constructed on top of. Furthermore, this solid bund, in replacing the old narrow bridge, will improve access to the south side of the lake. The bund would be constructed to disabled access specifications as laid out by the BDAA (WADAA already has a very good working relationship with the BDAA from previous projects). This will require 120 tonnes of stone to complete.



2. Create 2-off, 25m² caged fish refuges placed to the east and western points of the island in the lake. These would be constructed from galvanized concrete reinforcing mesh sitting on the lake bed, topped off with mesh and planted to form an extension to the existing island.



The Fix continued

3. Lake Bed Improvements – with the water removed from the lake, the silt from the bed can be scraped, the margins deepened and the invading phragmites removed.



WADAA Experience

WADAA has built up valuable experience in completing this type of work. In 2019/20, a similar type of project was successfully executed at another of the club's lakes, Ratherheath Tarn. In doing so, the club has not only built up a level of knowledge itself, but also made relationships with experts and partners.



1. Stone bund creation
2. Floating island creation
3. Heavy plant work



