Newport Canal SSSI Restoration Programme 2019-2020

Conservation Dredging operations 2019

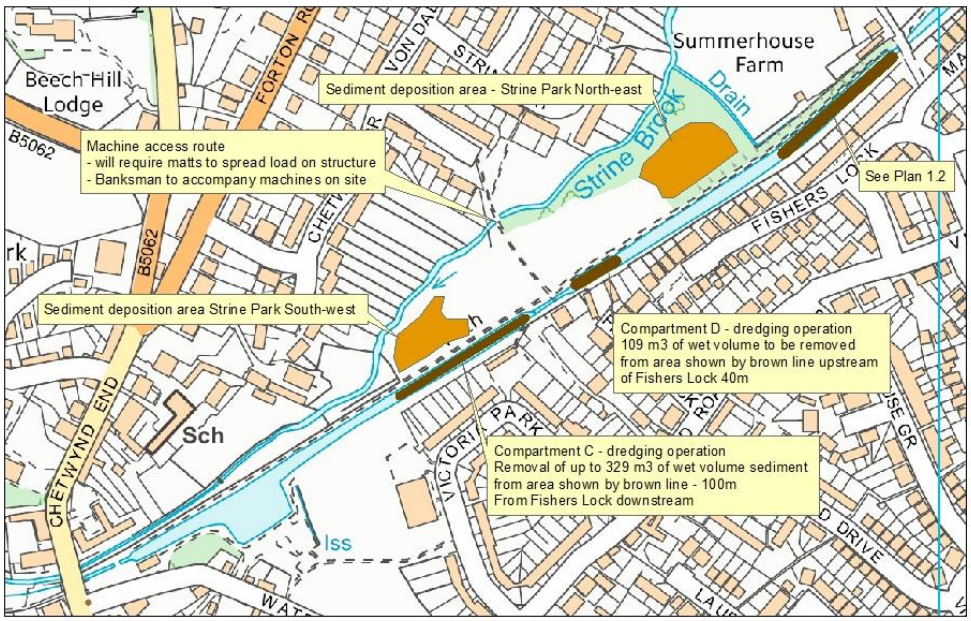
Introduction

Newport Canal SSSI was notified because of the quality and composition of its aquatic plant community. Since notification the overall plant interest has declined and Natural England assessment has concluded the canal is in a poor condition. There are many reasons for this decline and one maybe the lack of deep water in the canal. Leaf litter and other organic material has accumulated in the canal and overall depth has reduced. Whilst other factors such as water quality and management will have a bearing on the canals plant community this element of the restoration programme focusses on recovering water depth.

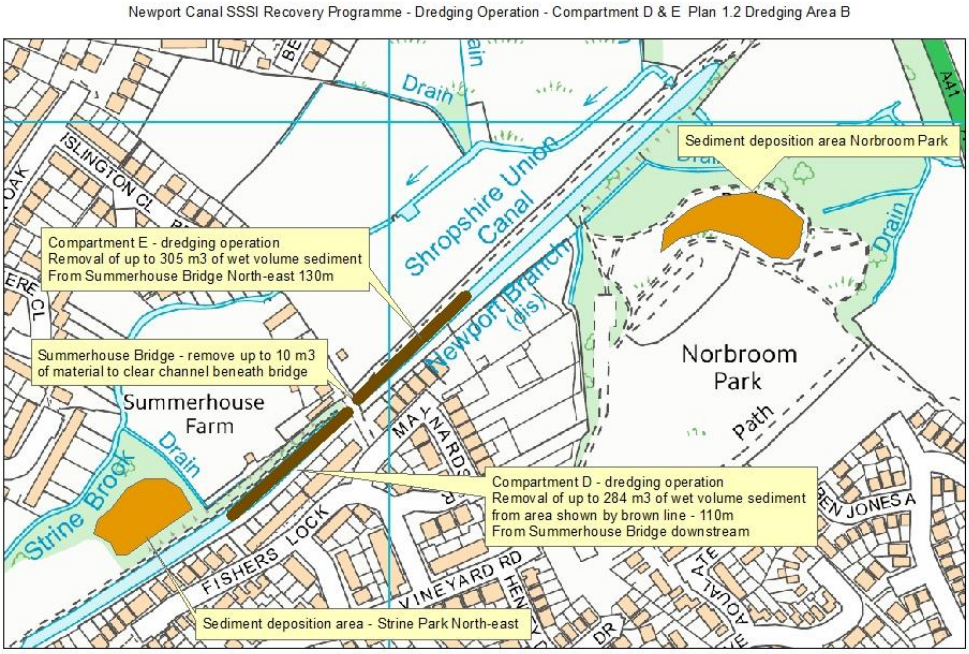
In the preparatory period in advance of the dredging permits and assents were secured from Natural England, Environment Agency and Telford and Wrekin Council. These permissions related to planning, permitted development, waste handling, operations likely to harm a SSSI and compliance with Protected species legislation.

For the purposes of the funded programme the two lower sections below Town Bridge were excluded from consideration for any dredging works. The water flow from the intake off the Strine is to the north-east end of the canal length and the strategy is to work from here to improve ecological function and then progress down the canal in stages. The 2019 conservation dredging operations focussed on the three upper sections as seen in the map below:

Newport Canal SSSI Recovery Programme - Dredging Operation - Compartment C & D Plan 1.1 Dredging Area A



The map above shows the dredging locations in the canal below Summer house Bridge, above Fishers Lock and below Fishers Lock. The two light brown areas show the associated spoil deposition areas.



The map above shows the two dredged sections above and below Summerhouse Bridge and the spoil deposition area in Norbroom Park.

Operation planning considerations

The conservation dredging activity required targeting to ensure the greatest benefit was gained with the least negative impact. Four factors needed to be considered being existing depth, current distribution of aquatic plants, practical constraints in regard to machinery access and spoil disposal.

1.Water depth - Thanks to a very detailed survey of water depth under taken by local volunteers it was possible to target the dredging activity at those areas where the water depth was shallowest. Dredging is an expensive operation and it was important to target the shallowest areas of the canal. Narrow canals are rarely very deep in the Newport Canal occasionally it reaches 1.5m maximum.

2. Plant community - A botanical survey was undertaken in advance of the works to identify where particular rare aquatic plants might be in the canal and either avoid works in those areas or if possible move the plants to refuge areas out of harms way. Of the rarest plants a small groups was found in the proximity of Summerhouse Bridge and another group halfway along the section between Summerhouse Bridge and Fishers Lock. When an attempt was made to transplant these plants it was realised they had been removed by the aquatic weed cut carried out in advance of the dredging work. The evidence of the negative impact of current management operations has been

noted and will be addressed in the development of the management plan for the SSSI and its adjoining greenspaces.

3. Machine access – The canal locality includes significant constraints on access in regard to type of machine, size of equipment, stability of ground, public safety and making good post-works. In meeting contractors per-tender deadline we were able to explore the various approaches and this helped develop the final approach. Weight of machinery was critical to match reach with bankside integrity. Bucket size needed to be large enough to avoid too many passes per volume of sediment removed and dumper trucks needed to be large enough to support efficient work rate but not too large as to be impracticable.

Access pinch-points included the pound location at Fishers Lock, access to the canal at Norbroom Park, the bottle neck at Summerhouse Bridge and the stability of the towpath along its length. The actual operation utilised the causeway across the open ditch at Norbroom, machine access via Avondale Drive and a crane lift from the garage area at Fishers Lock to bring in the barge hopper and tug boat.

4. Spoil movement and storage – A number of locations were identified that were felt might be suitable for on-site sediment deposition. Botanical and Protected species surveys undertaken by TWC ecology team confirmed 4 locations these are shown in the maps above. The one in the woods of Strine Park in actuality became two discrete areas rather than one as indicated in the map. Each deposition area was bunded into cells, most clearly seen in the area of spoil in the south-western corner of Strine Park. Sediment was sampled in advance of dredging works and proved acceptable to be retained on site. Removal off-site would in any case have been prohibitively expensive. Spoil under the EA Exemption issued as part of the consents required for the operation required deposition was close to the source of dredged material.

Operations in 2019

Following a standard tender process the successful tendering contractor, WM Long Reach of Bridgnorth was appointed to undertake an operation to remove accumulated silt from a number of sections of the canal. Works commenced in late October 2019 with the installation of a welfare wagon on TWC land behind the Black Shed. The overall conservation dredging operation took just over 4 weeks. A limited amount of tree works were required to prune lower branches to ensure machine clearance along the towpath. Spoil deposition areas were prepared by scraping back top-soil and creating low bunds to contain wet material to prevent sloughing and protect vulnerable areas such as the Strine Brook.

The sections below and above Fishers lock were dredged by a long boom bucket mounted on an 360 tracked excavator. The section below Fishers Lock was the shallowest part of the canal. A silt curtain was strung across the canal to prevent turbid water entering the Town Basin section and protect fish.

The canal sections above and below Summerhouse Bridge were dredged utilising a hopper barge which was moved by tug boat. A towpath based excavator lifted dredgings into the hopper barge and this was moved up canal to be emptied by another excavator and deposited.

Work proceeded smoothly with minimal disruption to public access. Depth recovery was done with care as the substrate feels different from the sediment material which overlays it. The dredged material contained some debris, branches etc and the occasional item of large litter, a cycle and a bath. Thanks to the hard work of local volunteers and the TWC management team litter content was very low. Fish health was monitored by members of the fishing clubs and impact appeared minimal, the sediment curtains very successfully containing the turbid water caused by the disturbance of the bottom sediments.

Ground damage caused by machine ingress was minimal and a bench that had to be moved to allow excavator access near Meretown Lock was repositioned post works. Any further access works are to be agreed and incorporated with other activities being delivered by TWC and Newport Town Council all forming part of a separate project in relation to the greenspace access in the town.

The contractors de-mobilised on site in early November. Sadly they lost a quad bike to theft during the period of the operations and the Back Shed was broken into. Follow up on this was carried out by SNCT and TWC. Overall public feedback was positive and the signage helped to explain the works but undoubtedly the friendliness of the contractors was the key factor in good public relations during the dredging operations.

Concluding comments

The first phase of dredging was complex as access was challenging and the preliminaries required to prepare the delivery plan were intricate and detailed. Long term monitoring will determine whether the operations have helped though clearly adjustments are required to the routine management to capitalise on the recovery of deeper water along what were the shallower sections of the upper canal. Overall we were pleased with the execution of the works and impressed with the professionalism of the contactors WM Longreach of Bridgnorth. The lessons learnt from this first phase will be invaluable when we come to plan the second phase of dredging works lower down the canal.

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With thanks to:

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