Ryton Willows and Parson's Haugh
Feasibility Study
Habitat Restoration Options

Introduction

Consultancy firm AECOM was commissioned by Groundwork NE and Cumbria (GNEC), on behalf of Gateshead Council, to conduct a study for the potential restoration of water dependent habitat alongside the River Tyne at Ryton Willows near Gateshead.

Three options have been shortlisted, on which feedback is now being sought.

Study Area

The study area is situated on the south bank of the River Tyne at Ryton and is owned by Gateshead Council. The existing land cover is mainly grassland with areas of scrub and scattered trees.

Ryton Willows is a designated nature conservation site and is identified in the Local Plan as accessible natural greenspace. The study area is located within the registered Newburn Ford Battlefield site and lies immediately north of Ryton Willows Site of Special Scientific Interest (SSSI).

The Keelman's Way (NCN 141) follows the south bank of the river. The Newcastle to Carlisle railway runs along the southern boundary of the study area. A Northern Gas Networks facility is located immediately to the east and a number of dwelling houses are located immediately to the west.

Aerial image supplied by Ross Breen at Skyimage Ltd: www.skyimage.co.uk

Historical Mapping

Analysis of historical mapping from the late 19th century shows there have been major adjustments to the channel shape of the River Tyne over the past few centuries, see below. The river is now much altered from its original shallow condition with large islands; it has been deepened and straightened, and its shallows and edges have been built upon to serve the requirements of the areas developing trade and industry.

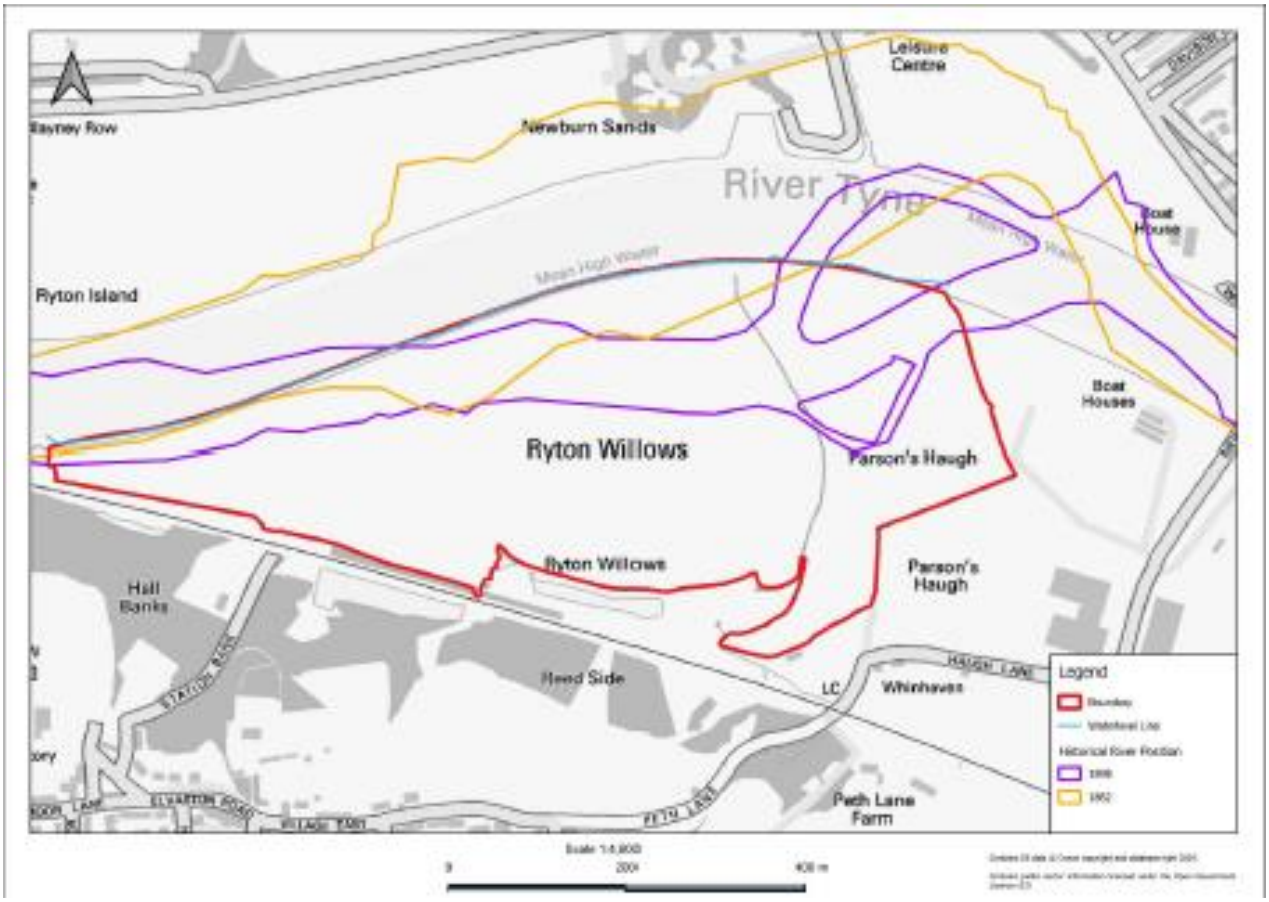


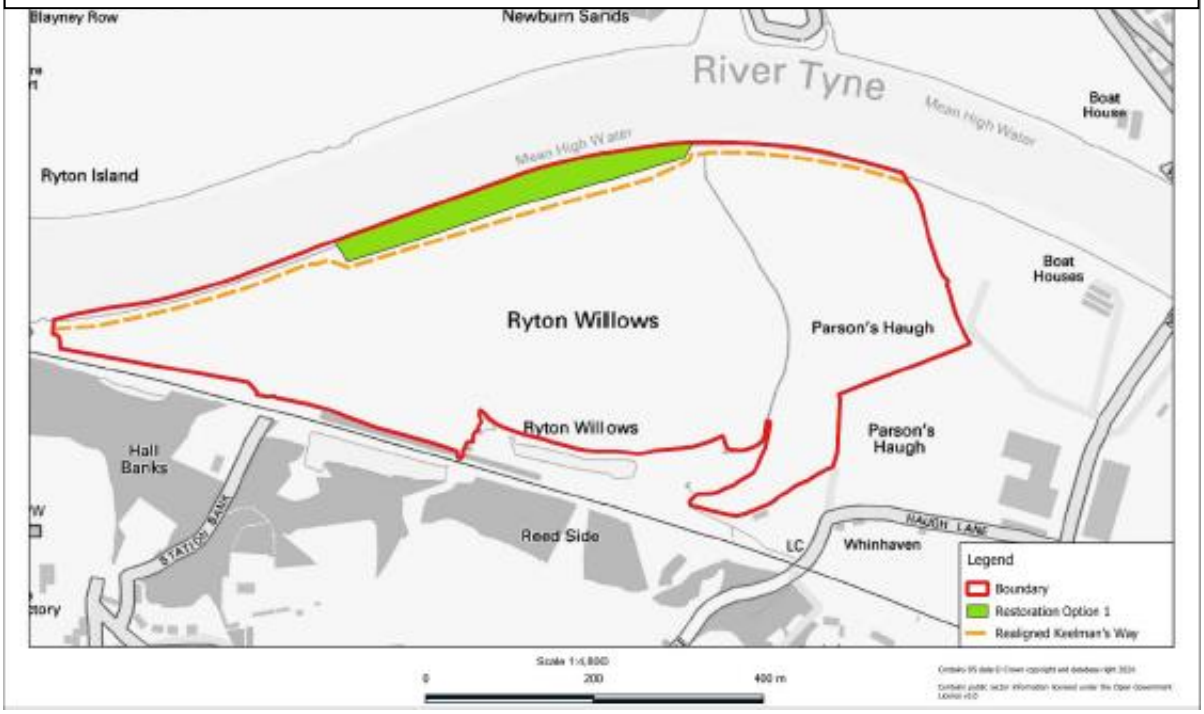
FIGURE 1: ADJUSTMENTS TO THE CHANNEL SHAPE OF THE RIVER TYNE

Ten conceptual options were identified by AECOM in liaison with GNEC, the River Restoration Centre and Gateshead Council (Appendix 1.). These were assessed by scoring each option against criteria including: potential benefit for inter-tidal habitat, water quality, flooding reduction, landscape and visual appeal, recreation and amenity; and disbenefits including the need to protect adjacent infrastructure; and the likely cost. The ten options were shortlisted to three preferred options that appear feasible:

- Option 1 – Terraced Shoreline
- Option 3 – Reconnect Eastern Letch
- Option 7 – Daylight Freshwater Drain

Option 1 – Terraced Shoreline

Option 1 involves excavation of the shoreline to create inter-tidal habitat. Encompasses c.1.35 ha. The shoreline would be re-profiled to a terraced configuration for variable inundation and habitat diversity.



This option will:

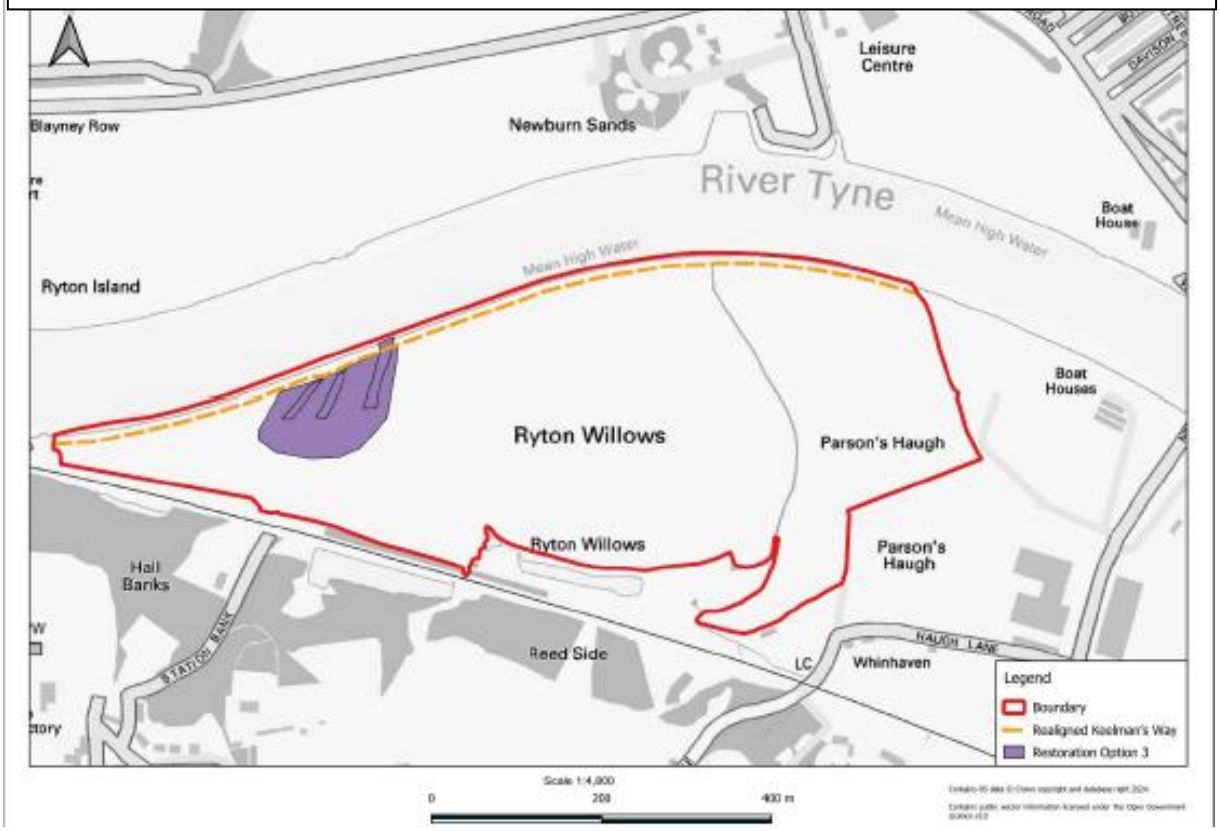
- Significantly increase the local extent and diversity of inter-tidal habitat and species.
- Create a more dynamic, naturalistic and visually appealing shoreline for site users.
- Incorporate the use of brushwood bundles to collect sediment.
- Incorporate managed public access, affording improved views of the river and greater appreciation of its biodiversity.
- Require relocation of the Keelman's Way along the new bank top.

Present day shoreline

Visualisation of terraced shoreline

Option 3 – Reconnect Eastern Letch

Option 3 involves excavation and reconnection of the easternmost letch to form a small watercourse/channel to restore tidal and flood inundation. The proposed excavation is designed to promote positive changes in sediment dynamics, water flow and quality, habitat and species diversity and ecological connectivity.



This option will:

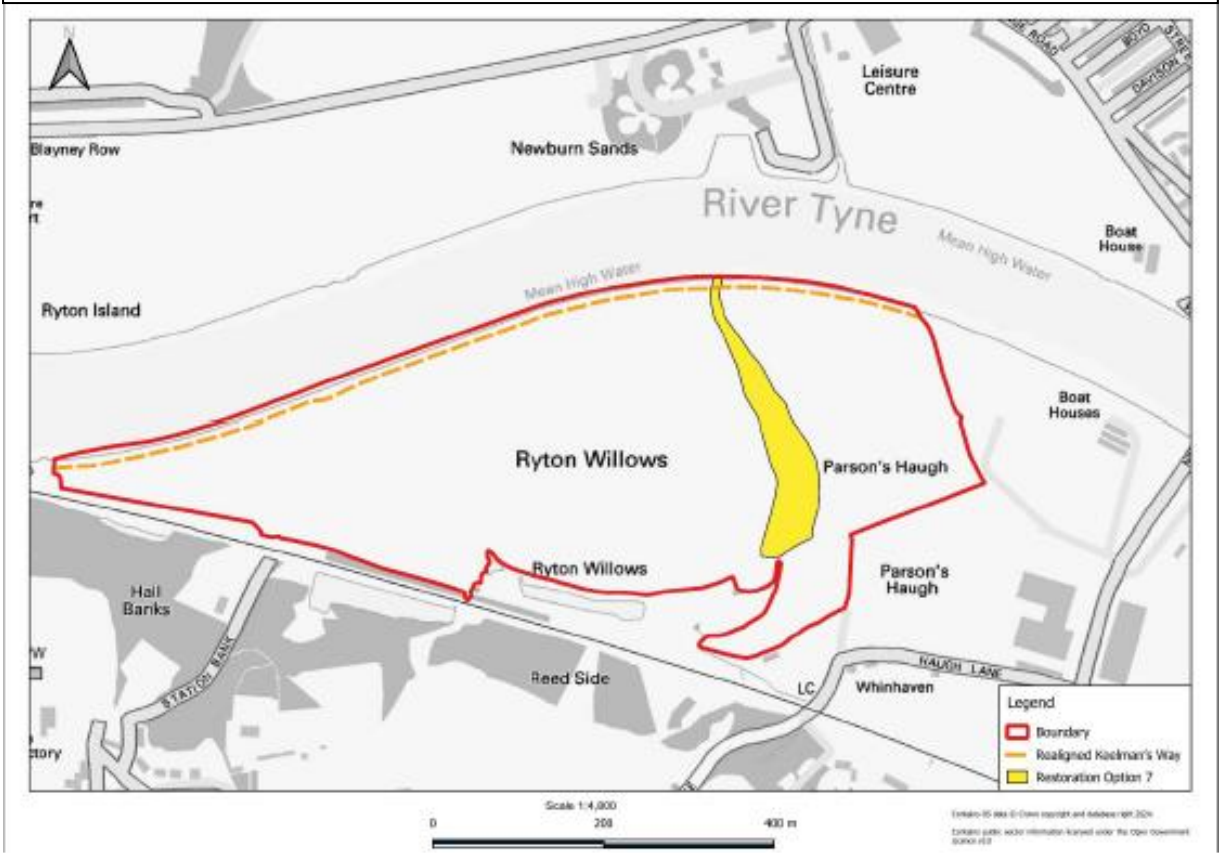
- Allow for the restoration of an historic feature.
- Increase habitat and species diversity and improve ecological connectivity.
- Contribute to a more dynamic, naturalistic and visually appealing environment.
- Provide opportunities for community engagement and interpretation.
- Require the provision of a pedestrian/cycle bridge to maintain the Keelman's Way as a recreational riverside route.

Reconnect Easternmost Letch (Present Day Aerial Photograph)

Reconnect the Eastern Letch (Visualisation)

Option 7 – Daylight Freshwater Drain

Option 7 proposes the removal of a below-ground surface water drain running parallel the boundary between Ryton Willows and Parson's Haugh to create an open watercourse. This option focuses on restoring a more natural channel and enhancing ecological connectivity.



This option will:

- Support a more natural flow pattern.
- Create new freshwater and intertidal habitat supporting increased biodiversity and improved ecological connectivity.
- Help improve water quality by allowing for natural filtration processes.
- Contribute to a more dynamic, naturalistic and visually appealing landscape.
- Require the provision of a pedestrian/cycle bridge to maintain the Keelman's Way as a recreational riverside route.

Daylight the Freshwater Drain (Present Day Aerial Photograph)

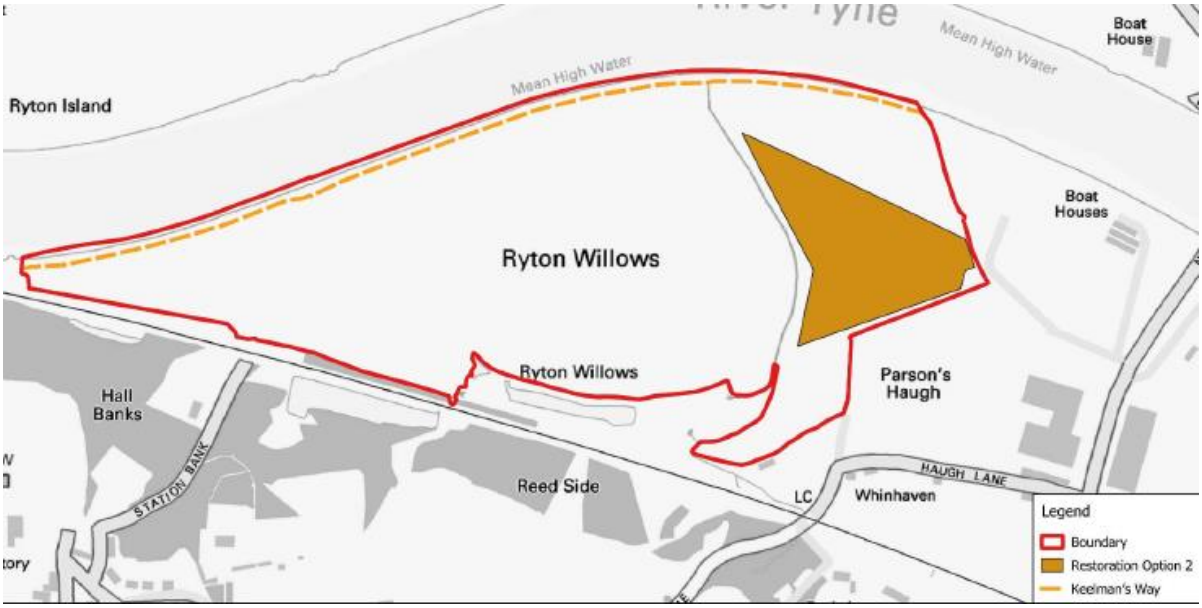
Daylight the Freshwater Drain (Visualisation)

Appendix 1.

Options Longlist:

Option 1 - Option shortlisted. See above for further information.

Option 2 Parson's Haugh

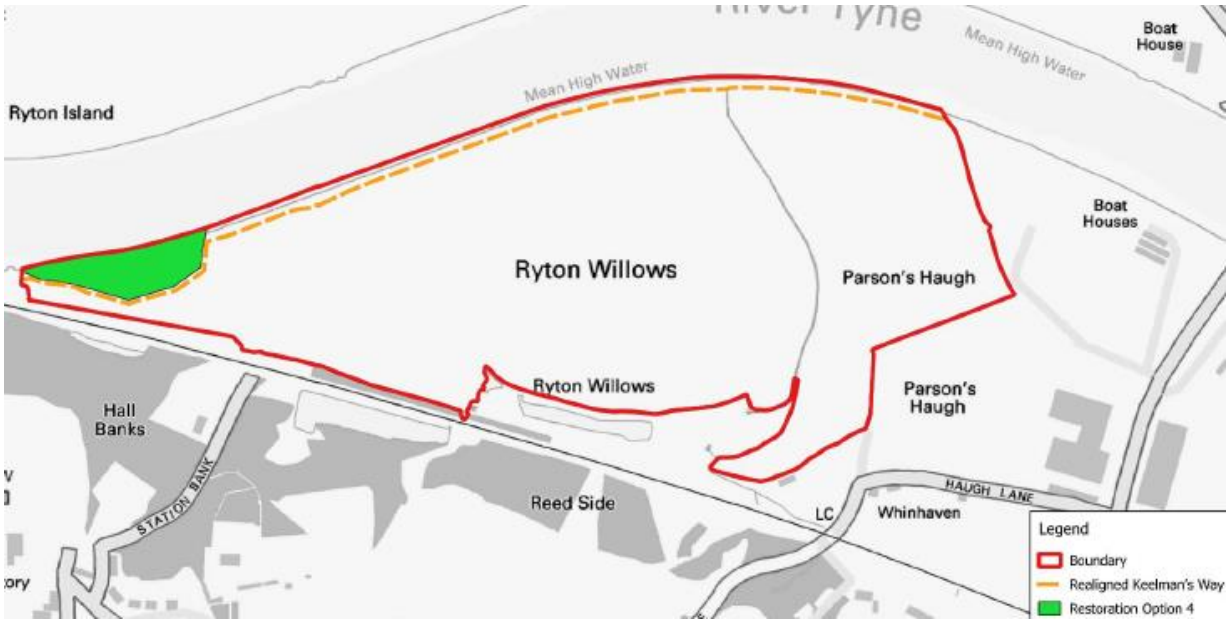


Option discounted:

- Proximity to electricity pylons and gas apparatus.
- Levels not conducive to creation of intertidal or freshwater habitat.
- Anticipated costs likely to be prohibitive.

Option 3 - Option shortlisted. See above for further information.

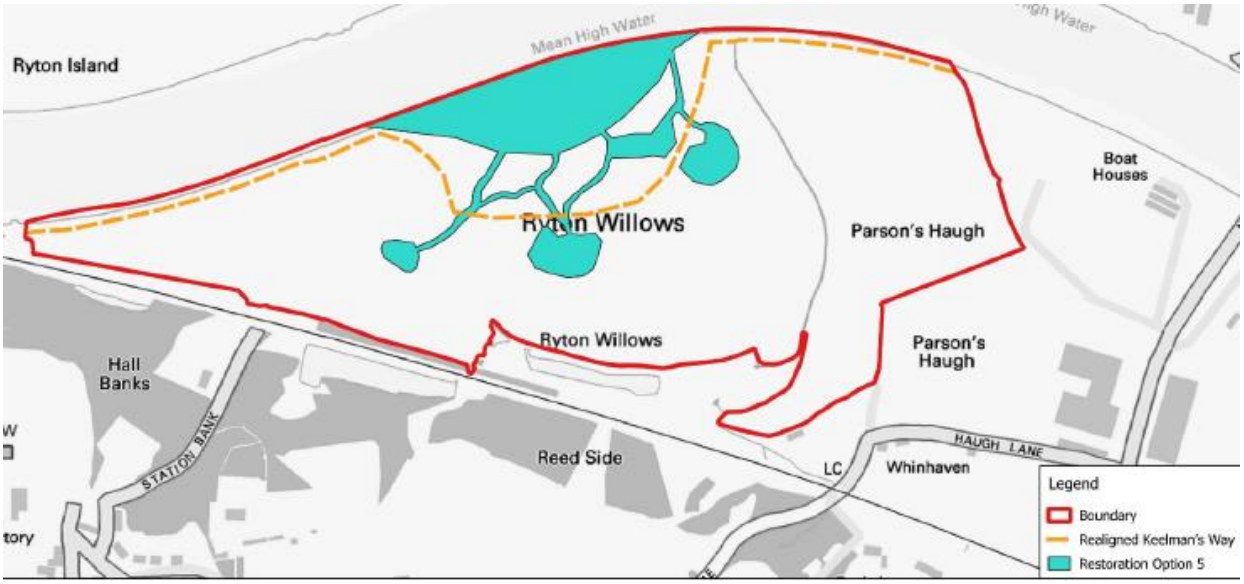
Option 4 - Western Bay



Option discounted:

- Proximity to railway and residential properties.
- Loss of scrub habitat and associated interest.

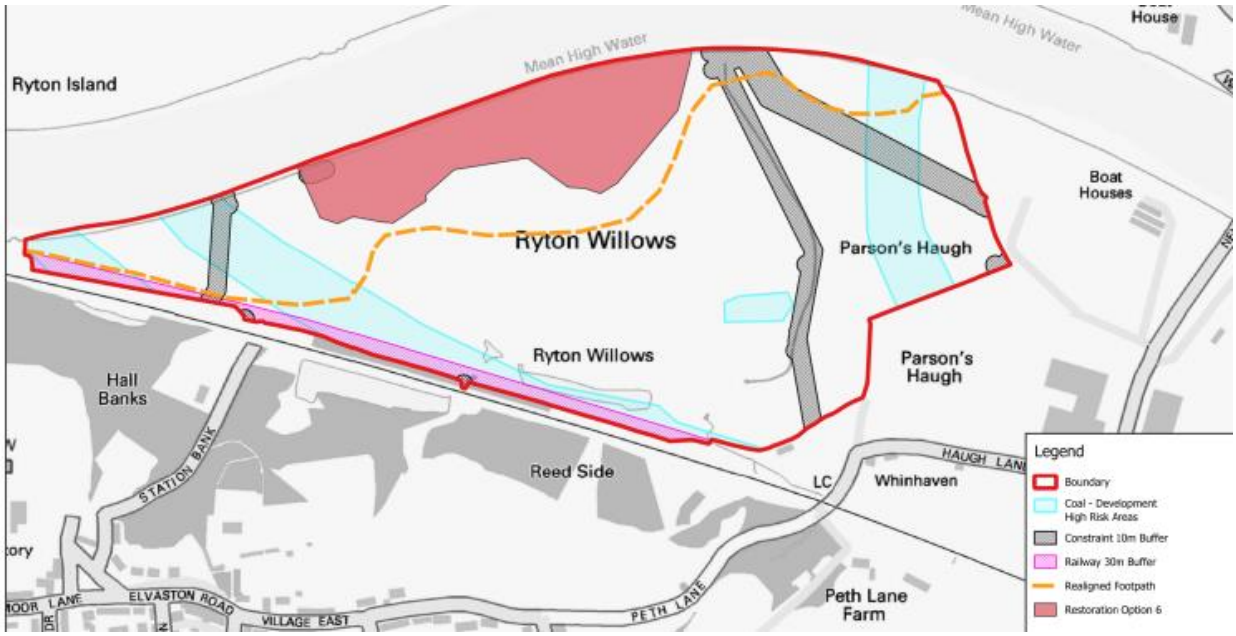
Option 5 - Large Bay, Lagoons and Channels



Option discounted:

- Impact on public access/amenity including Keelman's Way.
- Impact on existing habitats.
- Anticipated costs likely to be prohibitive.

Option 6 - Large Bay

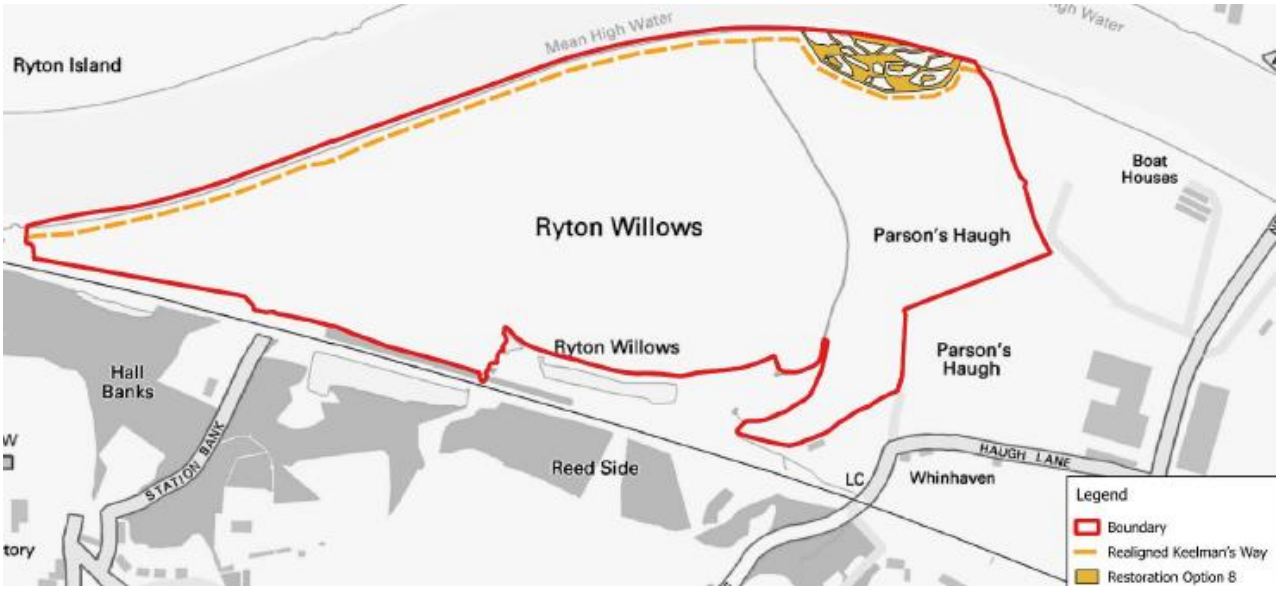


Option discounted:

- Impact on public access/amenity including Keelman's Way.
- Impact on existing habitats.
- Anticipated costs likely to be prohibitive.

Option 7 – Option shortlisted. See above for further information.

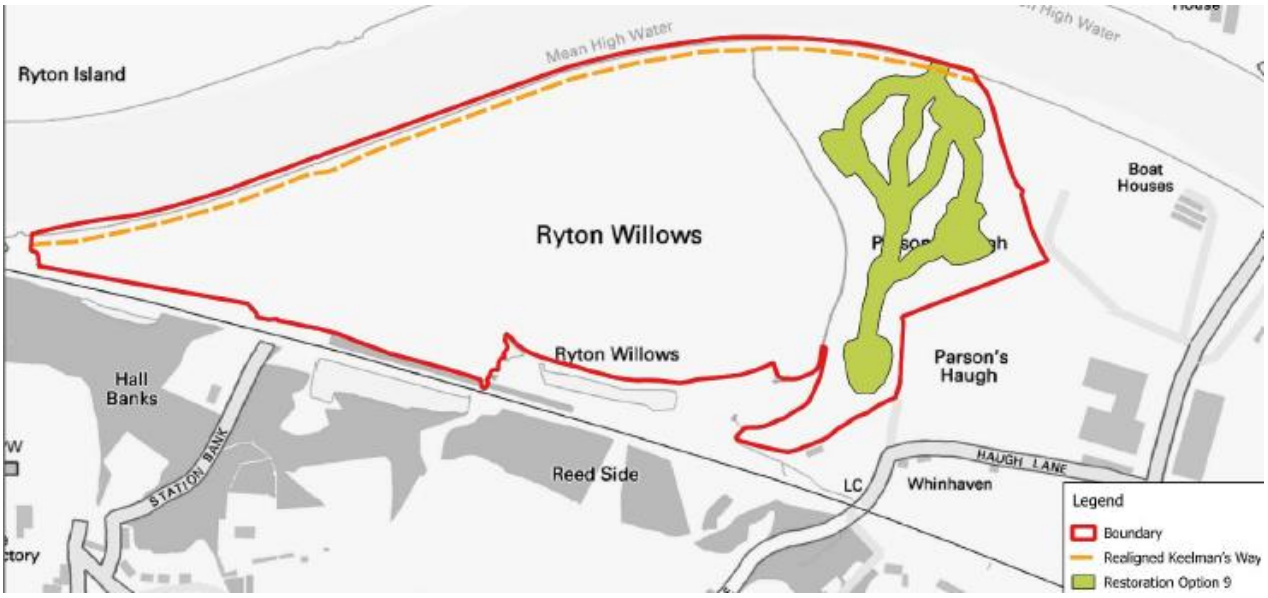
Option 8 - Eastern Bay



Option discounted:

- Proximity to electricity pylons and gas apparatus.
- Space available and levels unlikely to be conducive to creation of intertidal habitat.

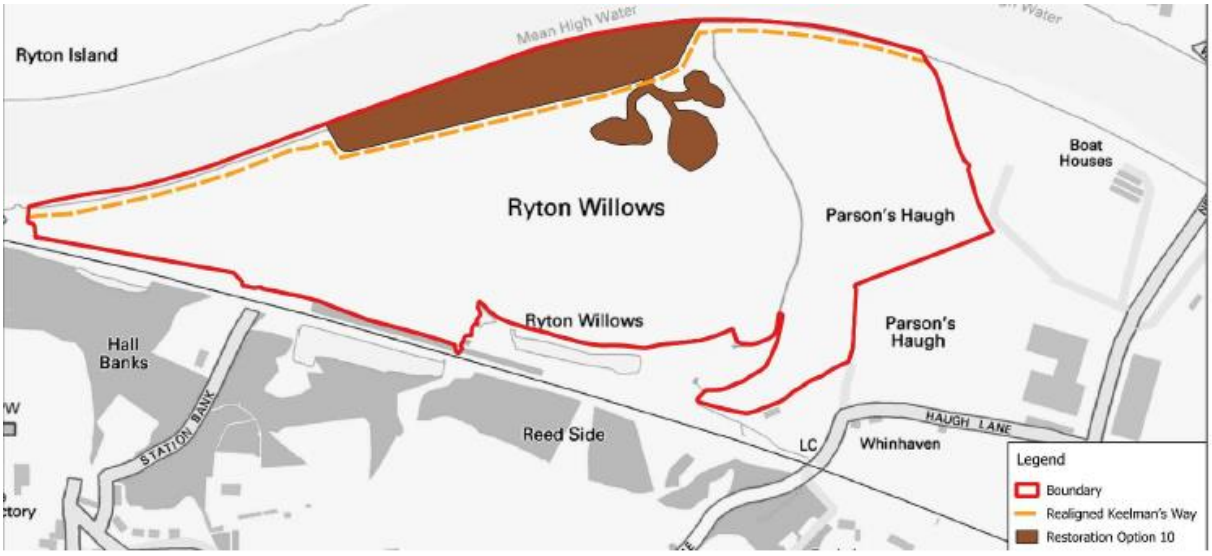
Option 9 - Parson's Haugh Lagoons



Option discounted:

- Proximity of electricity pylons and gas apparatus.
- Levels unlikely to be conducive to creation of intertidal habitat.
- Anticipated costs likely to be prohibitive.

Option 10 - Bay and Lagoons



Option discounted:

- In favour of options 1, 3 and 7 being shortlisted.