

Water and Aquatic Ecology



River Shannon passing through towards Castleconnell village

Electrofishing and Aquatic survey

Six points were fished, and the survey (2021) found the following:

- 15 species of fish recorded within the Study Area
- Salmon and trout were found in the Study Area
- Minnow was the most common fish encountered
- Eels, three-spined stickleback, flounder, stone loach, minnow, dace, roach, gudgeon, pike and perch were found.

A macro-invertebrate survey found that the Q – Rating for this portion of the river was 3-4, indicating a Moderate water quality status.



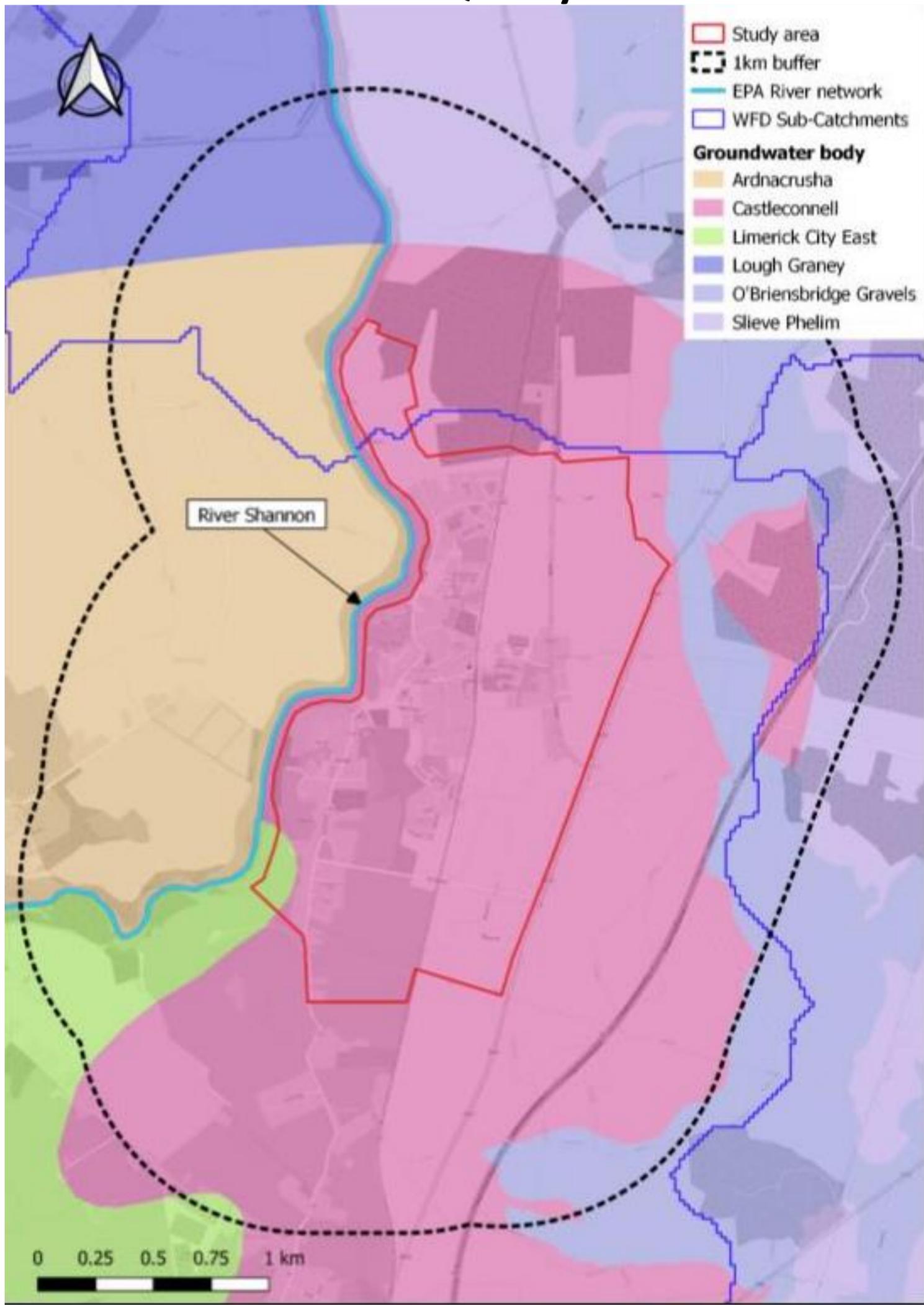
Juvenile Sea Lamprey



Juvenile Salmon

- Zebra mussels were common throughout the Study Area.
- Otter were recorded using the site, but no holts were recorded within the main site (instead using the opposite bank).

Water Quality



- Castleconnell Village lies within WFD Lower Shannon Catchment.
- The river has been assigned Not At Risk for the 3rd River Basin Management Plan
- Water quality is good and supports salmon, trout and lamprey.

Bats

Bat surveys have been ongoing as part of the works. Species recorded have included:

1. Common pipistrelle
2. Soprano pipistrelle
3. Daubenton's
4. Leisler's Bat
5. Myotis sp.

Lesser horseshoe are known from further SW of the site, but were not recorded during these surveys.



Common pipistrelle



Transect locations north and south of Castleconnell village. The red line shows the transect routes taken, with stops along the route.

- Transect surveys (along Island House and Stradbally) recorded high bat activity and four bat species each. At both locations bats were mainly recorded to be foraging, although some commuting behaviour was also observed.
- Bats use trees intermittently as roosting locations, which means the mature trees in the transect area may have bat roost potential. Before any trees are removed or cut, additional bat surveys will be needed to assess their use by bats for roosting.
- Following the dusk bat activity surveys, it can be concluded that the proposed works areas show high levels of bat activity especially in transects section A and B near Island House.
- Retaining riparian connectivity is important for commuting bats. The area is also important for foraging bats.

Birds

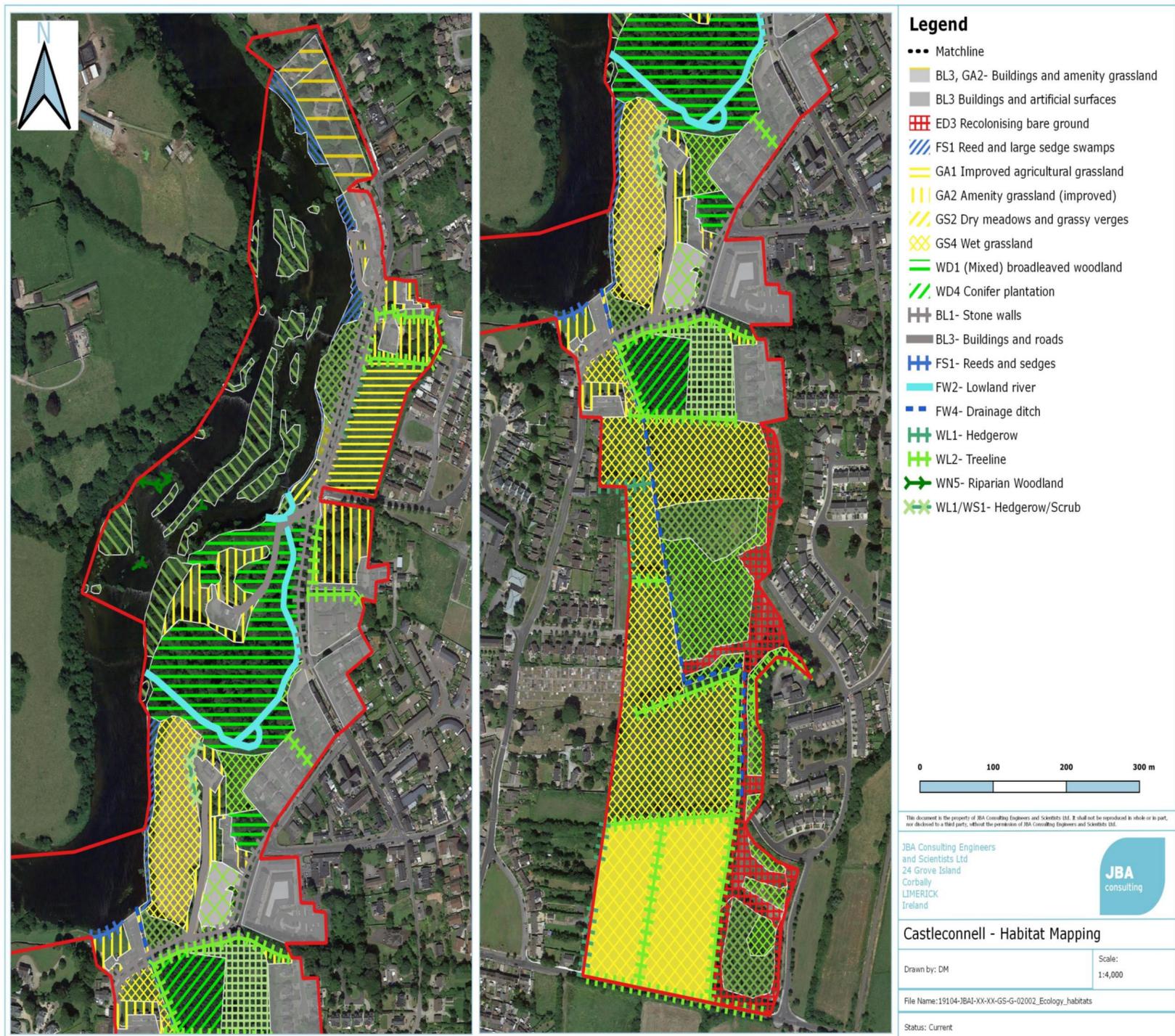


- Winter bird surveys have been conducted, as well as Heron nest survey.
- Kingfisher have been seen during early morning bird surveys, and during winter bird surveys
- Multiple Heron nests were recorded.
- Winter bird surveys recorded numbers of species including mallard, dipper, graylag goose, mute swan, moorhen, cormorant, black headed gulls, and heron.



Heronry indicates long-term nesting sites for Herons, probably across generations

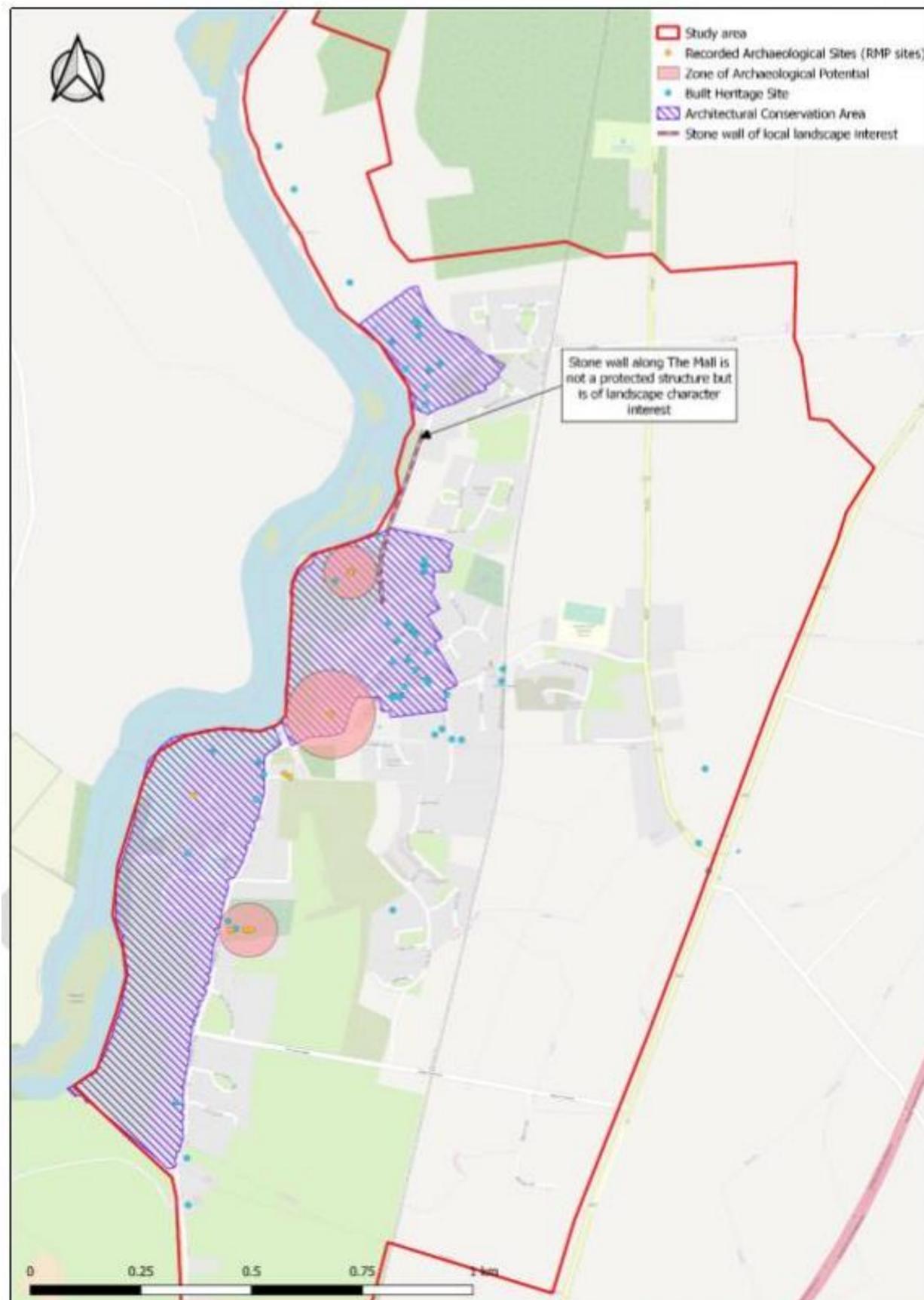
Habitats



Fossitt habitats within area of study

- Instances of riparian woodland within the Shannon, hedgerows and mixed broadleaf and conifer plantations
- A lowland river in the form of Shannon and the Cloon Stream.
- A series of dry and wet grasslands, agricultural lands, marshes and tall herb vegetation
- Buildings and artificial surfaces making up the main section of the village
- Alluvial woodlands have been identified, as well as some areas with affinity to alluvial woodland.

Archaeology & Cultural



Cultural Sites in Castleconnell

- There are 10 Recorded Archaeological Sites (RMPs) within the Study Area
- Three of the sites relate to the church and graveyard in Stradbally Lower
- A 19th Century church
- A 16th/17th century round-arched doorway in the Church of Ireland church
- The castle (in ruins)
- A Burial ground on Chapel Hill
- A Religious House on Cloon Island.
- The Island House Causeway

Ecological Constraints



■ Lower River Shannon SAC **Alluvial Woodland Survey** ■ Affinity to 6430 ■ 6430 Tall-herb fen
○ Fish Survey Points ■ Affinity to Alluvial woodland ■ 91E0 Alluvial woodland



■ Lower River Shannon SAC ☆ Heronry **Invasive Species**
▲ Buddleja ◆ Giant Hogweed
● Himalayan Balsam

SAC, Alluvial Woodland and Fish points

Heronry. Location of Selected Invasives.

The main ecological constraints that are associated with the project are:

- The Special Area of Conservation (SAC)
- Presence of Alluvial Woodland (a priority habitat)
- Fish habitat – high quality species such as salmon and lamprey are present.
- Birds – presence of heronry, other nesting birds
- Presence of invasives – Giant Hogweed, Himalyan Balsman, Buddleja, Monbretia and Zebra Mussel were recorded at the site.
- Other features of ecological interest e.g. bats, mature trees, wintering birds etc.