

C.3 Location of Main Areas of Opposite-leaved Pondweed Plants Mapped using GPS (source: after Denyer, 2017)



Legend

- Site Boundary
- Dense and frequent *Groenlandia densa*
- Groenlandia densa* GPS points

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**Natura Impact Statement Report
 Figure C.3 - Opposite-leaved Pondweed location**

| | |
|---|--------|
| Drawn by: JD Denyer Ecology | Scale: |
| Checked by: PB | 1:1500 |
| Approved by: BOC | |
| File Name: 2015s3353_Opposite-leaved_Pondweed | |
| Status: Current | |

C.4 Bird species - Desktop and Survey Data

C.4.1 Protected and Notable Bird Species within Grid Squares R55Y, R55Z, R55T and R55U. (Data from National Biodiversity Data Centre, 2019)

| Grid square | Scientific name | Common name | Record | Designation |
|-------------|-------------------------------|--------------------------|--------|---|
| R55Y | <i>Anas platyrhynchos</i> | Mallard | 2013 | Wildlife Acts, EU Birds Directive |
| R55Y | <i>Asio flammeus</i> | Short-eared Owl | 2011 | Wildlife Acts, EU Birds Directive, Birds of Conservation Concern - Amber List |
| R55Y | <i>Cygnus olor</i> | Mute Swan | 2014 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55Y | <i>Delichon urbicum</i> | House Martin | 2014 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55Y | <i>Fulica atra</i> | Common Coot | 2013 | Wildlife Acts, EU Birds Directive, Birds of Conservation Concern - Amber List |
| R55Y | <i>Hirundo rustica</i> | Barn Swallow | 2014 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55Y | <i>Larus canus</i> | Mew Gull | 2013 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55Y | <i>Larus ridibundus</i> | Black-headed Gull | 2013 | Wildlife Acts, Birds of Conservation Concern - Red List |
| R55Y | <i>Phalacrocorax carbo</i> | Great Cormorant | 2014 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55Y | <i>Riparia riparia</i> | Sand Martin | 2014 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55Y | <i>Sturnus vulgaris</i> | Common Starling | 2014 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55Y | <i>Tachybaptus ruficollis</i> | Little Grebe | 2013 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55Y | <i>Tyto alba</i> | Barn Owl | 2013 | Wildlife Acts, Birds of Conservation Concern - Red List |
| R55Z | <i>Larus fuscus</i> | Lesser Black-backed Gull | 2011 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55Z | <i>Larus ridibundus</i> | Black-headed Gull | 2015 | Wildlife Acts, Birds of Conservation Concern - Red List |
| R55Z | <i>Mergus merganser</i> | Goosander | 2011 | Wildlife Acts, EU Birds Directive, Birds of Conservation Concern - Amber List |
| R55Z | <i>Phalacrocorax carbo</i> | Great Cormorant | 2011 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55Z | <i>Sturnus vulgaris</i> | Common Starling | 2015 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55Z | <i>Alcedo atthis</i> | Common Kingfisher | 2011 | Wildlife Acts, EU Birds Directive, Birds of Conservation Concern - Amber List |
| R55Z | <i>Tachybaptus ruficollis</i> | Little Grebe | 2011 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55T | <i>Anas crecca</i> | Teal | 2017 | Wildlife Acts, EU Birds Directive, Birds of Conservation Concern - Amber List |
| R55T | <i>Mergus merganser</i> | Goosander | 2011 | Wildlife Acts, EU Birds Directive, Birds of Conservation Concern - Amber List |
| R55T | <i>Anas clypeata</i> | Northern | 2011 | Wildlife Acts, EU Birds Directive, |

| | | Shoveler | | Birds of Conservation Concern - Red List |
|-------------|-------------------------------|--------------------------|------------|--|
| R55T | <i>Passer domesticus</i> | House Sparrow | 2011 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55T | <i>Phalacrocorax carbo</i> | Great Cormorant | 2013 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55T | <i>Rallus aquaticus</i> | Water Rail | 2011 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55T | <i>Riparia riparia</i> | Sand Martin | 2014 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55T | <i>Sturnus vulgaris</i> | Common Starling | 2012 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55T | <i>Tachybaptus ruficollis</i> | Little Grebe | 2012 | Wildlife Acts, Birds of Conservation Concern - Amber List |
| R55T | <i>Tringa totanus</i> | Common Redshank | 2011 | Wildlife Acts, Birds of Conservation Concern - Red List |
| R55U | <i>Alcedo atthis</i> | Common Kingfisher | 31/12/2011 | Wildlife Acts Birds of Conservation Concern - Amber List |
| R55U | <i>Columba livia</i> | Rock Pigeon | 23/08/2013 | Wildlife Acts, EU Birds Directive |
| R55U | <i>Anas platyrhynchos</i> | Mallard | 31/12/2011 | Wildlife Acts, EU Birds Directive |
| R55U | <i>Anas crecca</i> | Eurasian Teal | 31/12/2011 | Wildlife Acts Birds of Conservation Concern - Amber List, EU Birds Directive |
| R55U | <i>Anser anser</i> | Greylag Goose | 31/12/2011 | Wildlife Acts Birds of Conservation Concern - Amber List, EU Birds Directive |
| R55U | <i>Aythya fuligula</i> | Tufted Duck | 31/12/2011 | Wildlife Acts Birds of Conservation Concern - Amber List, EU Birds Directive |
| R55U | <i>Mergus merganser</i> | Goosander | 31/12/2011 | Wildlife Acts Birds of Conservation Concern - Amber List, EU Birds Directive |
| R55U | <i>Cygnus olor</i> | Mute Swan | 31/12/2011 | Wildlife Acts Birds of Conservation Concern - Amber List |
| R55U | <i>Haematopus ostralegus</i> | Eurasian Oystercatcher | 26/02/2013 | Wildlife Acts Birds of Conservation Concern - Amber List |
| R55U | <i>Larus fuscus</i> | Lesser Black-backed Gull | 23/08/2013 | Wildlife Acts Birds of Conservation Concern - Amber List |
| R55U | <i>Phalacrocorax carbo</i> | Great Cormorant | 09/04/2016 | Wildlife Acts Birds of Conservation Concern - Amber List |
| R55U | <i>Sturnus vulgaris</i> | Common Starling | 23/08/2013 | Wildlife Acts Birds of Conservation Concern - Amber List |
| R55U | <i>Tachybaptus ruficollis</i> | Little Grebe | 31/12/2011 | Wildlife Acts Birds of Conservation Concern - Amber List |
| R55U | <i>Larus ridibundus</i> | Black-headed Gull | 23/08/2013 | Wildlife Acts Birds of Conservation Concern - Red List |
| R55U | <i>Alcedo atthis</i> | Common Kingfisher | 31/12/2011 | Wildlife Acts Birds of Conservation Concern - Amber List |

C.4.2 Wintering bird species on the flooded SAC marsh and adjacent areas (Nov 2015 - Feb 2016)

| Species | Latin Name | Conservation Status | | | Average No. | Comments |
|---------------------------------|-----------------------------------|---------------------|-----------------------------|--------------------------|-------------|---|
| | | EU Annex I Species | Conservation Listed Species | Important Riparian Birds | | |
| Flood/High Water | | | | | | |
| Mute Swan | <i>Cygnus olor</i> | - | Amber | ✓ | 20 | Flooded Marsh |
| Whooper Swan | <i>Cygnus cygnus</i> | Annex I | Amber | ✓ | 40 | Flooded Marsh |
| Coot | <i>Fulica atra</i> | - | Amber | ✓ | 10 | Flooded Marsh |
| Lesser Black-backed Gull | <i>Larus Fuscus</i> | - | Amber | - | 40 | Back of houses Flooded Marsh Football Pitch |
| Black headed gull | <i>Chroicocephalus ridibundus</i> | - | Red (Breeding) | - | 120 | Back of houses Flooded Marsh Football Pitch |
| Heron | <i>Ardea cinerea</i> | - | Green | - | 2 | Flyover Abbey River |
| Lapwing | <i>Vanellus vanellus</i> | - | Red | - | 40 | Flooded Marsh |
| Great Black-backed Gulls | <i>Larus marinus</i> | - | Amber | - | 8 | Flooded Marsh Football Pitch |
| Gadwall | <i>Anas strepera</i> | - | | - | 24 | Flooded Marsh |
| Tufted Ducks | <i>Aythya fuligula</i> | - | Red | - | 4 | Flooded Marsh |
| Cormorant | <i>Phalacrocorax auritus</i> | - | Amber | ✓ | 4 | River Shannon Abbey River |
| Pintail | <i>Anas acuta</i> | - | Red | - | 2 | Flooded Marsh |
| Golden Eye | <i>Bucephala clangula</i> | - | Red | - | 6 | Flooded Marsh |

C.4.3 Wintering bird species on the flooded SAC marsh and adjacent areas (April 2019)

| Species | Latin Name | Conservation Status | | | Average No. | Comments |
|--------------------------|------------------------------|---------------------|-----------------------------|--------------------------|-------------|--------------|
| | | EU Annex I Species | Conservation Listed Species | Important Riparian Birds | | |
| Flood/High Water | | | | | | |
| Mute Swan | <i>Cygnus olor</i> | - | Amber | ✓ | 20 | Wetland area |
| Coot | <i>Fulica atra</i> | - | Amber | ✓ | 7 | Wetland area |
| Lesser Black-backed Gull | <i>Larus Fuscus</i> | - | Amber | - | 16 | Wetland area |
| Cormorant | <i>Phalacrocorax auritus</i> | - | Amber | ✓ | 14 | Flying |

C.4.4 Wintering bird species on North West Kings Island on the amenity grasslands fronting Oliver Plunkett St. (Nov 2015 - Feb 2016)

| Species | Latin Name | Conservation Status | | | Average No. | Comments |
|--------------------------|-----------------------------------|---------------------|-----------------------------|--------------------------|-------------|-------------------|
| | | EU Annex I Species | Conservation Listed Species | Important Riparian Birds | | |
| Flood/High Water | | | | | | |
| Oystercatcher | <i>Haematopus ostralegus</i> | - | Amber | - | 60 | Amenity Grassland |
| Black-headed gull | <i>Chroicocephalus ridibundus</i> | - | Red (Breeding) | - | 40 | Amenity Grassland |
| Lesser Black-backed Gull | <i>Larus Fuscus</i> | - | Amber | - | 6 | Amenity Grassland |
| Rook | <i>Corvus frugilegus</i> | - | Green | - | 12 | Amenity Grassland |
| Hooded Crow | <i>Corvus cornix</i> | - | Green | - | 8 | Amenity Grassland |

C.4.5 Breeding Bird species recorded within the survey area

| Common Name | Latin name | Conservation Status | | | Breeding status | Comments | Habitat |
|-------------|----------------------|---------------------|-----------------------------|------------------------------|-----------------|--|--|
| | | EU Annex Species | Conservation Listed Species | Riparian Action Plan Species | | | |
| Kingfisher | <i>Alcedo atthis</i> | Annex I | Amber | ✓ | Possible | Kingfisher observed flying along Shannon further north of Kings Island. No nesting banks found on within FRS | Likely to nest on opposite bank of Shannon and Abbey Rivers. Historically noted on Shannon further north |
| Little | <i>Egretta</i> | Annex I | Green | ✓ | Possible | Observed foraging | No evidence of |

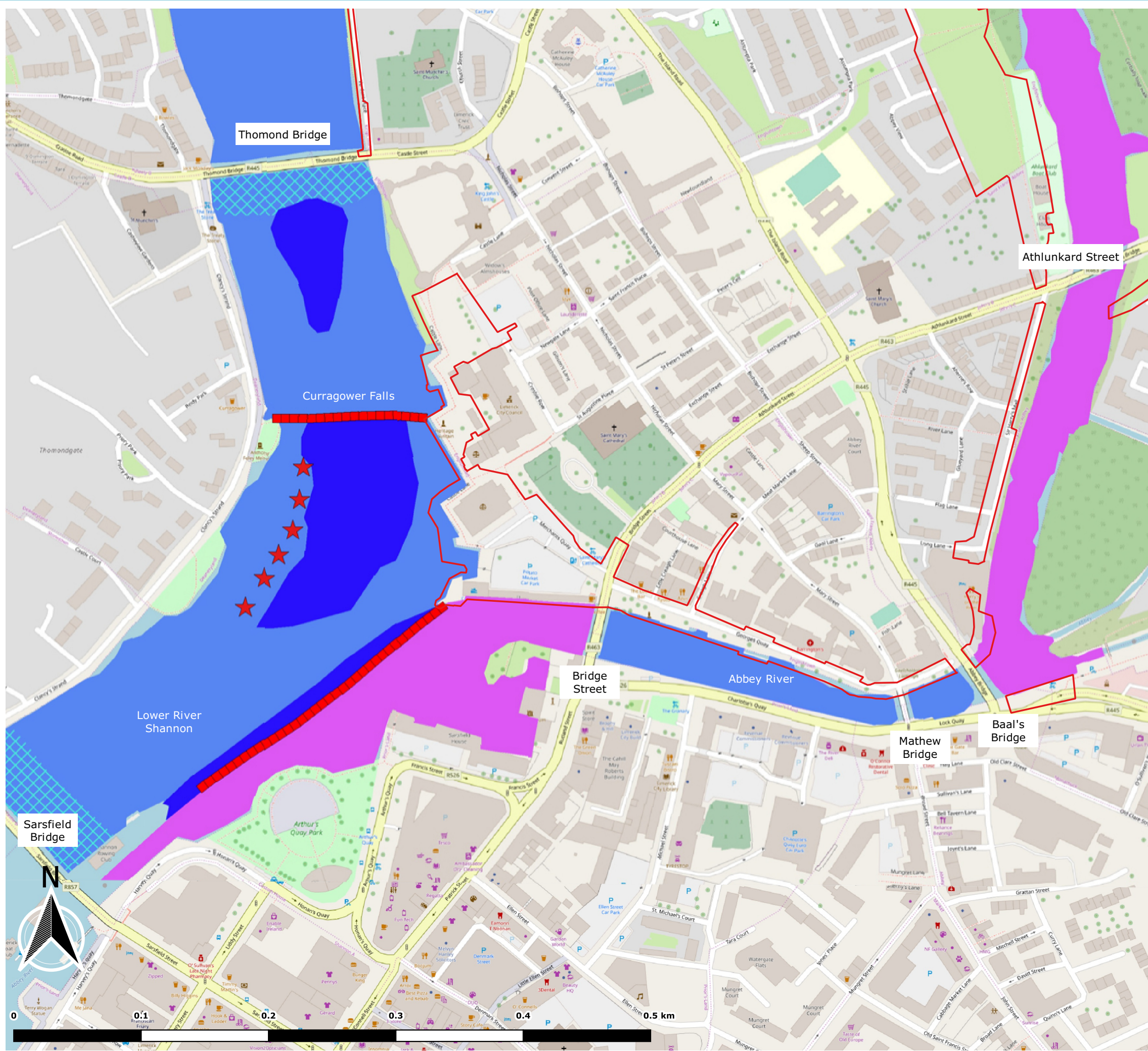
| Common Name | Latin name | Conservation Status | | | Breeding status | Comments | Habitat |
|--------------------------|-----------------------------------|---------------------|-----------------------------|------------------------------|-----------------|---|--|
| | | EU Annex Species | Conservation Listed Species | Riparian Action Plan Species | | | |
| Egret | <i>garzetta</i> | | | | | south of Kings Island at Clancy's Strand. No nesting within FRS | nesting in marsh or woodland of Kings Island. Urbanised location may make it unsuitable. |
| Grey Wagtail | <i>Motacilla cinerea</i> | - | Red | ✓ | Confirmed | Observed in suitable habitat, nest in wall at Thomond Weir at Brown's Quay. No nesting found within FRS | Foraging for food and nest in between crevices in wall. |
| Mute Swan | <i>Cygnus olor</i> | - | Amber | ✓ | Confirmed | Female on nest on river marsh on north edge of Kings Island beyond embankment | Marsh Habitat |
| Cormorant | <i>Phalacrocorax carbo</i> | - | Amber | ✓ | Unlikely | Group of 5 No nesting within FRS they may be part of the nesting colonies at Bunlicky further south. | 5 Observed on gravelly area below Parteen Railway |
| Coot | <i>Fulica atra</i> | | Amber | ✓ | Possible | One male calling from river edge reeds on Abbey River No nesting within FRS | Alluvial Woodland |
| Swift | <i>Apus apus</i> | | Amber | | Not breeding | Flyover only | |
| Black-headed Gull | <i>Chroicocephalus ridibundus</i> | - | Red | | Not breeding | Roosting on playing pitches | |
| Blackbird | <i>Turdus merula</i> | - | Green | | Probable | At least 5 pairs observed in suitable habitat feeding young and alarm calling on Kings Island | Riparian woodland and vegetation along the ditches |
| Blackcap | <i>Sylvia atricapilla</i> | - | Green | | Probable | 1 male and female Observed in suitable habitat on Kings Island | Riparian woodland |
| Blue Tit | <i>Cyanistes caeruleus</i> | - | Green | | Possible | At least 4 pairs observed in suitable habitat on Kings Island; males singing | Riparian woodland and scrub along ditches |
| Bullfinch | <i>Pyrrhula pyrrhula</i> | - | Green | | Possible | One male observed in suitable habitat on Kings Island | Scrub along ditch |
| Carrion Crow | <i>Corvus corone</i> | - | Green | | Possible | 2 pairs Observed in suitable habitat on Kings Island | Alluvial Woodland and individual trees along ditches |
| Chaffinch | <i>Fringilla coelebs</i> | - | Green | | Probable | Female and males observed alarm calling. Observed carrying | Alluvial Woodland and scrub habitat of ditches |

| Common Name | Latin name | Conservation Status | | | Breeding status | Comments | Habitat |
|---------------------|-------------------------------|---------------------|-----------------------------|------------------------------|-----------------|--|--|
| | | EU Annex Species | Conservation Listed Species | Riparian Action Plan Species | | | |
| | | | | | | food material for young on Kings Island | |
| Chiffchaff | <i>Phylloscopus collybita</i> | - | Green | | Possible | Observed carrying food material for young on Kings Island | Alluvial Woodland and scrub habitat of ditches |
| Coal Tit | <i>Parus ater</i> | - | Green | | Confirmed | Group of 9 observed moving along woodland on Kings Island | Riparian woodland |
| Dunnock | <i>Prunella modularis</i> | - | Green | | Possible | At least 2 pairs observed in suitable habitat; males singing on Kings Island | Alluvial Woodland and scrub habitat of ditches |
| Goldfinch | <i>Carduelis carduelis</i> | - | Green | | Probable | At least 3 pairs observed in suitable habitat on Kings Island | Scrub habitat of ditches |
| Great Tit | <i>Parus major</i> | - | Green | | Possible | One male singing observed in suitable habitat on Kings Island | Scrub habitat of ditches |
| Grey Heron | <i>Ardea cinerea</i> | - | Green | | Possible | No nesting on Kings Island. Observed hunting along river at Verdant Plc | May be nesting beyond Kings Island |
| Hooded Crow | <i>Corvus cornix</i> | - | Green | | Possible | Nesting in one tree along path of Kings Island | Trees |
| Mallard | <i>Anas platyrhynchos</i> | - | Green | | Possible | 1 female with young observed in suitable habitat Riparian Woodland on Kings Island along Abbey River | Alluvial Woodland and River |
| Magpie | <i>Pica pica</i> | - | Green | | Confirmed | Observed alarm calling and carrying food material for young on Kings Island | Alluvial woodland |
| Pied Wagtail | <i>Motacilla alba</i> | - | Green | | Confirmed | Observed flying into nest under house gutter at St. Marys Park on Kings Island | Amenity grassland and houses |
| Robin | <i>Erithacus rubecula</i> | - | Green | | Confirmed | 2 pairs - one pair in Alluvial Woodland Alarm calling and young fledglings in bush along ditch on Kings Island | Alluvial Woodland and scrub habitat of ditches |
| Rook | <i>Corvus frugilegus</i> | - | Green | | Possible | Colony Observed in suitable habitat on Kings Island | Beyond Kings Island at Parteen |
| Song Thrush | <i>Turdus philomelos</i> | - | Green | | Possible | One pair observed on foraging football pitch on Kings Island | Amenity grassland and scrub along ditches |

| Common Name | Latin name | Conservation Status | | | Breeding status | Comments | Habitat |
|-------------------|--------------------------------|-------------------------|------------------------------------|-------------------------------------|------------------|---|---------------------------------|
| | | <i>EU Annex Species</i> | <i>Conservation Listed Species</i> | <i>Riparian Action Plan Species</i> | | | |
| Swallow | <i>Hirundo rustica</i> | - | <i>Amber</i> | | <i>Possible</i> | <i>Observed feeding over wet grassland of SAC on Kings Island</i> | <i>Near sheds and buildings</i> |
| Woodpigeon | <i>Columba palumbus</i> | - | <i>Green</i> | | <i>Possible</i> | <i>1 Observed in suitable habitat; male singing</i> | <i>Alluvial Woodland</i> |
| Wren | <i>Troglodytes troglodytes</i> | - | <i>Green</i> | | <i>Confirmed</i> | <i>3 pairs observed along ditches of Kings Island.</i> | <i>Scrub along ditches</i> |

C.5 Fisheries

C.5.1 Fisheries Habitat Map of the Southern end of King's Island (Lower River Shannon & Abbey River) (source: Macklin & Brazier, 2018)



Legend

- Site Boundary
- ★ Smelt Spawning Area
- Weir
- Pool Holding Habitat
- Shallower Glide Riffle Habitat
- Deeper Glide Habitat with localised Pools
- Deeper Pool Habitat with marginal Shallows

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**Natura Impact Statement Report
 Figure C.5.1 - Fisheries Habitat Map of the
 Southern end of King's Island**

| | |
|---|--------|
| Drawn by: RM Tritus Environmental Ltd. | Scale: |
| Checked by: PB | 1:3000 |
| Approved by: BOC | |
| File Name: 2015s3353_fisheries_study_area | |
| Status: Current | |

C.5.2 Fisheries Habitat Map of the Northern end of King's Island (Lower River Shannon & Abbey River) (source: Macklin & Brazier, 2018)