Appendix to Chapter 8: Biodiversity

Appendix 8.2: Aquatic Habitats & Species Fieldwork & Survey Results

The data and descriptions in this appendix have informed the cumulative evaluations in the EIA Main Report.

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A8-2.1 Fieldwork - Aquatic Habitats & Species

A8-2.1.1 Watercourse Surveys for UWF Grid Connection

Following a comprehensive desktop review to identify watercourses along the UWF Grid Connection, various field surveys took place.

A **watercourse characteristics survey** of crossing locations along the UWF Grid Connection route (by INIS Ecologists and members of the HES team) was carried out visually on the 17th, 22nd, 23rd and 28th of January 2019, and on the 30th of May, during which the following physical parameters and habitat quality indicators were recorded at each watercourse crossing point:

- *Grid coordinates of the crossing point;*
- *Watercourse feature i.e. drain, stream or river;*
- *Crossing type e.g. existing culvert, new crossing;*
- *Channel width and depth (m);*
- *Substrate type - listing substrate fractions in order of dominance i.e. large rocks, cobble, gravel, sand, mud, etc.*
- *Target notes on fisheries habitat and character including: features such as extent of riffle and glide/bank stability; salmonid suitability i.e. spawning / juvenile rearing habitat; and lamprey suitability.*

For additional information see Chapter 11: Water and relevant associated Appendices.

Surveys of watercourse crossing locations located on haulage routes associated with the UWF Grid Connection were carried out on the 7th and 8th June, 2017. (Haulage routes for this 2nd UWF Grid Connection application (2019) application were also considered as part of the Haulage routes for the 1st UWF Grid Connection application (2018)).

A8-2.1.2 Watercourse Classification

Watercourses have previously been characterised into 4 classes- Class 1 to Class 4:

Using a combination of the following Best Practice we evaluated each watercourse crossing for fisheries and assigned a fisheries importance rating of Class 1 (EPA Blue Line) or Class 2 (EPA Blue Line Equivalent watercourse) which were evaluated as having Optimal fisheries value, Class 3 for watercourses with Sub-Optimal fisheries value or Class 4 for watercourses with Poor fisheries value. We note that instances of marginal fisheries value (typically between Sub-Optimal and Poor) were subsumed into the Sub-Optimal category to allow for more robust evaluation of effects.

Best Practice literature utilised was as follows:

- Barbour, M.T. and Stribling, J.B. (1991) Use of Habitat Assessment in Evaluating the Biological Integrity of Stream Communities. In: Methods in Stream Ecology (Eds. Hauer, F.R. and Lamberti, G.A. Academic Press.
- Kelly & King (2001) A review of the ecology and distribution of three lamprey species, Lampetra fluviatilis (L.), Lampetra planeri (Bloch), and Petromyzon marinus (L.): A context for conservation and biodiversity considerations in Ireland. Biology and the Environment. 101B(3):165-185.
- Kennedy, GJA & Strange, CD (1986) The effects of intra- and inter-specific competition on the distribution of stocked juvenile Atlantic salmon, Salmo salar L., in relation to depth and gradient in an upland trout, Salmo trutta L., stream. J. Fish. Biol., 29(2):199-214.
- Greenberg, L.A. and Dahl, J. 1998. Effect of habitat type on growth and diet of brown trout (Salmo trutta L.) in stream enclosures. Fisheries Management & Ecology 5: 331-348.
- Hatfield, T. & Bruce, J. (2000) Predicting Salmonid Habitat–Flow Relationships for Streams from Western North America. North American Journal of Fisheries Management 20:1005–1015, 2000
- O'Grady, M.F., Curtin, J (1993) The Enhancement of drained salmonid rivers in Ireland. A bioengineering perspective. Hydroecol. Appl., 5(2):7-26.

Watercourse Characterisations and equivalent fisheries Evaluations (following Best Practice) are presented in Section A8-2.2 Survey Results – Aquatic Habitats & Species.

A8-2.2 Survey Results - Inventory & Classification of Watercourses at Crossing Locations

Photos of Watercourse Crossings at the Mountphilips Substation site	
	**Watercrossing Structure W1** *(Temporary Crossing)* Type: 1st Order Stream Fisheries: Class 2, Optimal Fisheries Location: Mountphilips Substation Site Existing Structure: No existing crossing structure Works at Crossing: Cable trenching under stream bed using dam & pump (flume) method. Temporary Bailey Bridge. Ecology Notes: c. 2 m wide, c. 10 cm deep, gravel (70), cobbles (5), boulders (5), sands/silts (20)
	**Watercrossing Structure W2** Type: Drainage Ditch Fisheries: Sub-Optimal Fisheries Location: Mountphilips Substation Site Existing Structure: No existing crossing structure Works at Crossing: Installation of new permanent culvert. Cable trenching under new culvert. Ecology Notes: c. 0.5 m wide, c. 10 cm deep, silts/muds (100)
	**Watercrossing Structure W3** Type: 1st Order Stream Fisheries: Class 2, Optimal Fisheries Location: Mountphilips Substation Site Existing Structure: No existing crossing structure Works at Crossing: Installation of new permanent culvert. Cable trenching under new culvert. Ecology Notes: c. 1 m wide, c. 10 cm deep, cobbles (20), gravels (40), sands/silts (40)

Photos of UWF GRID CONNECTION Bridges / Culverts along Public Roads	
	**Watercrossing Structure W4** Type: Stream Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: L2166-0, Coole/Freagh Existing Structure: Concrete Block Box Culvert Works at the Crossing: Cable trenching under structure Ecology Notes: Downstream - Slow flowing, Coble (60), Gravel (40). Overgrown, vegetation shading. 1 metre wide and ~30cm deep.
	**Watercrossing Structure W5** Type: River Fisheries: Class1, Optimal Fisheries Location/Townland: L6013-0, Foildarrig/Freagh Existing Structure: Masonry Single Arch Bridge Works at the Crossing: Cable trenching over structure Ecology Notes: Upstream - riffle/glide sequence and pool. Bolder (30), cobble (30), sand/gravel (40). Culvert pipe also flowing into river. Downstream - Riffle and pool present. Sand gravel under bridge (60), boulders/cobble(40).
	**Watercrossing Structure W6** Type: Stream Fisheries: Class 3, Sub-Optimal Fisheries Location/Townland: L6013-0, Oakhampton Existing Structure: Concrete Circular Culvert Works at the Crossing: Cable trenching over structure Ecology Notes: Pipe culvert with stream through it. Bolder (50), mud/gravel (50).

Watercrossing Structure W7
Type: River
Fisheries: Class1, Optimal Fisheries
Location/Townland: Rockvale Bridge, L2156-0, Oakhampton/Rockvale

Existing Structure: Masonry Single Arch Bridge
Works at the Crossing: Cable trenching over structure. Additional works to raise road level & parapet wall height

Ecology Notes: Upstream - riffle and white water. Bedrock (70), cobble (20), sand (10). Deep water - could not judge depth. Downstream - white water, small riffle and some pooling. Deep water.

Watercrossing Structure W8
Type: Stream
Fisheries: Class1, Optimal Fisheries
Location/Townland: L6009-0, Ahane/Castlewaller

Existing Structure: Concrete Slab Bridge
Works at the Crossing: Directional Drill under stream bed.

Ecology Notes: Upstream - small riffle and glide. Pooling. Moderate flow. Cobble (70), gravel (30). Downstream - riffle and glide, pool at bridge. Cobble (60), gravel (40).

Watercrossing Structure W9
Type: Stream
Fisheries: Class 1, Optimal Fisheries
Location/Townland: L6009-0, Castlewaller/Carrowkeale
Existing Structure: Concrete Slab Bridge
Works at the Crossing: Directional Drill under stream bed.
Ecology Notes: Upstream - riffle and glide and pool (with sand). Sand (30), cobble (50), gravel (20). Downstream - flat rock (40), boulders (30), cobble (30), riffle. Some pooling at edge, no visible build-up of sand. Fast flowing.

	**Watercrossing Structure W10** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Kilnacappagh Existing Structure: HDPE Plastic Circular Culvert Works at the Crossing: Cable trenching over structure Ecology Notes: deep, drained, flow
	**Watercrossing Structure W11** Type: Stream Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Scrageen/Derrygareen Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure Ecology Notes: c. 1 m wide, c. 20 cm deep
	**Watercrossing Structure W12** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Derrygareen Existing Structure: Masonry Box Culvert & Circular Concrete Culvert Works at the Crossing: Cable trenching under structure Ecology Notes: c. 0.8m wide, c. 15 cm deep

	**Watercrossing Structure W13** Type: Stream, 1st Order Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Knockancullenagh Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Culvert may need replacing. Ecology Notes: No Fisheries Potential
	**Watercrossing Structure W14** Type: Stream, 1st Order Fisheries: Class1, Optimal Fisheries Location/Townland: R503, Knockancullenagh Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Culvert may need replacing. Ecology Notes: steep gradient, cobble/gravel. 100% shade
	**Watercrossing Structure W15** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Knockancullenagh Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Culvert may need replacing. Ecology Notes: No Fisheries Potential

	**Watercrossing Structure W16** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Knockancullenagh Existing Structure: Plastic Circular Culvert. Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Potential
	**Watercrossing Structure W17** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Knockancullenagh Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Culvert may need replacing. Ecology Notes: No Fisheries Potential, steep
	**Watercrossing Structure W18** Type: Stream, 2nd Order Fisheries: Class1, Optimal Fisheries Location/Townland: R503, Knockancullenagh/Fanit Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: steep, boulder cobble pool riffle. Downstream 100% shade, steep gradient

	**Watercrossing Structure W19** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Fanit Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Culvert may need replacing. Ecology Notes: No Fisheries Potential
	**Watercrossing Structure W20** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Fanit Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Culvert may need replacing. Ecology Notes: No Fisheries Potential 100% shade downstream
	**Watercrossing Structure W21** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Fanit Existing Structure: Masonry Single Arch Bridge Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Potential 100% shade downstream

	**Watercrossing Structure W22** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Fanit/Lackamore Existing Structure: Masonry Single Arch Bridge Works at the Crossing: Cable trenching over structure. Ecology Notes: steep/cascade
	**Watercrossing Structure W23** Type: Stream Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Lackamore Existing Structure: Masonry Arch Bridge Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Potential Upstream:100% shade. Minor steep cascades Downstream: 100% shade
	**Watercrossing Structure W24** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Lackamore Existing Structure: Concrete Circular Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Potential

	**Watercrossing Structure W25** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Lackamore Existing Structure: Plastic Circular Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Potential, Steep Gradient
	**Watercrossing Structure W26** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Lackamore Existing Structure: Concrete Circular Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Potential, Steep Gradient
	**Watercrossing Structure W27** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Lackamore Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Potential, Steep Gradient

	**Watercrossing Structure W28** Type: Stream Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Lackamore/Tooreenbrien Upper Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Ecology Notes: No Fisheries Value Upstream: steep/cascade Boulder/cobble
	**Watercrossing Structure W29** Type: Stream Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Tooreenbrien Upper Existing Structure: Concrete Slab Bridge Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Value 100% cover, steep gradient. Boulder cascade.
	**Watercrossing Structure W30** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Tooreenbrien Upper Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Value

Watercrossing Structure W31

Type: Stream, 1st Order
Fisheries: Class 3, Sub-optimal Fisheries
Location/Townland: R503, Tooreenbrien Upper

Existing Structure: Concrete Circular Culvert
Works at the Crossing: Crossing under new existing culvert

Ecology Notes: No Fisheries Value, Steep Gradient

Watercrossing Structure W32

Type: Minor Stream
Fisheries: Class 3, Sub-optimal Fisheries
Location/Townland: R503, Tooreenbrien Upper

Existing Structure: Masonry Box Culvert
Works at the Crossing: Cable trenching under structure. Culvert may need replacing.

Ecology Notes: No Fisheries Value

Watercrossing Structure W33

Type: Stream
Fisheries: Class1, Optimal Fisheries
Location/Townland: R503, Tooreenbrien Upper/Tooreenbrien Lower

Existing Structure: Masonry Arch Bridge - Single
Works at the Crossing: Cable trenching over structure.

Ecology Notes: cobble substrate, drained, channelised, riffle/glide

Watercrossing Structure W34

Type: Drain
Fisheries: Class 4, Poor Fisheries
Location/Townland: R503, Tooreenbrien Lower

Existing Structure: Masonry Box Culvert

Works at the Crossing: Cable trenching under structure. Culvert may need replacing.

Ecology Notes: No Fisheries Value

Watercrossing Structure W35

Type: Drain
Fisheries: Class 4, Poor Fisheries
Location/Townland: R503, Tooreenbrien Lower

Existing Structure: Masonry Box Culvert

Works at the Crossing: Cable trenching over structure.

Ecology Notes: No Fisheries Value

Watercrossing Structure W36
Type: River
Fisheries: Class1, Optimal Fisheries
Location/Townland: Tooreenbrien Bridge, R503, Tooreenbrien Lower/Reardnogy Beg

Existing Structure: Masonry Arch Bridge - Double
Works at the Crossing: Cable trenching over structure. Additional works to raise road level & parapet wall height

Ecology Notes: c. 5 m wide, c. 100cm deep

	**Watercrossing Structure W37** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Reardnogy Beg Existing Structure: Masonry Arch Works at the Crossing: Crossing over culvert Ecology Notes: No Fisheries Value
	**Watercrossing Structure W38** Type: Stream, 1st Order Fisheries: Class1, Optimal Fisheries Location/Townland: R503, Reardnogy Beg/Reardnogy More Existing Structure: Plastic Circular Culvert Works at the Crossing: Cable trenching under structure. Ecology Notes: c. 0.7 m wide, c. 140cm deep
	**Watercrossing Structure W39** Type: Stream, 2nd Order Fisheries: Class1, Optimal Fisheries Location/Townland: R503, Reardnogy More Existing Structure: Plastic Circular Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: c. 0.6 m wide, c. 100cm deep

Watercrossing Structure W40

Type: Drain
Fisheries: Class 4, Poor Fisheries
Location/Townland: R503, Rear Cross Village, Reardnogy More/ Shanballyedmond

Existing Structure: Concrete Circular Culvert X 3
Works at the Crossing: Cable trenching under structures.

Ecology Notes: No Fisheries Value

Watercrossing Structure W41

Type: Stream, 1st Order
Fisheries: Class 3, Sub-optimal Fisheries
Location/Townland: R503, Reardnogy More/Baurnadomeeny

Existing Structure: Masonry Box Culvert
Works at the Crossing: Cable trenching over structure.

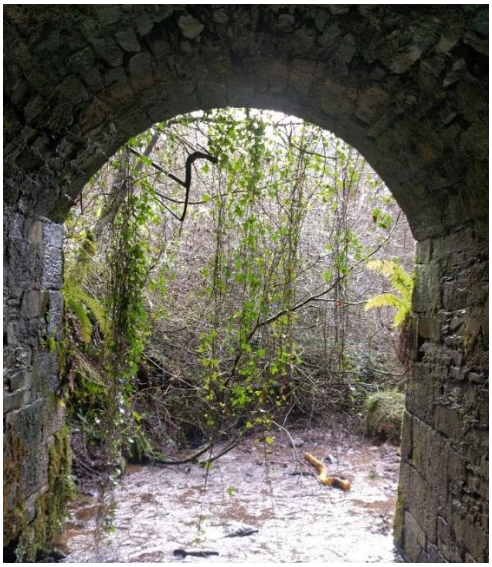
Ecology Notes: Downstream:, cobble gravel substrate, riffle, steep banks

Watercrossing Structure W42

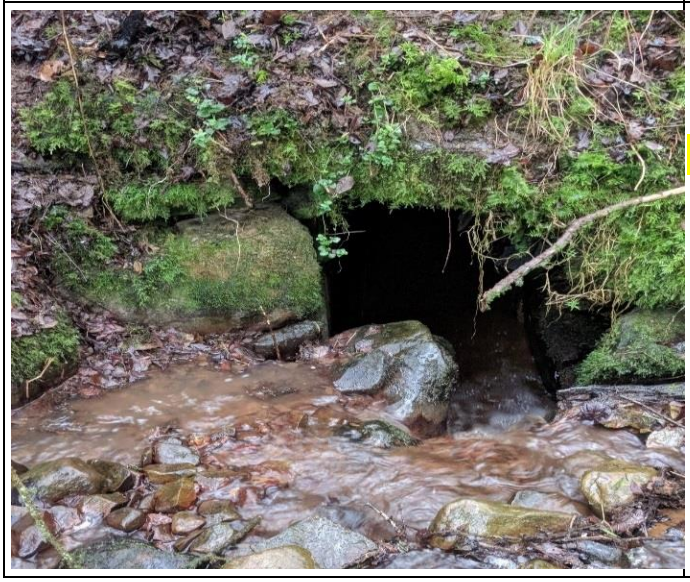
Type: Stream, 1st Order
Fisheries: Class 3, Sub-optimal Fisheries
Location/Townland: R503, Baurnadomeeny

Existing Structure: Masonry Box Culvert
Works at the Crossing: Cable trenching over structure.

Ecology Notes: No Fisheries Potential

	**Watercrossing Structure W43** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Baurnadomeeny Existing Structure: Masonry Arch Works at the Crossing: Cable trenching over structure. Ecology Notes: cobble gravel substrate, riffle, steep banks
	**Watercrossing Structure W44** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Baurnadomeeny Existing Structure: Masonry Arch Works at the Crossing: Cable trenching over structure. Ecology Notes: cobble gravel substrate, riffle, steep banks
	**Watercrossing Structure W45** Type: Stream, 1st Order Fisheries: Class1, Optimal Fisheries Location/Townland: R503, Baurnadomeeny/Coonmore Existing Structure: Concrete Circular Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: Riffle / glide, cobble substrate, channelised

	**Watercrossing Structure W46** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Coonmore Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Value
	**Watercrossing Structure W47** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Coonmore Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Value
	**Watercrossing Structure W48** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Coonmore Existing Structure: Plastic Circular Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Value

	**Watercrossing Structure W49** Type: River Fisheries: Class1, Optimal Fisheries Location/Townland: R503, Coonmore/Foildarragh Existing Structure: Masonry Arch Works at the Crossing: Cable trenching over structure. Ecology Notes: Cobble/gravel, channelised, riffle
	**Watercrossing Structure W50** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Foildarragh Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Value, Very steep gradient, in gorge, 100% cover.
	**Watercrossing Structure W51** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Foildarragh Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Value, Very steep gradient, in gorge, 100% cover.

	**Watercrossing Structure W52** Type: Stream, 1st Order Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Foildarragh Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Ecology Notes: No Fisheries Value, steep, drained
	**Watercrossing Structure W53** Type: River Fisheries: Class1, Optimal Fisheries Location/Townland: Anglesey Bridge, R503, Foildarragh/Kilcommon Existing Structure: Double Masonry Arch Works at the Crossing: Cable trenching over structure, additional works to raise road level & parapet wall height Ecology Notes: U/s: riffle, glide channelized, cobble gravel, sand
	**Watercrossing Structure W54** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Kilcommon Existing Structure: Plastic Circular Culvert Works at the Crossing: Cable trenching under structure. Ecology Notes: No Fisheries Value

	**Watercrossing Structure W55** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Kilcommon Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Culvert may need replacing. Ecology Notes: No Fisheries Value
	**Watercrossing Structure W56** Type: Drain Fisheries: Class 3, Sub-optimal Fisheries Location/Townland: R503, Kilcommon Existing Structure: Concrete Circular Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Value, some flow
	**Watercrossing Structure W57** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Kilcommon/Loughbrack Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Culvert may need replacing. Ecology Notes: No Fisheries Value

	**Watercrossing Structure W58** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Loughbrack Existing Structure: Concrete Circular Culvert Works at the Crossing: Cable trenching under structure. Ecology Notes: No Fisheries Value
	**Watercrossing Structure W59** Type: Upstream: Drain, Downstream: Stream, 1st Order Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Loughbrack Existing Structure: Concrete Culvert & Masonry Box Culvert Works at the Crossing: Cable trenching under structures. Ecology Notes: No Fisheries Value. Downstream: flow, through forestry
	**Watercrossing Structure W60** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Loughbrack Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Culvert may need replacing. Ecology Notes: No Fisheries Value

	**Watercrossing Structure W61** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: R503, Knocknabansha/Knockmaroe Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching under structure. Culvert may need replacing. Ecology Notes: No Fisheries Value
	**Watercrossing Structure W62** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: L2264-50, Knockmaroe Existing Structure: Masonry Box Culvert Works at the Crossing: Cable trenching over structure. Ecology Notes: No Fisheries Value
	**Watercrossing Structure W63** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: L2264-50, Knockmaroe/Knockcurraghbola Crownlands Existing Structure: Circular Concrete Culvert Works at the Crossing: Cable trenching under structure. Ecology Notes: No Fisheries Value

Watercrossing Structure W64

Type: Drain
Fisheries: Class 4, Poor Fisheries
Location/Townland: L2264-50, Knockmaroe

Existing Structure: Masonry Box Culvert
Works at the Crossing: Cable trenching under structure. Culvert may need replacing.

Ecology Notes: No Fisheries Value

Watercrossing Structure W65

Type: Stream
Fisheries: Class 2, Optimal Fisheries
Location: L6188-0, Knockmaroe

Existing Structure: Concrete Circular Culvert
Works at Crossing: Cable trenching under structure.

Ecology Notes: Steady flow to 20 cm deep with wetted width of c. 1 m. gravel bed.

Watercrossing Structure W66

Type: Drain
Fisheries: Class 4, Poor Fisheries
Location/Townland: L6188-0, Knockmaroe

Existing Structure: Concrete Circular Culvert
Works at the Crossing: Cable trenching under structure.

Ecology Notes: No Fisheries Value

Photos of UWF GRID CONNECTION Bridges / Culverts along Private Paved Road	
	**Watercrossing Structure W67** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: Private Paved Road, Knockcurraghbola Commons Existing Structure: Concrete Circular Culvert Works at the Crossing: Cable trenching under structure. Ecology Notes: c. 0.5 m wide, 10 cm deep
	**Watercrossing Structure W68** Type: Drain Fisheries: Class 4, Poor Fisheries Location/Townland: Private Paved Road, Knockcurraghbola Commons Existing Structure: Concrete Circular Culvert Works at the Crossing: Cable trenching under structure. Ecology Notes: No Fisheries Value, Slow flowing