

Technical Appendix 8.4

Kirkton Energy Park

Fish Habitat Survey

Kirkton Wind Farm Ltd.



November 2022



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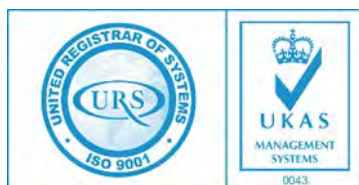
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1.1	30/03/2022	Draft for internal Atmos review
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1 Introduction

1.1 Terms of Reference

Atmos Consulting (Atmos) was commissioned by Kirkton Wind Farm Ltd. to undertake a fish habitat survey in the vicinity of the proposed Kirkton Energy Park. The scheme is located on the Kirkton and Upper Bighouse estates, in Strath Halladale, approximately 2.1km south of Melvich.

The survey was undertaken in order to assess fish habitat in the watercourses that could potentially be affected by the proposed development. This comprised the stretch of river that is subject to reduced flows, as well as further stretches extending approximately 100m upstream and 500m downstream. An assessment of existing instream obstacles to fish migration was also undertaken. These areas are termed the 'survey area' and are shown in Figure 8.4.1 (Appendix A refers).

1.2 Objectives

This report assesses the value of fish habitat within the survey area and makes an assessment on the likely presence of salmonids within the survey area.

This report details the following:

- Legislative context;
- Review of existing information;
- Field survey methodology;
- Field survey results; and
- Evaluation and recommendations.

1.3 Desk Study

There are four main watercourses within the study area, and from south to north are: the Allt an Tigh-Choinneimh, Allt nan Gall, Allt na h-Eaglaise, and an un-named watercourse at Kirkton farm – all of which are tributaries of the River Halladale.

The Allt an Tigh-Choinneimh is short – around 2km, with its source at an altitude of approximately 110m, discharging into the River Halladale around 20m altitude. Allt nan Gall is approximately 3km long, with its source above Loch nan Gall at around 130m. Allt na h-Eaglaise is approximately 6.5km long – it bifurcates with the shorter southern part rising at around 110m and the northern stem at c. 150m. The northern stem flows through 2 small hill lochs – Loch na h-Eaglaise Beag and Loch na h-Eaglaise Mor. The un-named watercourse lies to the north of Allt na h-Eaglaise and is approximately 2km long with its source at Lochan Coulbackie at an altitude of c. 130m.

Three tributaries are not classified by SEPA on account of their size however the River Halladale and Allt na h-Eaglaise are both at "Good Ecological Potential" according to the 2020 river classification. They are both classified as heavily modified water bodies on account of morphological alterations. No barriers to fish migration are recorded downstream of any of the watercourses.

A search of freely available datasets from the Biological Records Centre (Database for the Atlas of Freshwater Fish) held within the National Biodiversity Network (NBN) Atlas

was undertaken - there are records of Atlantic salmon (*Salmo salar*) and brown/sea trout (*Salmo trutta*) and European eel (*Anguilla Anguilla*) within 5km of the site. There are no designated site relating to fish in proximity to the site.

1.4 Legislative Context

Atlantic salmon are an internationally important species and are listed under Annex II and V of the European Council Directive 92/43/EEC on the Conservation of natural habitats and of wild fauna and flora (the Habitats Directive) (only in freshwater), and Appendix III of the Bern Convention (1979) (only in freshwater). They are also a UKBAP Priority List species.

Brown/sea trout do not receive extensive protection within conservation legislation although sea trout are further protected within fisheries acts relating to the protection of 'salmon'. Brown/sea trout are also on the UK Biodiversity Action Plan Priority Species List with sea trout considered to be declining or threatened in Scotland and are listed on the Scottish Biodiversity List.

The European eel is listed on the UKBAP Priority Species List in 2007, and is also listed on the Scottish Biodiversity List as declined or threatened in Scotland. In Scotland, an Eel Management Plan was developed by Marine Scotland Science in 2008 in order to prevent the decline of this species in Scotland.

2 Methodology

2.1 Field Survey

The fish habitat survey was undertaken by Greg Fullarton, assisted by Connor McKinnie on 27th and 28th September 2021. Due to inclusion of access track within the site, further survey was undertaken of the small un-named tributary by Sarah Lashley in November 2021.

The survey method followed a modified version of the methodologies developed by Hendry and Cragg-Hine (1997), and the Scottish Fisheries Co-ordination Centre (2007) with areas of habitat defined as detailed in Table 1 below. Reference was also made to SEPA's "Guidance for applicants on supporting information requirements for hydropower applications".

Spawning redds where present and accessible, would be described in terms of stability, compaction and notes on the degree of siltation present within the spawning redds. In addition to notes on physical channel morphology, notes were also taken on bankside structure and surrounding land use.

Table 1: Fish Habitat Classification

Habitat Type	Classification
Spawning redds	Stable gravel up to 30cm deep that is not compacted or contains excessive silt. Substrate size with a diameter of 0.8 to 10.2cm.
Fry habitat *	Shallow (< 0.2m) and fast flowing water indicative of riffles and runs with a substrate dominated by gravel (16 - 64mm) and cobbles (64 – 256mm).
Parr habitat *	Riffle – run habitat that is generally faster and deeper than fry habitat (0.2 - 0.4m). Substrate consists of gravels (16 - 64mm), cobbles (64 – 256mm) and boulder (> 256mm).
Glides	Smooth laminar flow with little surface turbulence and generally greater than 0.3m deep.
Pools	No perceptible flow and usually greater than 1m deep.
Flow constriction	Where flows are accelerated between narrow banksides (usually combined with deep fast flows and bedrock substrates).
Obstacles / Barriers	A structure or item identified as a potential obstruction to fish passage at certain water heights.

** If significant amounts of fry and parr habitat were found to co-exist in the same section, these habitat classifications are often combined and classified as juvenile habitat. Where parr habitat is mentioned this will refer to habitat that has principally been identified as habitat more suited to parr than fry, however will habitually contain a lower quantity of fry habitat and habitat which is suited to both fry and parr.*

The survey comprised, a walkover, noting physical morphology throughout the potentially impacted reach, as well as upstream and downstream with potential

existing obstacles to migration being noted. The results of the survey were mapped and are presented in Figure 8.4.1 (Appendix A refers).

Photos and target notes were recorded in the context of varying fisheries habitat / flow types, and obstacles / barriers along the survey reach. Photos are provided in Appendix B and descriptive target notes in Table 2.

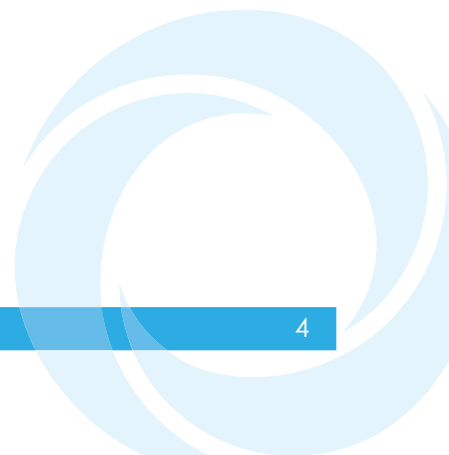
On the basis of the fish habitat classification, each stretch was allocated a fish habitat quality band (Low, Medium, Good, High) – this is a further subjective assessment based on the survey information to give a quick overview of the usefulness of each stretch for fish.

2.2 Analysis

Data collected via the site walkover was used to analyse and evaluate the quality of the habitat for fish, including fish migration and utilisation potential for juvenile and adult fish.

2.3 Limitations

The site was fully accessible on the date of survey – although access was restricted in some sections due to the presence of steep-sided gorges; this was not however considered a significant limitation as assessment was still possible from suitable vantage points. Water levels were considered to be elevated and some channel features, substrate and areas of fish habitat were not fully visible. It was however considered that for the purpose of the survey, these limitations were not considered significant.



3 Results

3.1 Fish Habitat

3.1 Fish Habitat

This section of the report summarises the findings of the survey. Results of the habitat survey and fish habitat quality assessment are provided in Table 2 below with supporting photographs typifying the survey stretch provided in Appendix B. The table should be read in conjunction with Figure 8.4.1 (Appendix A refers) which shows the fish habitat results on a map. Both the information provided in Table 2 and the photographs are presented from the downstream extent of the survey area, working sequentially upstream. When left and right hand bank are referred to, this is taken from the perspective of looking downstream.

Abbreviations used are “d/s” which refers to “downstream” and “u/s” to “upstream”.

Table 2: Fish Habitat Quality Assessment

Target Note	Site Ref / photo no.	Hendry and Cragg-Hine Category	Reach / Obstacle Description	Watercourse Modification	Migratory Fish Access	Fish Habitat Quality
DOWNSTREAM OF ALLT NA H-EAGLAISE & UN-NAMED TRIBUTARY OF RIVER HALLADALE						
A1	Photo A1	Parr	Heavily canalised glide – good parr habitat.	Yes	Passable	High
A2	Photo A2	Fry	Heavily canalised glide – good fry habitat.	Yes	Passable	High
ALLT NA H-EAGLAISE						
1	Photo 1	Parr	Allt na h-Eaglaise – downstream extent – 2m wide / 50cm deep – run – good parr habitat – good productive fish habitat.	No	Passable	High
2	Photo 2	Parr	Run – good productive parr habitat.	No	Passable	High
3	Photo 3	Parr	Downstream of bifurcation – good parr habitat.	No	Passable	High
4	Photo 4	Fry / Parr	Downstream extent of Allt na h-Eaglaise north tributary. Ford present but passable. Good fry / parr habitat.	Yes	Passable	High
5	Photo 5	Fry / Parr	Run section – north tributary – good fry / parr habitat.	No	Passable	High
6	Photo 6	Fry / Parr	Run section of north tributary – offers productive fish habitat for fry and parr.	No	Passable	High
7	Photo 7	Fry / Parr	Run section of north tributary – however channel is steeper and more active than lower section thus limiting productivity.	No	Passable	Good
8	Photo 8	Fry / Parr	North tributary – good fry / parr habitat – some bedrock intrusion.	No	Passable	Good
9	Photo 9	n/a	Fenced area with native tree regeneration adjacent to watercourse – will provide useful supply of insects / leaf litter in future.	n/a	n/a	n/a
10	Photo 10	Fry / Parr	Allt na h-Eaglaise – south tributary downstream extent – confluence with tributary good fry / parr habitat – track with bottomless culvert / bridge allowing good access for fish.	Yes	Passable	High
11	Photo 11	Fry / Parr	South tributary – run section – good fry / parr habitat.	No	Passable	High
12	Photo 12	Fry / Parr	South tributary – good fry / parr habitat.	No	Passable	High
13	Photo 13	Fry / Parr	Run section – south tributary – confluence with tributary good fry / parr habitat.	No	Passable	High

Target Note	Site Ref / photo no.	Hendry and Cragg-Hine Category	Reach / Obstacle Description	Watercourse Modification	Migratory Fish Access	Fish Habitat Quality
14	Photo 14	Fry / Parr	South tributary – good fry / parr habitat.	No	Passable	High
15	Photo 15	Fry	South tributary – useful fry habitat – narrow channel.	No	Passable	Good
16	Photo 16	Fry	South tributary – good fry habitat.	No	Passable	Good
17	Photo 17	Obstacles / Barrier	South tributary – dry tributary of south tributary – no fish potential.	No	No	None
18	Photo 18	Fry	South tributary – good fry habitat.	No	Passable	Good
19	Photo 19	n/a	Allt na h-Eaglaise – south tributary – peat slide evident on slope.	n/a	n/a	n/a
20	Photo 20	Obstacles / Barrier	South tributary – overgrown channel. Limited potential for fish. Upstream extent of fish habitat.	No	No	Low
ALLT NAN GALL						
21	Photo 21	Parr	Allt nan Gall d/s extent – run above confluence with River Halladale – good parr habitat.	No	Passable	High
22	Photo 22	Parr	Long run in lower section – good parr habitat.	No	Passable	High
23	Photo 23	Parr	Run – lower section – good parr habitat.	No	Passable	High
24	Photo 24	Parr	Run – lower section – good parr habitat.	No	Passable	High
25	Photo 25	Fry / Parr	Run – lower section – good fry / parr habitat.	No	Passable	High
26	Photo 26	Fry	Run – mid section – good fry habitat.	No	Passable	High
27	Photo 27	Fry	Run – mid section – good fry habitat, leading to small pool.	No	Passable	High
28	Photo 28	Fry / Parr	Run – mid section – steeper gradient, potential fry / parr habitat.	No	Passable	Good
29	Photo 29	Fry	Run – upper section – steeper gradient, potential fry habitat; steep sided banks.	No	Passable	Good
30	Photo 30	Fry / Parr	Run – upper section – good fry / parr habitat.	No	Passable	High
31	Photo 31	Fry / Parr	Run – upper section – good fry / parr habitat.	No	Passable	High
RIVER HALLADALE						
32	Photos 3a & b	Parr	Run-Glide section. Good fish habitat for all life stages. Large river, no obstacles to downstream migration.	No	Passable	High
ALLT AN TIGH-CHOINNEIMH						
33	Photo 33	Parr	Allt an Tigh-Choinneimh – lower section, good parr habitat.	No	Passable	High
34	Photo 34	Fry	Run – lower section – good potential for fry.	No	Passable	High
35	Photo 35	Fry	Run – lower section – good potential for fry.	No	Passable	High
36	Photo 36	Parr	Run – mid section – good parr habitat.	No	Passable	High
37	Photo 37	Fry / Parr	Run – mid section d/s gorge, good potential for fry / parr.	No	Passable	High
38	Photo 38	Flow constriction	Upper section – constricted channel in bedrock dominated gorge – limited fish potential.	No	Passable	Low
39	Photo 39	Flow constriction	Run – upper section – constricted channel in bedrock dominated gorge – limited fish potential.	No	Passable	Low
40	Photo 40	Flow constriction	Run – upper section – constricted channel in bedrock dominated gorge – limited fish potential.	No	Passable	Low
41	Photo 41	Fry	Run – upper section – bedrock dominated channel upstream of gorge – limited fish habitat.	No	Passable	Low
42	Photo 42	Fry	Run – upper extent of survey – steeper headwaters – limited fish potential.	No	Passable	Low
UN-NAMED TRIBUTARY OF RIVER HALLADALE						
43	Photo 43	Flow constriction	Downstream extent, poorly defined channel – low suitability for fish, probably ephemeral.	No	May not be passable in low flows	Low

Target Note	Site Ref / photo no.	Hendry and Cragg-Hine Category	Reach / Obstacle Description	Watercourse Modification	Migratory Fish Access	Fish Habitat Quality
44	Photo 44	Fry	Run – lower section – good fry habitat.	No	Passable	Good
45	Photo 45	Flow constriction	Lower section – poorly defined channel – low suitability for fish, some fry potential.	No	Passable	Low
46	Photo 46	Flow constriction	Poorly defined channel, wood blocking channel, low potential for fish.	No	Passable	Low
47	Photo 47	Flow constriction	Poorly defined channel, low potential for fish.	No	Passable	Low
48	Photo 48	Flow constriction	Poorly defined channel, low potential for fish.	No	Passable	Low
49	Photo 49	Obstacles / barrier	Culvert – accessible, but note poorly defined channel downstream.	No	Passable	Low
50	Photo 50	Flow constriction	U/s of culvert – poorly defined channel, low potential for fish.	No	Passable	Low
51	Photo 51	Flow constriction	U/s of culvert – channel has become wet flush – no potential for fish.	No	Impassable	None
52	Photo 52	Obstacles / barrier	Double culvert – likely to be impassable under most conditions.	No	Likely to be impassable	Low
53	Photo 53	Flow constriction	Narrow channel, low potential for fish due to channel obstruction d/s.	No	Likely to be impassable due to constriction d/s	Low
54	Photo 54	Obstacles / barrier	Ford – generally passable, accessibility likely to be limited during low flows.	Yes	Passable under higher flows	Low
55	Photo 55	Fry	Run – potential for fry but unlikely due to channel constrictions downstream and upstream thus low potential for fish.	No	Passable however restricted u/s & d/s	Low
56	Photo 56	Flow constriction	Poorly defined channel – likely to be ephemeral.	No	Likely to be impassable	Low

3.2 Macroinvertebrates

A single macroinvertebrate sample was taken from the lower reaches of the Allt na h-Eaglaise at grid reference NC 88419 60857.

A number of pollution intolerant stonefly and caddis families were recorded, namely:

- Heptagenidae
- Ephemerellidae
- Leuctridae
- Perlodidae
- Perlidae
- Chloroperlidae
- Beraeidae
- Brachyctetridae
- Sericostomatidae
- Nemouridae
- Polycentropidae.

Further families identified were:

- Ancyridae
- Hydropsychidae
- Planariidae

- Baetidae
- Sphaeride
- Chironomidae
- Oligochaeta.

Over a total of 18 taxa were recorded with a BMWP score of 130 and a ASPT of 7.2. Water quality categories, based on the former Biological Monitoring Working Party methodology are shown in Table 3 below.

Table 3: BWMP River Classification Categories

BMWP score	ASPT score	Category	Interpretation
> 100	≥ 6.0	A1	Excellent
71 – 100	5.0 – 5.9	A2	Good
41 – 70	4.2 – 4.9	B	Moderate
11 – 40	3.0 – 4.1	C	Poor
0 – 10	< 3	D	Seriously polluted

Based on these categories, the water sample indicates A1, excellent water quality.

4 Discussion

The watercourses within the survey area were all tributaries of the River Halladale. The un-named tributary and Allt na-h Eaglaise flow into a heavily canalised section which is approximately 2-3m wide. Fish were noted jumping during the November 2021 survey and predated salmon kelts were noted on the river bank, suggesting this watercourse has important spawning habitat (concealed by the high flows at the time of survey). The un-named tributary was considered to offer low quality fish habitat throughout its length due to various flow constrictions and the likely ephemeral nature of parts of the channel. The Allt na h-Eaglaise however offered high quality fish habitat from the confluence with the River Halladale to lower-mid section within the main proposed wind farm site. Above this point the habitat was still considered to be good, however the steeper gradient is likely to limit the usable habitat. The upper section of the southern tributary was considered to offer low quality habitat due to the steep overgrown channel which is likely to be ephemeral in the upper reaches. The majority of the Allt na h-Eaglaise is 2-3m wide and up to 30cm deep, forming long run sections. While bankside vegetation was generally sparse, consisting of gorse and scattered trees, the macro-invertebrate sample indicates excellent water quality.

The Allt nan Gall is approximately 2-3m wide and up to 30cm deep, reducing to approximately 1m wide in the upper reaches. The bankside vegetation varied from areas with tree / shrub cover to bare banks. The upper and lower sections were considered to offer high quality fish habitat while the steeper faster flowing mid-section provided good habitat.

Allt an Tigh-Choinneimh was generally 1-2m wide and 20-30cm deep, offering high quality fish habitat up to the gorge section. Above this point habitat was considered to be low quality, although usable habitat was still present. Bankside vegetation and tree cover was generally limited although more prevalent in the gorge section where grazing was limited.

It is clear from the survey that the majority of the watercourses within the site offer good to high quality fish habitat. During construction design it will be important to ensure that suitable water crossings are put in place which follow current best practice and don't impede fish passage. It will also be important to ensure that Pollution Prevention Guidelines (PPGs) and the replacement Guidance for Pollution Prevention (GPPs) are followed and measures undertaken to minimise pollution of the aquatic environment (see Section 5.2 for further reading). In order to ensure that the aquatic environment is safeguarded, it is recommended that a water quality monitoring plan is put in place encompassing electrofishing, macro-invertebrate sampling and chemical monitoring of the main 3 watercourses prior to, during and post-construction, and that this is agreed with the Northern District Salmon Fisheries Board.

5 References & Further Reading

5.1 Fish

Armstrong, J.D., Kemp, P.S., Kennedy, G.J.A., Ladle, M. & Milner, N.J. 2003. Habitat requirements of Atlantic salmon and brown trout in rivers and streams. *Fisheries Research* 62, 143-170.

Armstrong, J.D. (2005) Spatial variation in population dynamics of juvenile Atlantic salmon: implications for conservation and management. *Journal of Fish Biology* 76, (Supplement B), 35-52.

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SEPA: *Managing River Habitats for Fisheries, a guide to best practise*.

SEPA: *Guidance for applicants for supporting information requirements for hydropower applications*.

SNH Advice note 37: *Ecological impacts of hydro schemes on Scottish fresh waters* <http://www.snh.org.uk/publications/on-line/advisorynotes/37/37.htm>

Thorne, C.R., Her R.D. and Newson, M. D. (eds) (1997), *Applied Fluvial Geomorphology for River Engineering and Management*, John Wiley and Sons, Chichester.

Wallace, J. & Webster, J. 1996. The role of macroinvertebrates in stream ecosystem function. *Annual Review of Entomology* 41:115-139.

5.2 Pollution Control

CIRIA 648. *Control of Water Pollution from Linear Construction Projects – Technical Guidance*

CIRIA 649. *Control of Water Pollution from Linear Construction Projects – Site Guidance*

CIRIA 650. *Environmental Good Practice on Site*.

Pollution Prevention Guidelines/Guidance for Pollution Prevention
(www.netregs.gov.uk):

PPG 1 Understanding your environmental responsibilities - good environmental practices

GPP 2 Above ground oil storage tanks

GPP 5 Works and maintenance in or near water

PPG 6 Working at construction and demolition sites

PPG 7 Safe storage - The safe operation of refuelling facilities

PPG 8 Safe storage and disposal of used oils

PPG 18 Managing fire water and major spillages

GPP 21 Pollution incident response planning

GPP 22: Dealing with spills

SEPA: Engineering in the Water Environment Good Practice Guide Construction of River Crossings April 2008 (Document reference: WAT-SG-25)

SEPA (2013). The Water Environment (Controlled Activities) (Scotland) Regulations 2011 (as amended) – A Practical Guide. SEPA.

Appendices

Appendix A. Figures

Figure 8.4.1 - Fish Habitat Survey Results

Figure 8.4.1
Fish Habitat Survey Results
Overview

Key

- Site boundary
- Turbine location
- Infrastructure
- Target Notes
- MI SP - Macroinvertebrate sampling Point

Fish habitat

- Low Quality
- Good Quality
- High Quality
- No Potential

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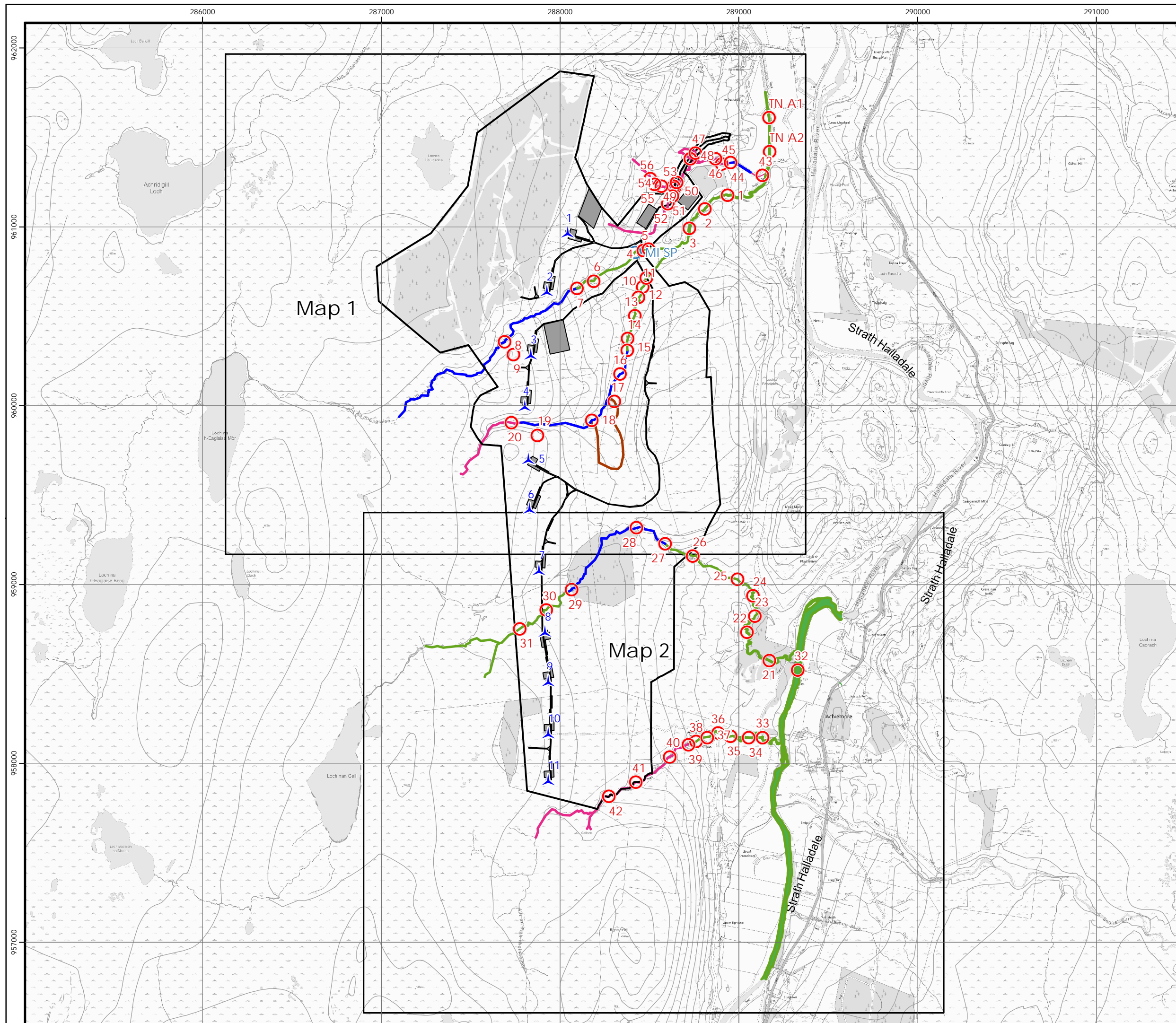
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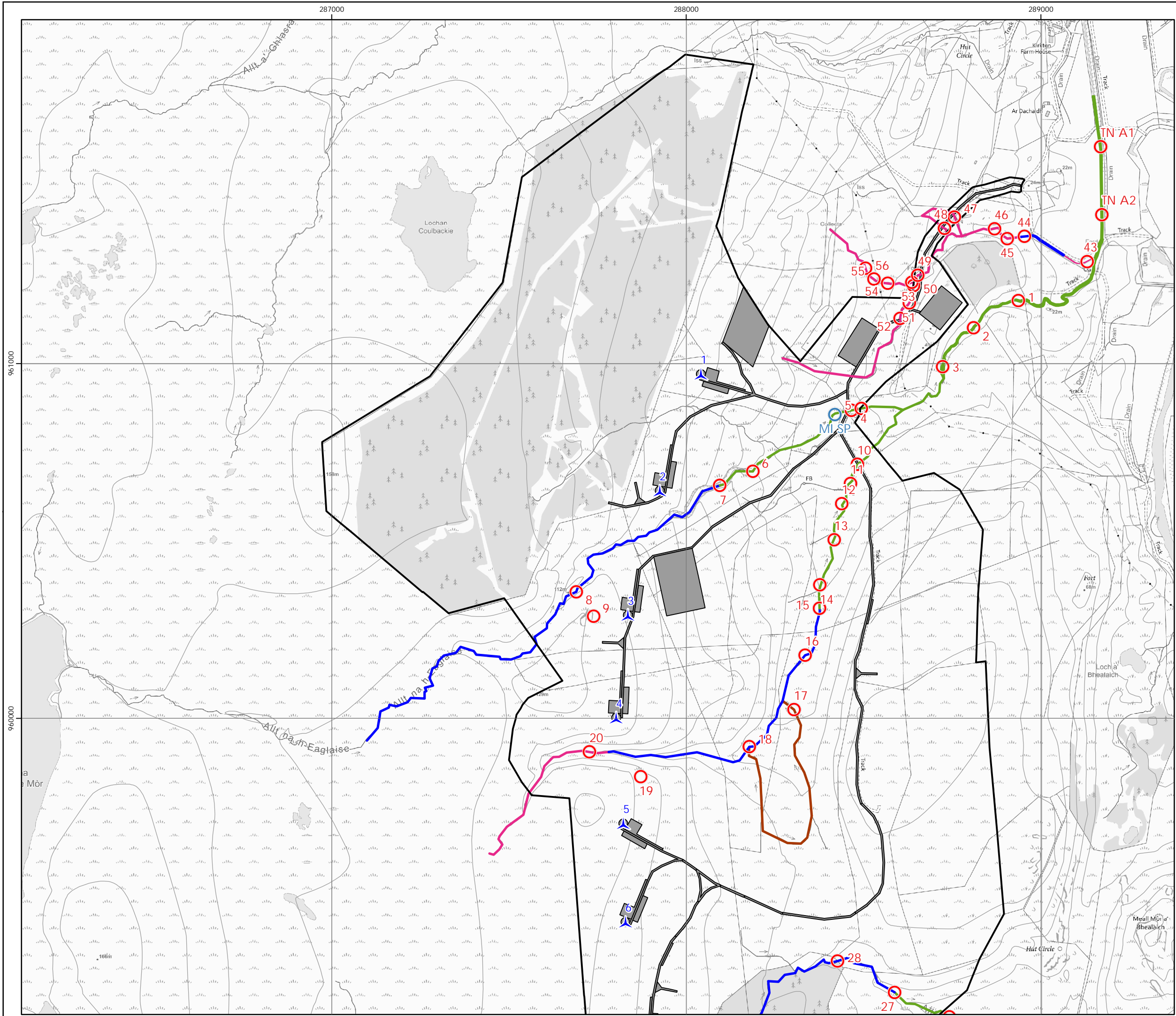


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Kirkton
Energy Park

Kirkton Wind
Farm Ltd

Figure 8.4.1
Fish Habitat Survey Results
Map 1

Key

- Site boundary
- Turbine location
- Infrastructure
- Target Notes
- MI SP - Macroinvertebrate sampling Point

Fish habitat

- Low Quality
- Good Quality
- High Quality
- No Potential

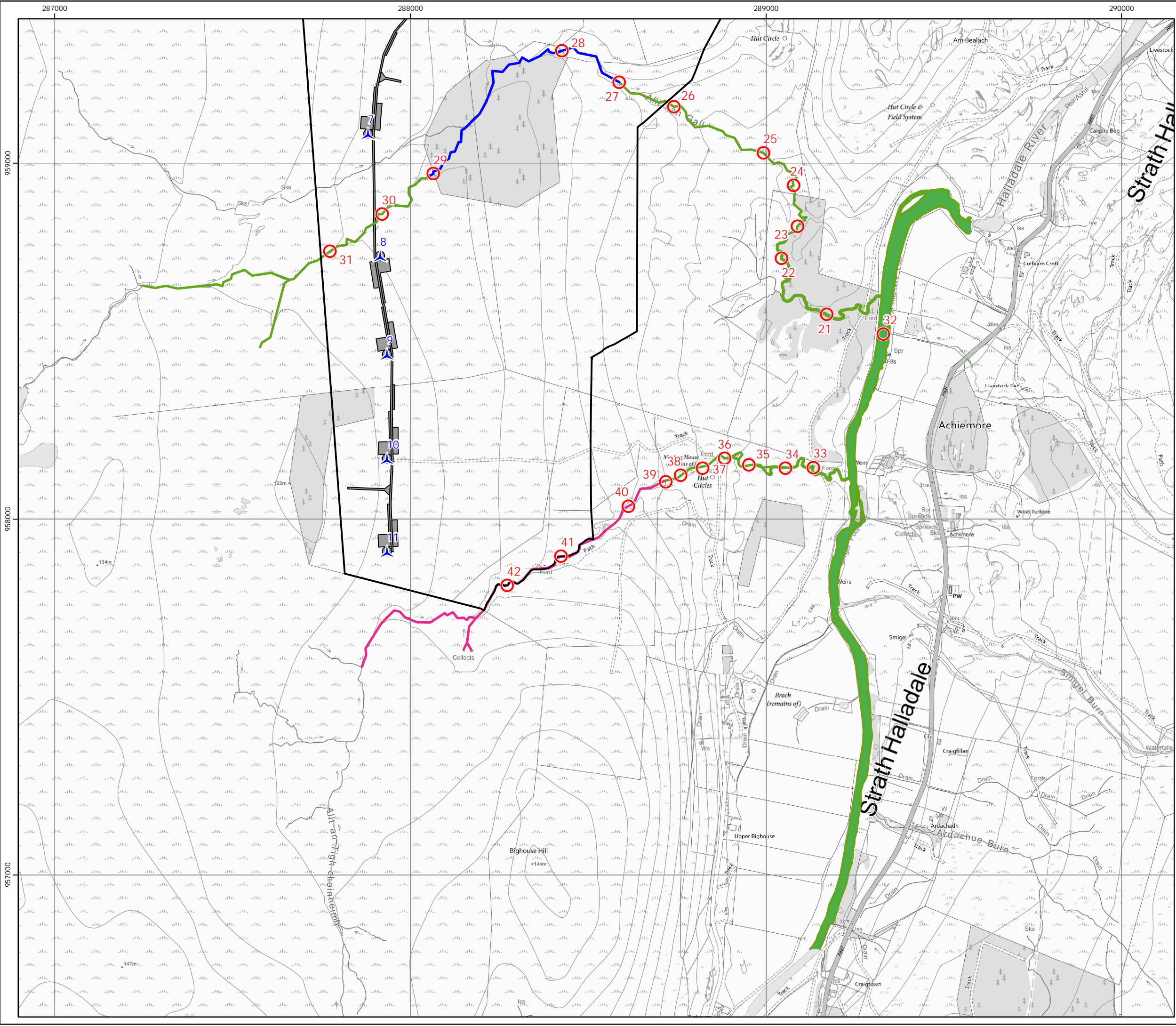


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Kirkton Energy Park

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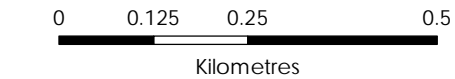
Figure 8.4.1
Fish Habitat Survey Results
Map 2

Key

- Site boundary
- Turbine location
- Infrastructure
- Target Notes
- MI SP - Macroinvertebrate sampling Point

Fish habitat

- Low Quality
- Good Quality
- High Quality
- No Potential



Scale @ A3:
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Appendix B. Photographs

Note that photos are arranged sequentially from downstream survey extent moving upstream. Refer to Table 2 for detailed description.



Target Note description	Photo
TNA1, photo A1 – downstream of unnamed tributary of Halladale and Allt na-h-Eaglaise – heavily canalised glide – good parr habitat.	
TNA2, photo A2 – downstream of unnamed tributary of Halladale and Allt na-h-Eaglaise – heavily canalised, good fry habitat.	



Target Note description	Photo
<p>TN1, Photo 1 - Allt na-h-Eaglaise - downstream extent - 2m wide / 50cm deep - good parr habitat.</p>	
<p>TN2, Photo 2 - Allt na-h-Eaglaise - 2m wide / 50cm deep - good parr habitat.</p>	

Target Note description	Photo
<p>TN3, Photo 3a - Allt na h-Eaglaise - downstream of bifurcation – 2m wide / 50cm deep – good parr habitat.</p> <p>Photo 3b (below) – predated kelt on river bank.</p>	

Target Note description	Photo
<p>TN4, Photo 4 - downstream extent of Allt na-h-Eaglaise north tributary - looking from ford d/s. Good fry / parr habitat.</p>	
<p>TN5, Photo 5 - Allt na-h-Eaglaise - north tributary - good fry / parr habitat.</p>	

Target Note description	Photo
<p>TN6, Photo 6 - Allt na-h-Eaglaise – northern tributary - good fry / parr habitat.</p>	
<p>TN7, Photo 7 - Allt na-h-Eaglaise – northern tributary – steeper gradient – may offer good fry / parr habitat.</p>	

Target Note description	Photo
<p>TN8, Photo 8 - Allt na-h-Eaglaise – northern tributary - good fry / parr habitat – some bedrock intrusion.</p>	
<p>TN9, Photo 9 - fenced area with native tree regeneration.</p>	

Target Note description	Photo
<p>TN10, Photo 10 - Allt na-h-Eaglaise – south tributary downstream extent - confluence with tributary good fry / parr habitat – track with bottomless culvert / bridge allowing good access for fish.</p>	
<p>TN11, Photo 11 - Allt na-h-Eaglaise – southern tributary - good fry / parr habitat.</p>	

Target Note description	Photo
<p>TN12, Photo 12 - Allt na-h-Eaglaise – southern tributary - good fry / parr habitat.</p>	
<p>TN13, Photo 13 - Allt na-h-Eaglaise – southern tributary - confluence with tributary good fry / parr habitat.</p>	

Target Note description	Photo
<p>TN14, Photo 14 - Allt na-h-Eaglaise – southern tributary - good fry / parr habitat.</p>	
<p>TN15, Photo 15 - Allt na-h-Eaglaise – southern tributary - useful fry habitat – narrow channel.</p>	

Target Note description	Photo
<p>TN16, Photo 16 - Allt na-h-Eaglaise – southern tributary - good fry habitat.</p>	
<p>TN17, Photo 17 - Allt na-h-Eaglaise – southern tributary - dry tributary – no fish potential.</p>	

Target Note description	Photo
<p>TN18, Photo 18 - Allt na-h-Eaglaise – southern tributary – good fry habitat.</p>	
<p>TN19, Photo 19 - Allt na-h-Eaglaise – southern tributary – peat slide.</p>	

Target Note description	Photo
<p>TN20, Photo 20 - Allt na-h-Eaglaise – southern tributary – overgrown channel. Limited potential for fish.</p>	
<p>TN21, Photo 21 - Allt nan Gall – above confluence with Halladale – good parr habitat.</p>	

Target Note description	Photo
<p>TN22, Photo 22 – Allt nan Gall – lower section – good parr habitat.</p>	
<p>TN23, Photo 23 – Allt nan Gall – lower section – good parr habitat.</p>	


Target Note description	Photo
TN24, Photo 24 - Allt nan Gall - lower section - good parr habitat.	
TN25, Photo 25 - Allt nan Gall - lower section - good fry / parr habitat.	

Target Note description	Photo
<p>TN26, Photo 26 - Allt nan Gall – mid-section - good fry habitat.</p>	
<p>TN27, Photo 27 - Allt nan Gall – mid-section - good fry habitat leading to small pool.</p>	

Target Note description	Photo
<p>TN28, Photo 28 - Allt nan Gall – mid-section – steeper gradient, potential fry / parr habitat.</p>	
<p>TN29, Photo 29 - Allt nan Gall – upper-section – steeper gradient, potential fry habitat; steep sided banks.</p>	

Target Note description	Photo
<p>TN30, Photo 30 - Allt nan Gall – upper-section – good fry / parr habitat.</p>	
<p>TN31, Photo 31 - Allt nan Gall – upper-section – good fry / parr habitat.</p>	

Target Note description	Photo
<p>TN32, Photos 32a & b – Main River Halladale – good fish habitat all life stages. Large river, no obstacles to downstream migration.</p>	

Target Note description	Photo
<p>TN33, Photo 33 - Allt an Tigh-Choinneimh – lower section, good parr habitat.</p>	
<p>TN34, Photo 34 - Allt an Tigh-Choinneimh – lower section - good potential for fry.</p>	

Target Note description	Photo
<p>TN35, Photo 35 - Allt an Tigh-Choinneimh – mid section – good potential for fry.</p>	
<p>TN36, Photo 36 - Allt an Tigh-Choinneimh - mid section - good potential for fry / parr.</p>	

Target Note description	Photo
<p>TN37, Photo 37 - Allt an Tigh-Choinneimh – mid section d/s gorge, good potential for fry / parr.</p>	
<p>TN38, Photo 38 - Allt an Tigh-Choinneimh – upper section – constricted channel in bedrock dominated gorge – limited fish potential.</p>	

Target Note description	Photo
<p>TN39, Photo 39 - Allt an Tigh-Choinneimh - upper section - constricted channel in bedrock dominated gorge - limited fish potential.</p>	
<p>TN40, Photo 40 - Allt an Tigh-Choinneimh - upper section - constricted channel in bedrock dominated gorge - limited fish potential.</p>	

Target Note description	Photo
<p>TN41, Photo 41 - Allt an Tigh-Choinneimh - upper section - bedrock dominated channel upstream of gorge - limited fish habitat.</p>	
<p>TN42, Photo 42 - Allt an Tigh-Choinneimh - upper extent of survey - steeper headwaters - limited fish potential.</p>	

Target Note description	Photo
<p>TN43, Photo 43 - Un-named watercourse, downstream extent, poorly defined channel – low suitability for fish, probably ephemeral.</p>	
<p>TN44, Photo 44 - Un-named watercourse, lower section - good fry habitat.</p>	

Target Note description	Photo
<p>TN45, Photo 45 - Un-named watercourse, lower section, poorly defined channel – low suitability for fish, some fry potential.</p>	
<p>TN46, Photo 46 - Un-named watercourse, lower section, poorly defined channel, wood blocking channel, low potential for fish.</p>	

Target Note description	Photo
<p>TN47, Photo 47 - Un-named watercourse, lower section, poorly defined narrow channel, low potential for fish - runs underground.</p>	
<p>TN48, Photo 48 - Un-named watercourse, lower section, poorly defined channel, low potential for fish.</p>	

Target Note description	Photo
<p>TN49, Photo 49 - Un-named watercourse - culvert – accessible, but note poorly defined channel downstream.</p>	
<p>TN50, Photo 50 - Un-named watercourse, u/s of culvert - poorly defined channel, low potential for fish.</p>	

Target Note description	Photo
<p>TN51, Photo 51 - Un-named watercourse, u/s of culvert – channel has become wet flush - no potential for fish.</p>	
<p>TN52, Photo 52 - Un-named watercourse, double culvert – likely to be impassable under most conditions.</p>	

Target Note description	Photo
<p>TN53, Photo 53 - Un-named watercourse, narrow channel, low potential for fish due to channel obstruction d/s.</p>	
<p>TN54, Photo 54 - Un-named watercourse at ford.</p>	

Target Note description	Photo
<p>TN55, Photo 55 - Un-named watercourse, potential for fry but unlikely due to channel constrictions downstream and upstream thus low potential for fish.</p>	
<p>TN56, Photo 56 - Un-named watercourse, poorly defined channel, low potential for fish.</p>	