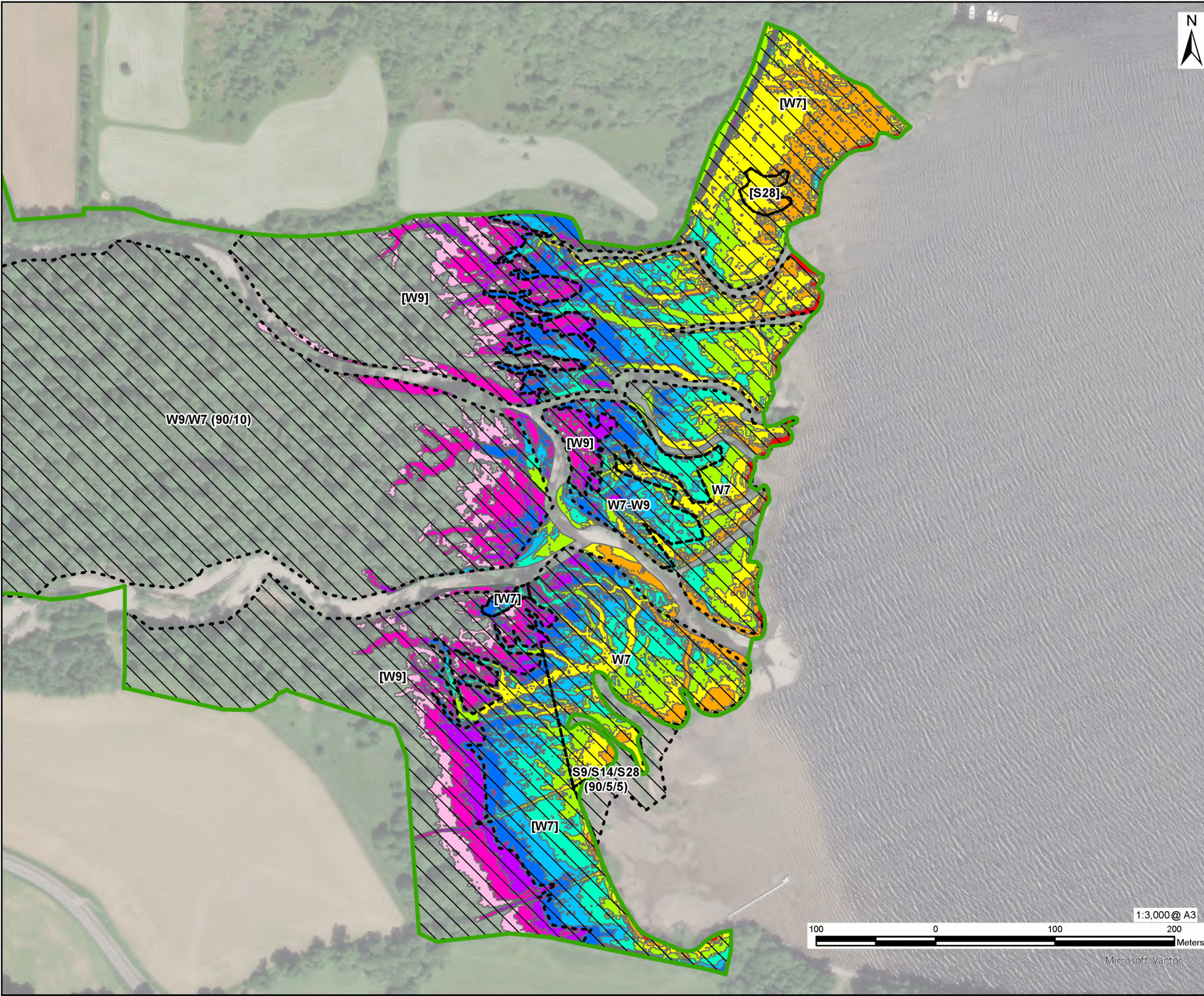


Inundation Event Analysis
LnC + LK + GEE
Seasonal Variable Weir

Winter
(Dec-Feb)



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PROJECT

Glen Earrach PSH

CLIENT

Glen Earrach Energy Ltd

CONSULTANT

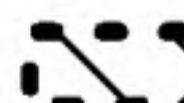
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Edinburgh
EH3 5DA
www.aecom.com

LEGEND

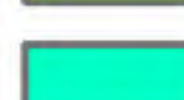
SAC boundary

 SAC boundary

NVC (labelled)

 NVC (labelled)

Overlapped Predicted Water Areas at increasing heights (m), from median summer loch level of 15.7 m

-  15.7
-  15.9
-  16.1
-  16.3
-  16.5
-  16.7
-  16.9
-  17.1
-  17.3
-  17.5

NOTES

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NVC types without square brackets indicates areas accessed in summer 2024. Square brackets indicates that NVC type has been derived from information from site visits in late 2025 / early 2026, combined with LiDAR data in comparison to the W7/W9 seen in summer 2024.

ISSUE PURPOSE

FOR INFORMATION

PROJECT NUMBER

60719875

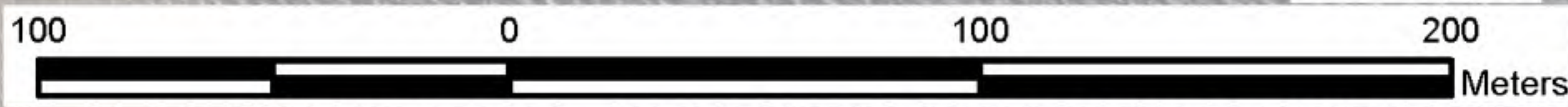
FIGURE TITLE

Predicted Water Areas overlaid with NVC for the relevant parts of Urquhart Bay Wood

FIGURE NUMBER

Figure 1

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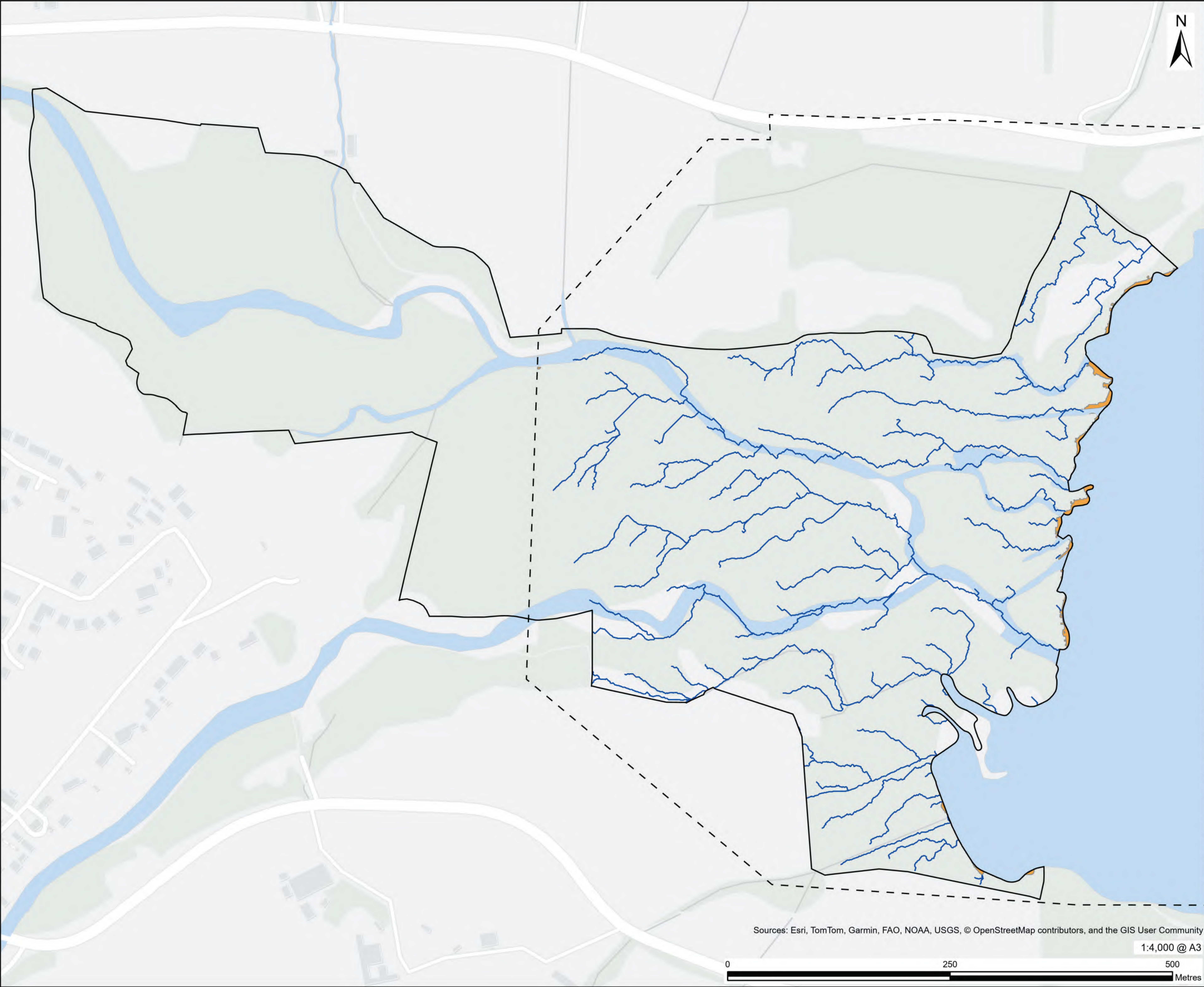
Microsoft, Vantor

Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
15.7	W7; S9 / S14 / S28	0.13	0.30	0.13	0.30
15.9	W7; S28	1.2	2.60	1.33	2.90
16.1	W7; S28	2.3	5.00	3.63	7.90
16.3	W7	1.95	4.20	5.58	12.10
16.5	W7	1.91	4.10	7.49	16.20
16.7	W7; W7-W9 (intermediate)	1.57	3.40	9.06	19.60
16.9	W7; W7-W9 (intermediate)	1.38	3.00	10.44	22.60
17.1	W7 / W9 (transition)	1.24	2.70	11.68	25.30
17.3	W9 dominant	1.52	3.30	13.2	28.60
17.5	W9 dominant	1.18	2.50	14.38	31.10

Inundation Event

Level Threshold = 15.70 m

Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
15.7	W7; S9 / S14 / S28	0.13	0.30	0.13	0.30





PROJECT

Glen Earrach Pumped Storage Hydro

CLIENT

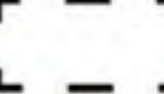
Glen Earrach Energy Ltd.

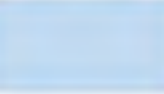
CONSULTANT

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United Kingdom

LEGEND

 Urquhart Bay Wood - Special Areas of Conservation (SAC)

 LiDAR Survey Extent

 OS OML Surface Water

 Modelled Watercourse

Predicted Water Area (Meters Above Datum)

 15.7m - 0.14ha

NOTES

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Modelled Watercourses have been generated from ESRI Spatial Analyst flow accumulation modelling based on the LiDAR DTM. A flow accumulation threshold of 1000sqm has been applied.

ISSUE PURPOSE

FINAL

PROJECT NUMBER

60719875

FIGURE TITLE

Urquhart Bay Wood LiDAR Survey - Predicted Water Areas at 0.2m Level Bandings

FIGURE NUMBER

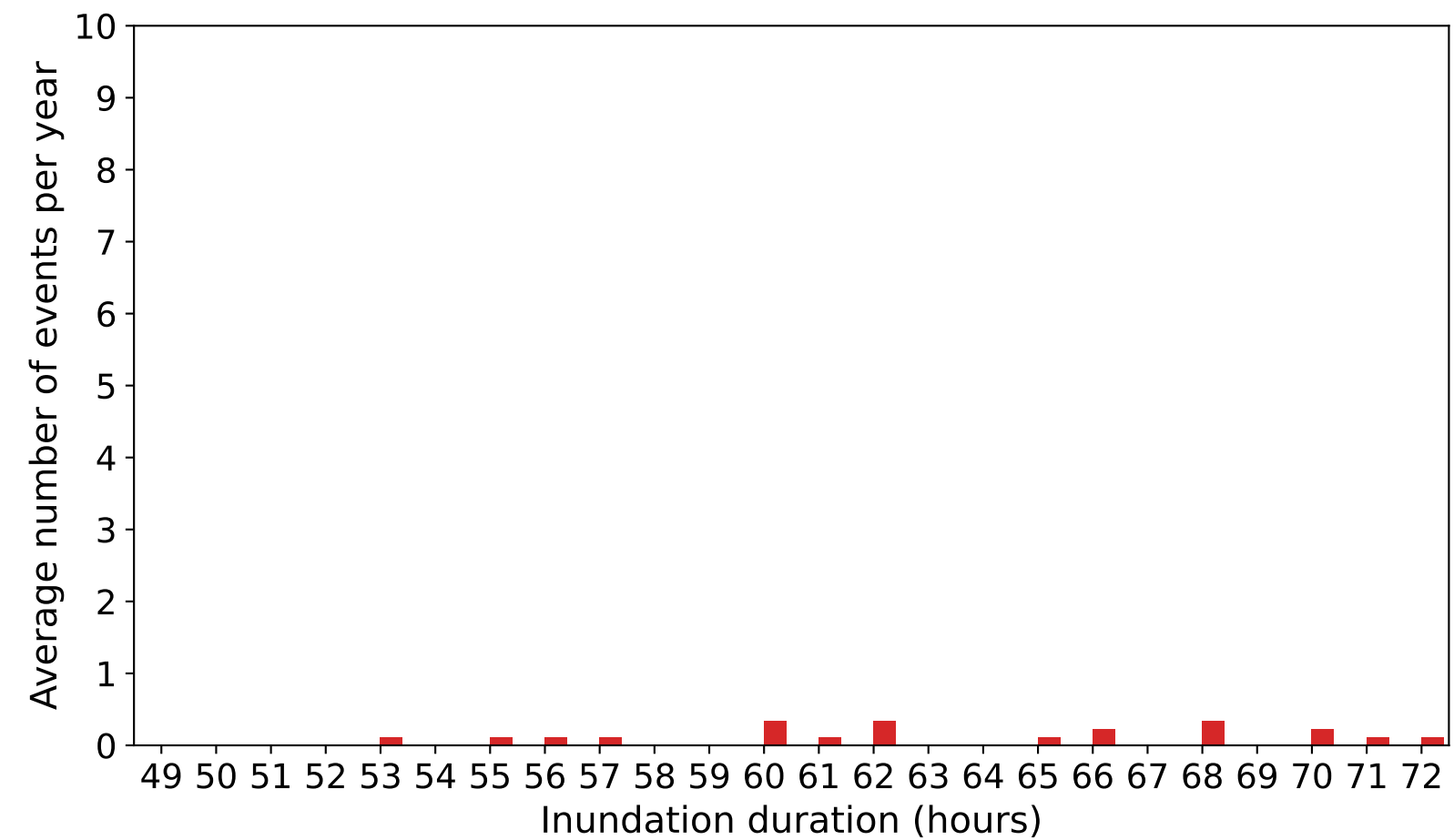
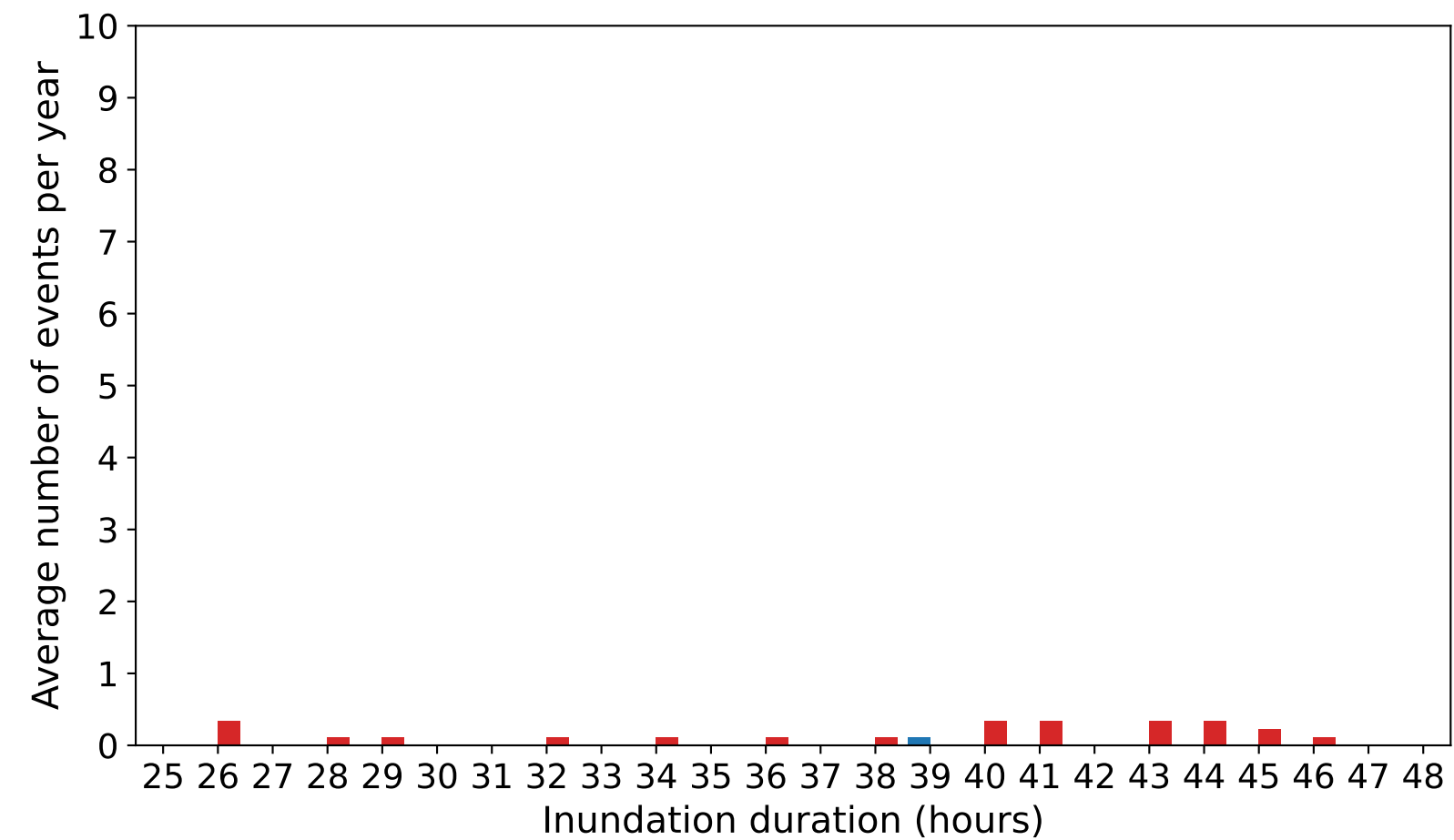
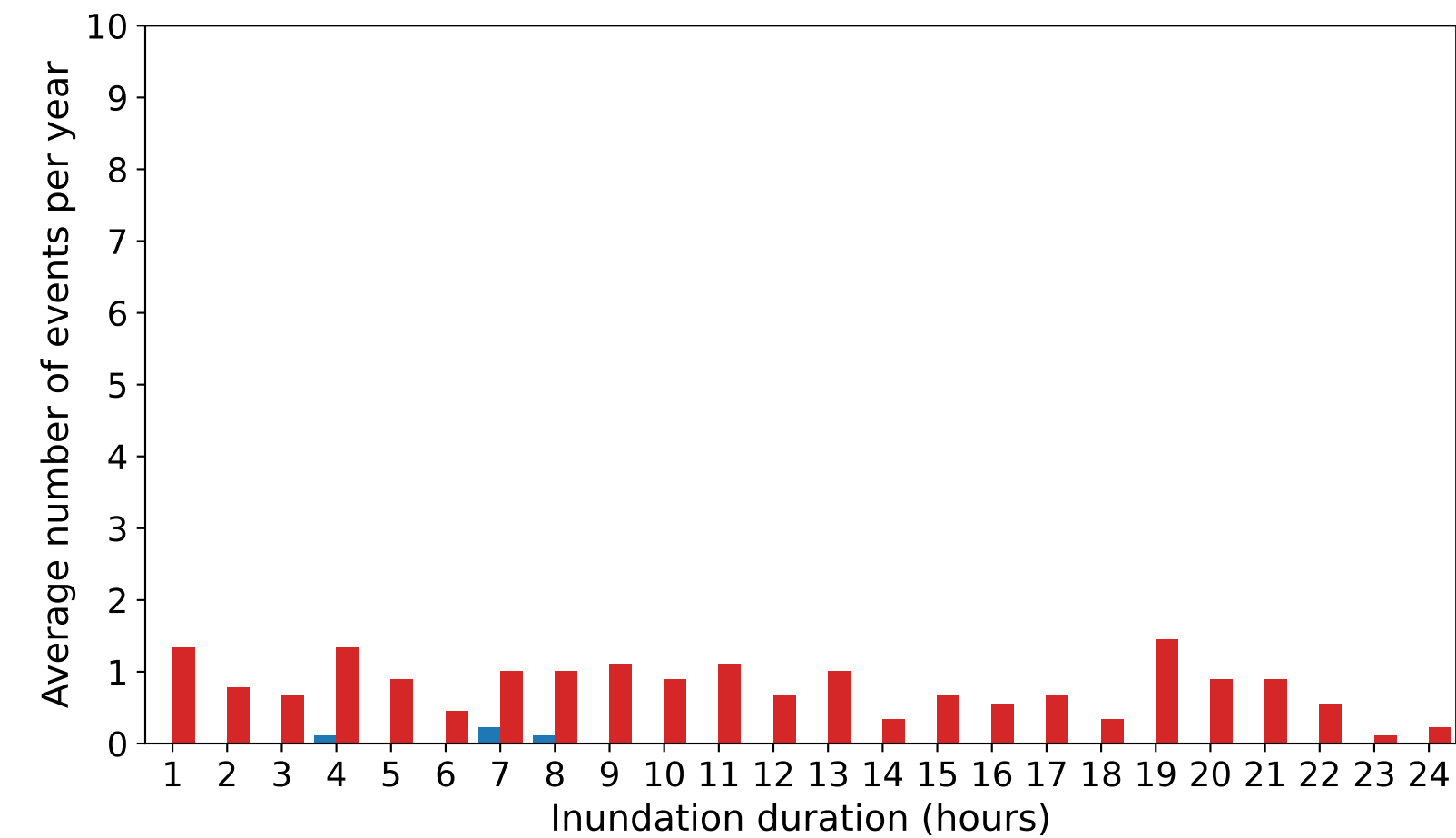
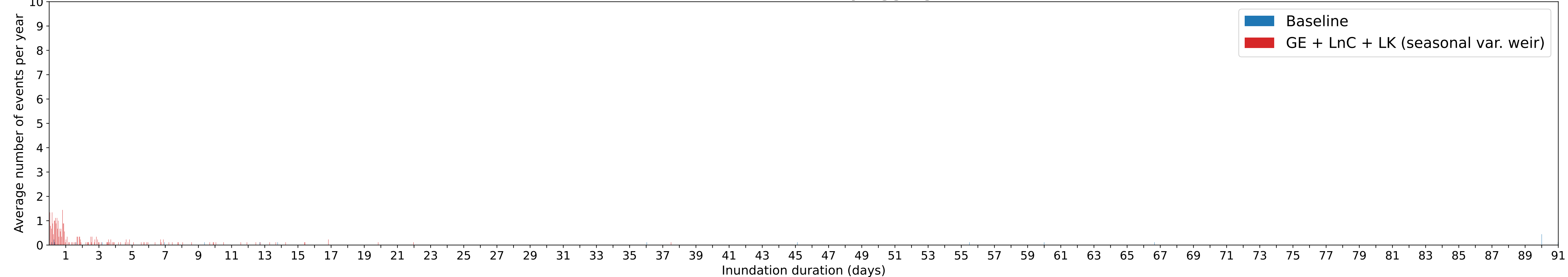
Figure 2.1

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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0 250 500 Metres

Winter - Level [15.70] m - Seasonal Variable Weir
Inundation Events (Hourly Aggregation)



Note: Values represent average events per year (9-year dataset).

Winter - Level [15.70] m - Seasonal Variable Weir
Inundation Events (9-year dataset)

Event duration summary statistics

	5% percentile	25% percentile	50% percentile (median)	75% percentile	95% percentile
Baseline	7 hr	39 hr (1.6 days)	331 hr (13.8 days)	1600 hr (66.7 days)	2160 hr (90.0 days)
GE + LnC + LK (seasonal var. weir)	2 hr	9 hr	19 hr	62 hr (2.6 days)	277 hr (11.5 days)

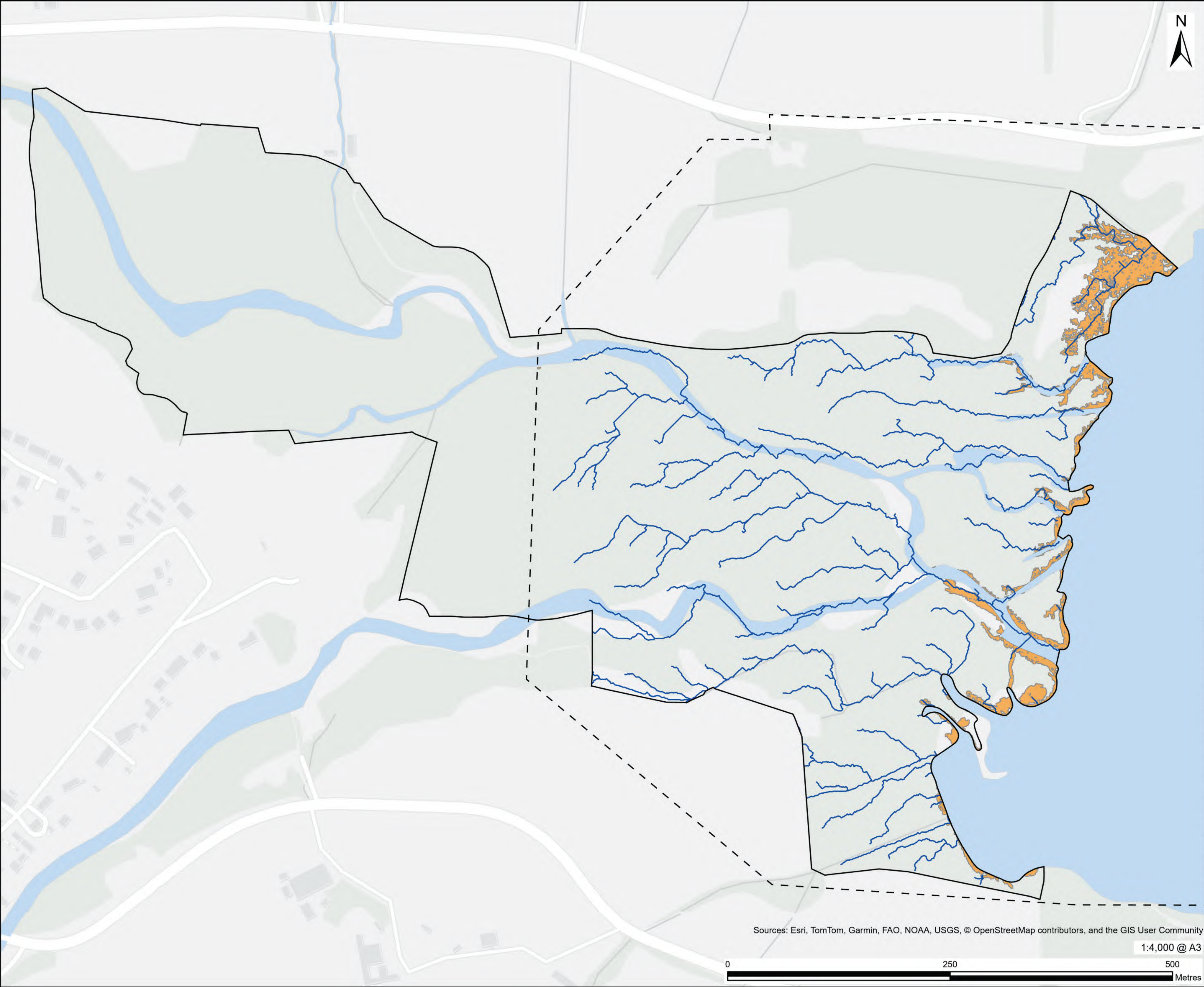
Event counts by duration category
(Average number per year)

	Baseline	GE + LnC + LK (seasonal var. weir)
Sums of ≤ 24 hr (up to 1 day)	0.4	18.9
Sums of 25 – 72 hr (just over 1 day up to 3 days)	0.1	5.0
Sums of 73 – 168 hr (just over 3 days up to 7 days)	0.2	3.6
Sums of > 168 hr (over 1 week)	1.4	2.8

Inundation Event

Level Threshold = 15.90 m

Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
15.9	W7; S28	1.2	2.60	1.33	2.90



Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

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PROJECT

Glen Earrach Pumped
Storage Hydro

CLIENT

Glen Earrach Energy Ltd.

CONSULTANT

AECOM Limited
Aldgate Tower
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United Kingdom

LEGEND

- Urquhart Bay Wood - Special Areas of Conservation (SAC)
- LiDAR Survey Extent
- OS OML Surface Water
- Modelled Watercourse
- Predicted Water Area (Meters Above Datum)
 - 15.9m - 1.33ha

NOTES

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ISSUE PURPOSE

FINAL

PROJECT NUMBER

60719875

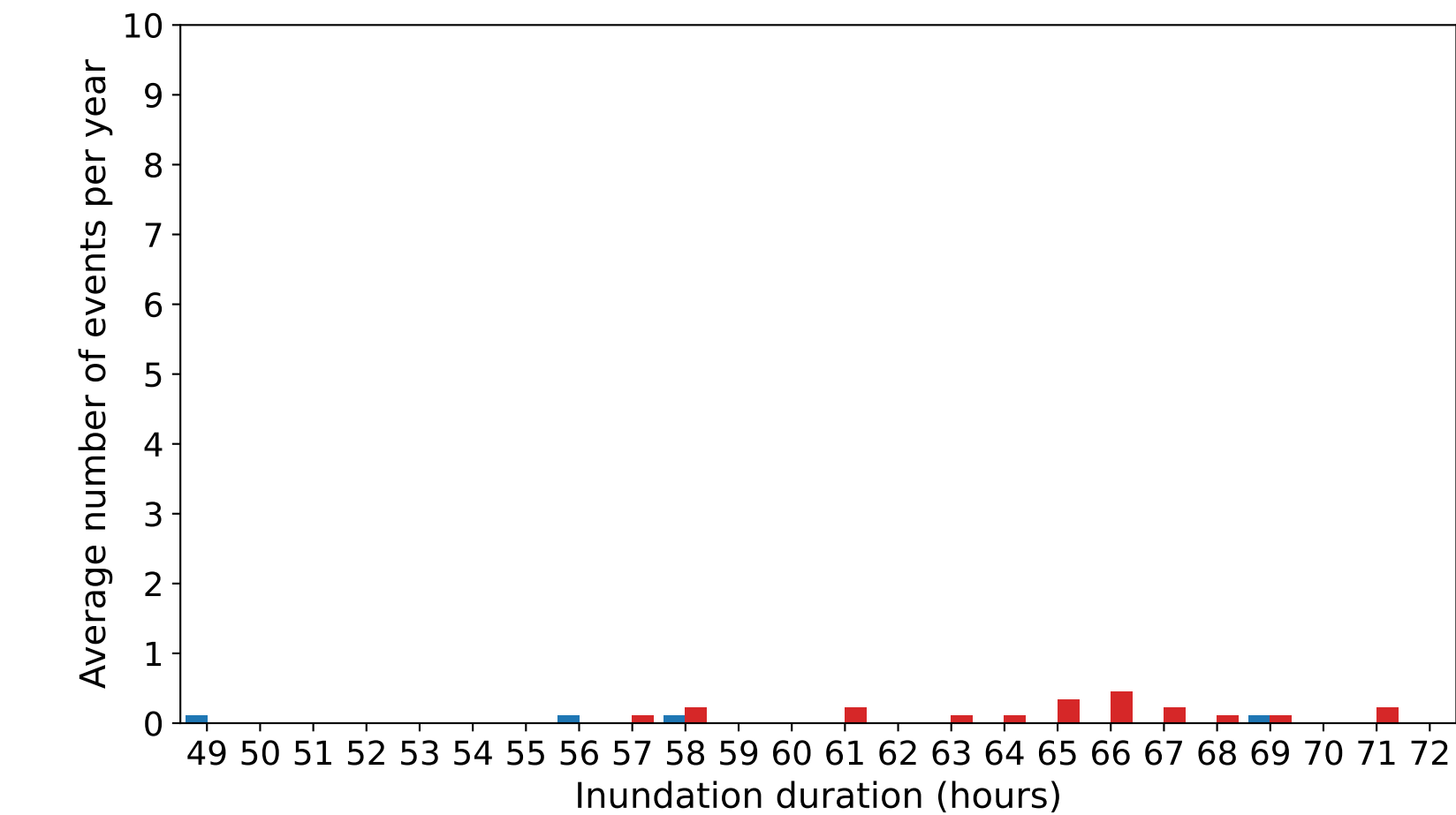
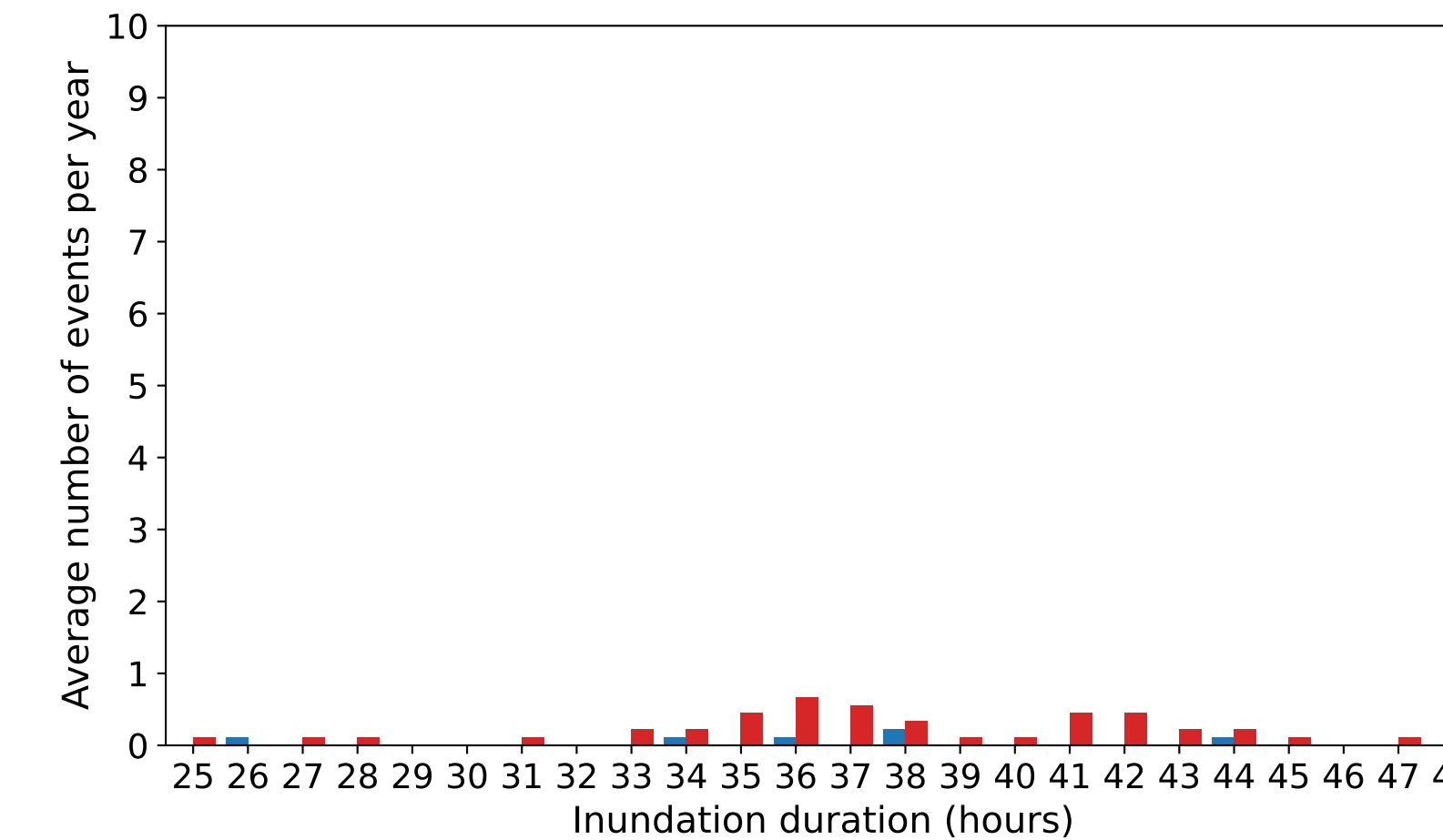
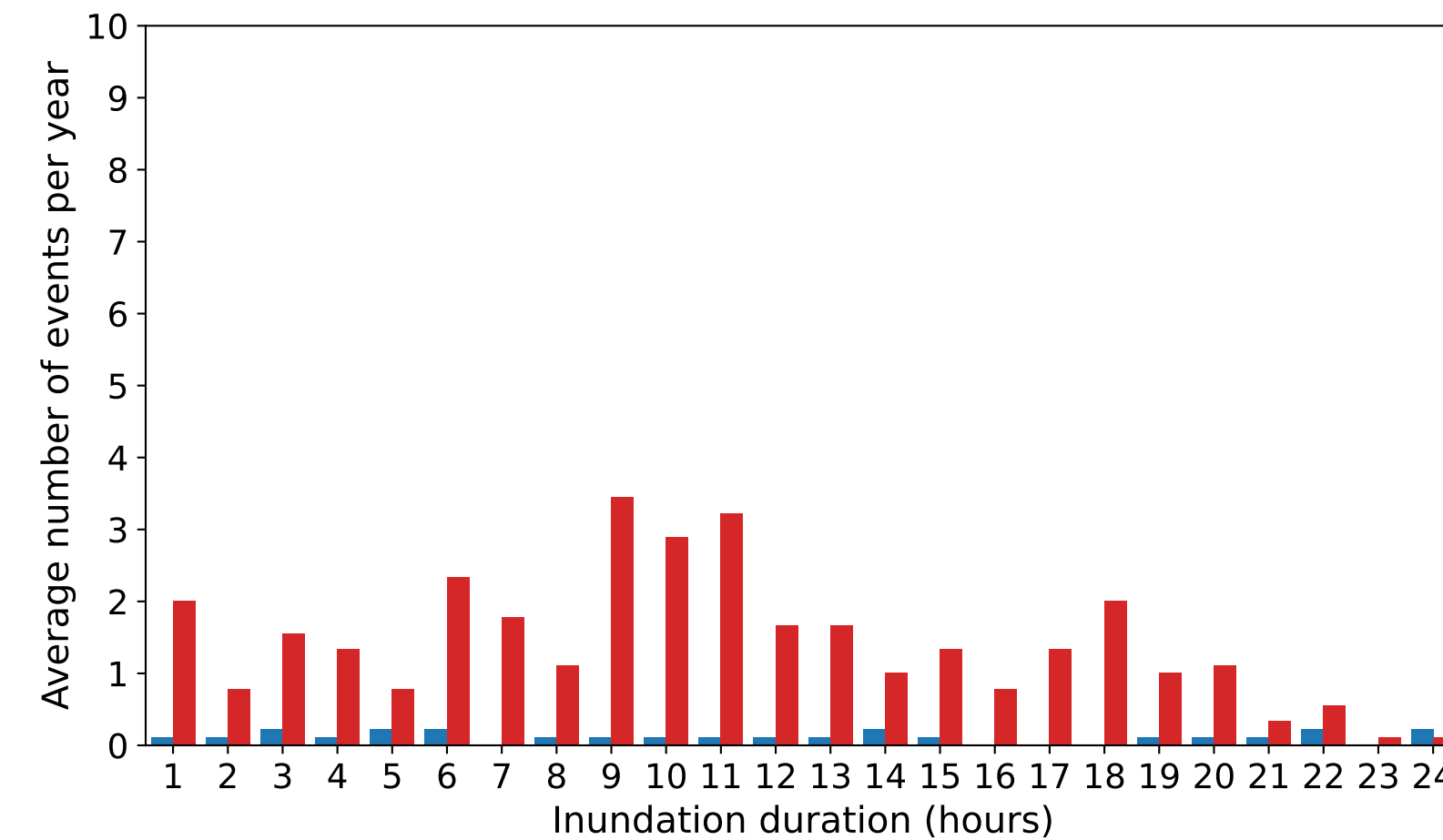
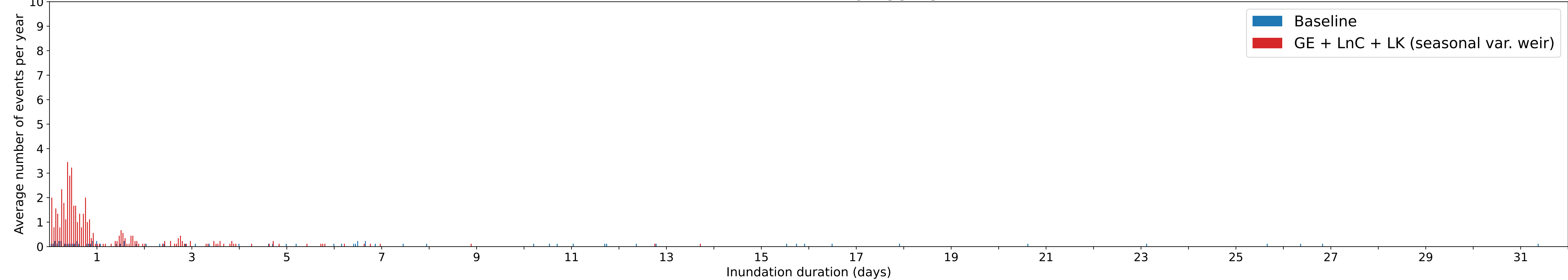
FIGURE TITLE

Urquhart Bay Wood LiDAR Survey -
Predicted Water Areas at 0.2m Level
Bandings

FIGURE NUMBER

Figure 2.2

Winter - Level [15.90] m - Seasonal Variable Weir
Inundation Events (Hourly Aggregation)



Note: Values represent average events per year (9-year dataset).

Winter - Level [15.90] m - Seasonal Variable Weir
Inundation Events (9-year dataset)

Event duration summary statistics

	5% percentile	25% percentile	50% percentile (median)	75% percentile	95% percentile
Baseline	3 hr	15 hr	74 hr (3.1 days)	253 hr (10.5 days)	616 hr (25.7 days)
GE + LnC + LK (seasonal var. weir)	2 hr	8 hr	12 hr	21 hr	91 hr (3.8 days)

Event counts by duration category
(Average number per year)

	Baseline	GE + LnC + LK (seasonal var. weir)
Sums of ≤ 24 hr (up to 1 day)	2.8	34.2
Sums of 25 – 72 hr (just over 1 day up to 3 days)	1.1	7.0
Sums of 73 – 168 hr (just over 3 days up to 7 days)	1.8	3.0
Sums of > 168 hr (over 1 week)	2.3	0.3

Inundation Event

Level Threshold = 16.10 m

Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
16.1	W7; S28	2.3	5.00	3.63	7.90

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 Predicted Water Area (Meters Above Datum)
 16.1m - 3.63ha

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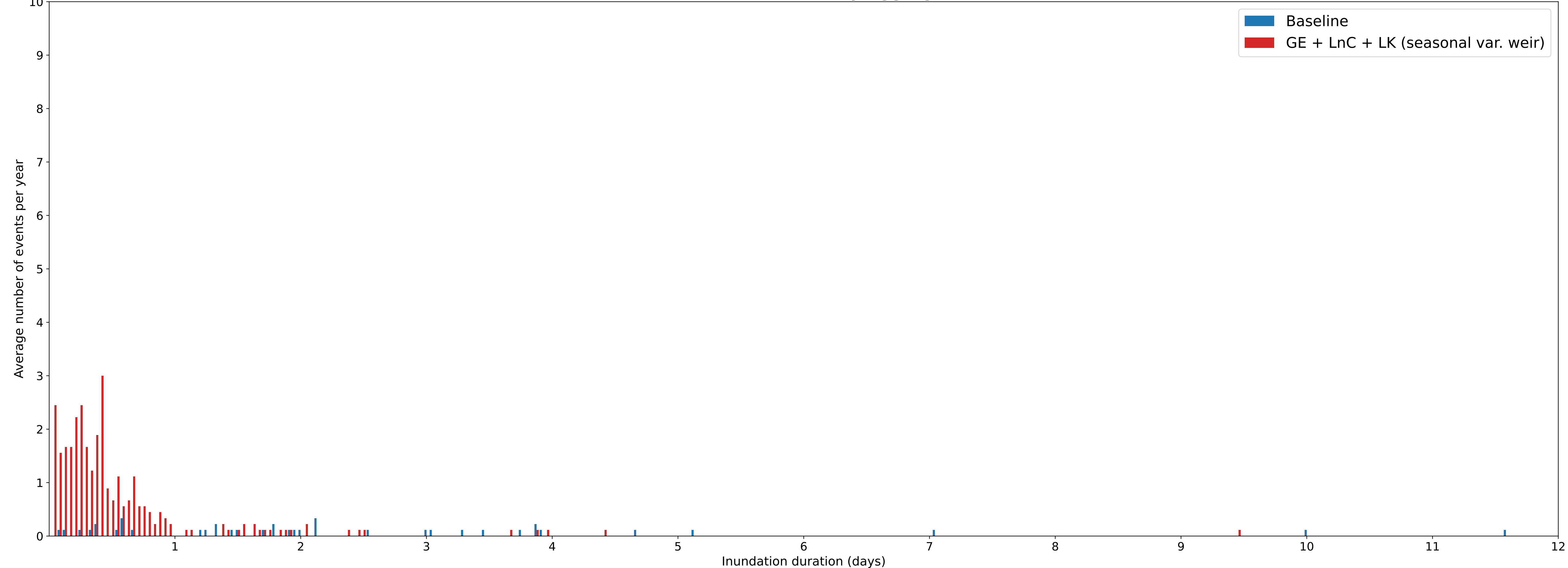
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Urquhart Bay Wood LiDAR Survey -
Predicted Water Areas at 0.2m Level
Bandings

Figure 2.3

Winter - Level [16.10] m - Seasonal Variable Weir
Inundation Events (Hourly Aggregation)



Note: Values represent average events per year (9-year dataset).

Winter - Level [16.10] m - Seasonal Variable Weir
Inundation Events (9-year dataset)

Event duration summary statistics

	5% percentile	25% percentile	50% percentile (median)	75% percentile	95% percentile
Baseline	6 hr	16 hr	43 hr (1.8 days)	79 hr (3.3 days)	169 hr (7.0 days)
GE + LnC + LK (seasonal var. weir)	1 hr	5 hr	9 hr	14 hr	42 hr (1.8 days)

Event counts by duration category
(Average number per year)

	Baseline	GE + LnC + LK (seasonal var. weir)
Sums of $\leq$ 24 hr (up to 1 day)	1.2	27.6
Sums of 25 – 72 hr (just over 1 day up to 3 days)	1.9	2.3
Sums of 73 – 168 hr (just over 3 days up to 7 days)	1.0	0.4
Sums of > 168 hr (over 1 week)	0.3	0.1

Inundation Event

Level Threshold = 16.30 m

Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
16.3	W7	1.95	4.20	5.58	12.10

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 Predicted Water Area (Meters Above Datum)
 16.3m - 5.58ha

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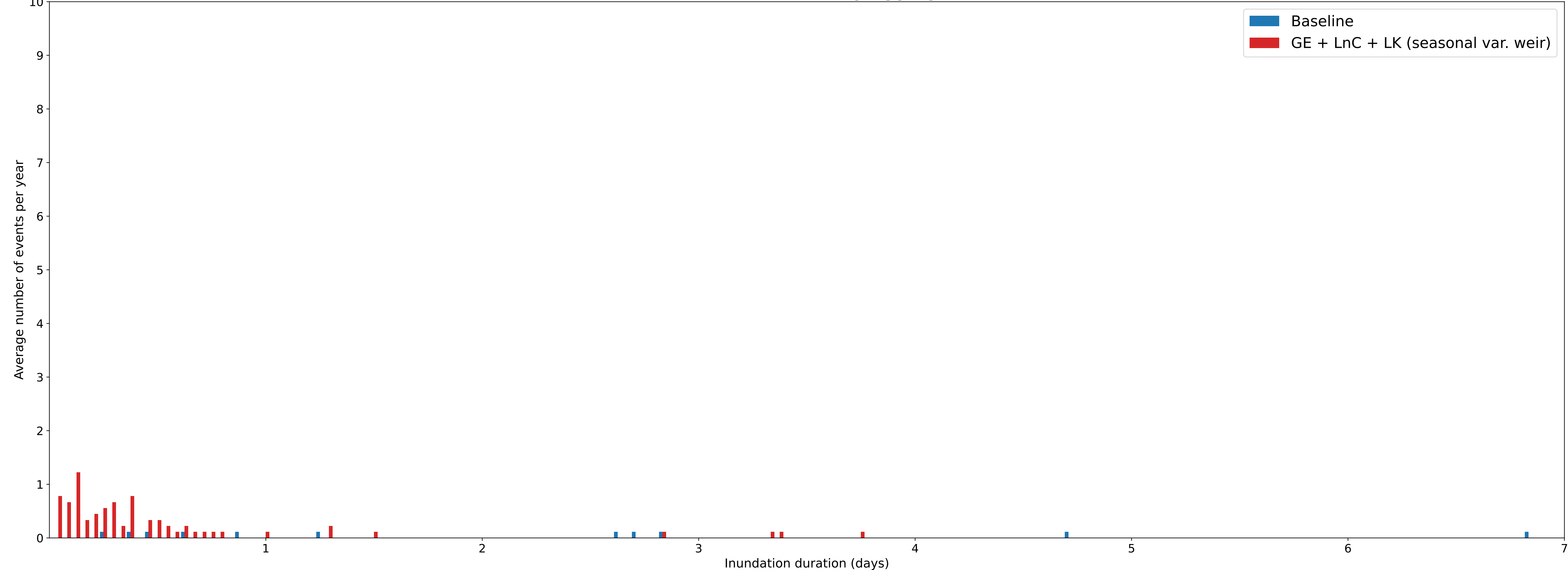
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Urquhart Bay Wood LiDAR Survey -
Predicted Water Areas at 0.2m Level
Bandings

Figure 2.4

Winter - Level [16.30] m - Seasonal Variable Weir
Inundation Events (Hourly Aggregation)



Note: Values represent average events per year (9-year dataset).

Winter - Level [16.30] m - Seasonal Variable Weir
Inundation Events (9-year dataset)

Event duration summary statistics

	5% percentile	25% percentile	50% percentile (median)	75% percentile	95% percentile
Baseline	6 hr	11 hr	30 hr (1.2 days)	68 hr (2.8 days)	164 hr (6.8 days)
GE + LnC + LK (seasonal var. weir)	1 hr	3 hr	7 hr	12 hr	68 hr (2.8 days)

Event counts by duration category
(Average number per year)

	Baseline	GE + LnC + LK (seasonal var. weir)
Sums of ≤ 24 hr (up to 1 day)	0.6	7.4
Sums of 25 – 72 hr (just over 1 day up to 3 days)	0.4	0.4
Sums of 73 – 168 hr (just over 3 days up to 7 days)	0.2	0.3
Sums of > 168 hr (over 1 week)	0.0	0.0

Inundation Event

Level Threshold = 16.50 m

Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
16.5	W7	1.91	4.10	7.49	16.20

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 Predicted Water Area (Meters Above Datum)
 16.5m - 7.49ha

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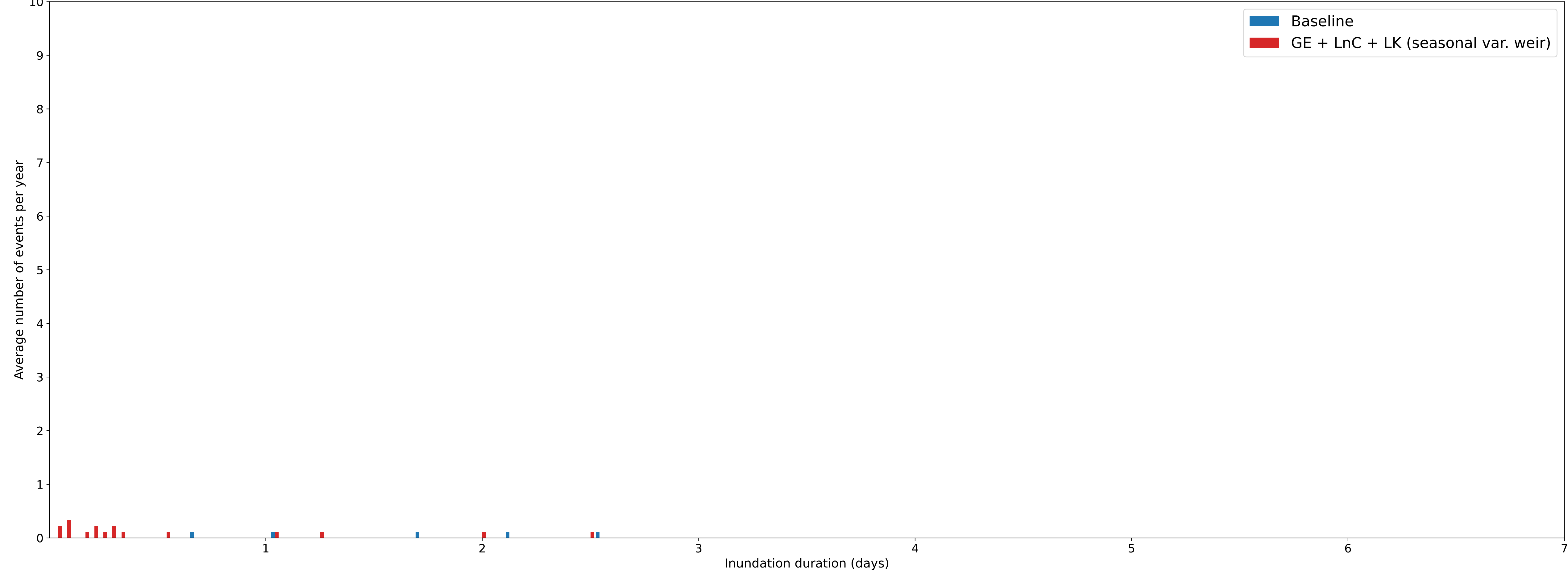
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Urquhart Bay Wood LiDAR Survey -
Predicted Water Areas at 0.2m Level
Bandings

Figure 2.5

Winter - Level [16.50] m - Seasonal Variable Weir
Inundation Events (Hourly Aggregation)



Note: Values represent average events per year (9-year dataset).

Winter - Level [16.50] m - Seasonal Variable Weir
Inundation Events (9-year dataset)

Event duration summary statistics

	5% percentile	25% percentile	50% percentile (median)	75% percentile	95% percentile
Baseline	16 hr	25 hr (1.0 days)	41 hr (1.7 days)	51 hr (2.1 days)	61 hr (2.5 days)
GE + LnC + LK (seasonal var. weir)	1 hr	2 hr	6 hr	13 hr	60 hr (2.5 days)

Event counts by duration category
(Average number per year)

	Baseline	GE + LnC + LK (seasonal var. weir)
Sums of ≤ 24 hr (up to 1 day)	0.1	1.4
Sums of 25 – 72 hr (just over 1 day up to 3 days)	0.4	0.4
Sums of 73 – 168 hr (just over 3 days up to 7 days)	0.0	0.0
Sums of > 168 hr (over 1 week)	0.0	0.0

Inundation Event

Level Threshold = 16.70 m

Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
16.7	W7; W7-W9 (intermediate)	1.57	3.40	9.06	19.60

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Predicted Water Area (Meters Above Datum)

 16.7m - 9.06ha

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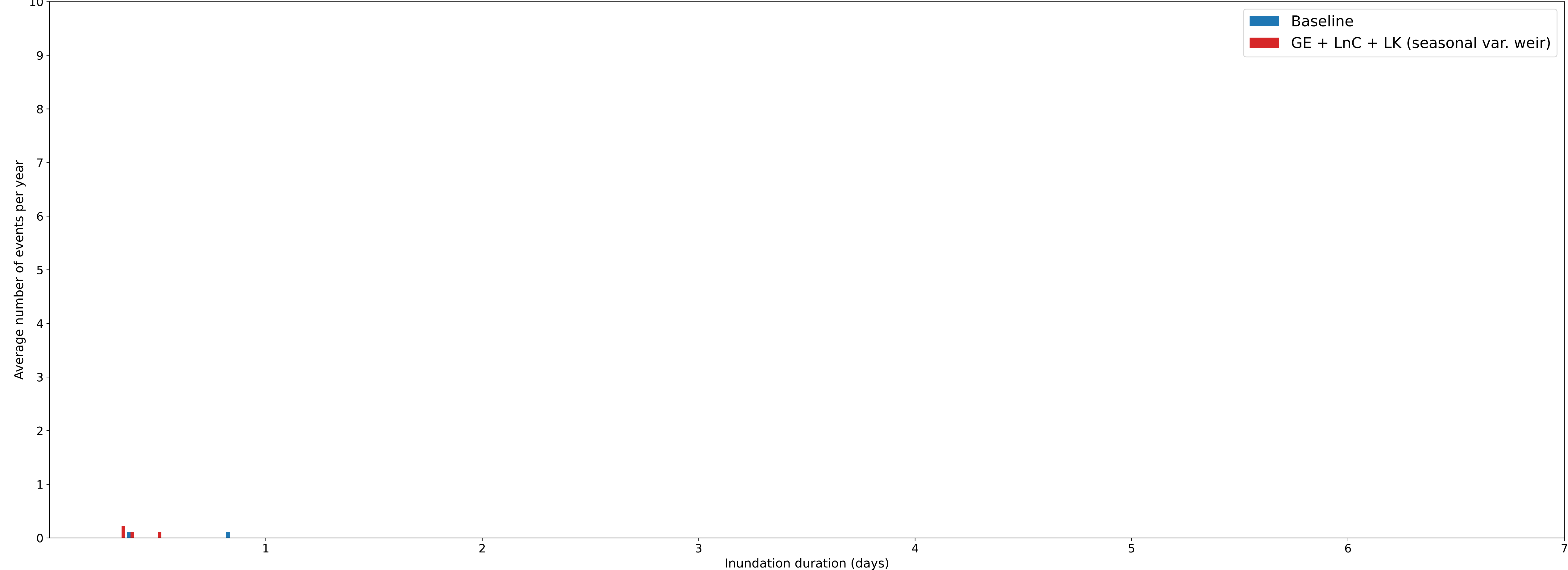
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Urquhart Bay Wood LiDAR Survey -
Predicted Water Areas at 0.2m Level
Bandings

Figure 2.6

Winter - Level [16.70] m - Seasonal Variable Weir
Inundation Events (Hourly Aggregation)



Note: Values represent average events per year (9-year dataset).

Winter - Level [16.70] m - Seasonal Variable Weir
Inundation Events (9-year dataset)

Event duration summary statistics

	5% percentile	25% percentile	50% percentile (median)	75% percentile	95% percentile
Baseline	9 hr	9 hr	9 hr	20 hr	20 hr
GE + LnC + LK (seasonal var. weir)	8 hr	8 hr	8 hr	9 hr	12 hr

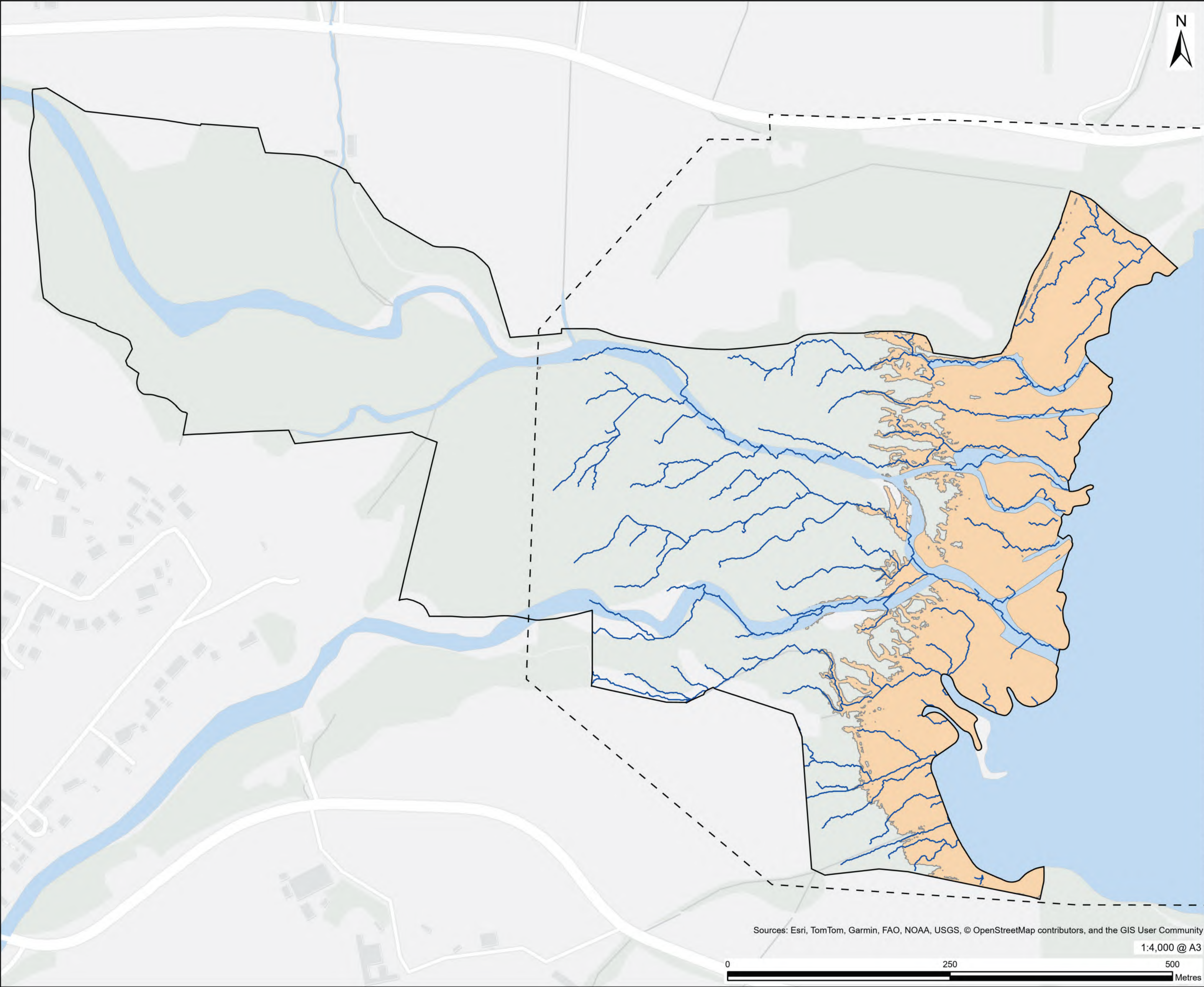
Event counts by duration category
(Average number per year)

	Baseline	GE + LnC + LK (seasonal var. weir)
Sums of ≤ 24 hr (up to 1 day)	0.2	0.4
Sums of 25 – 72 hr (just over 1 day up to 3 days)	0.0	0.0
Sums of 73 – 168 hr (just over 3 days up to 7 days)	0.0	0.0
Sums of > 168 hr (over 1 week)	0.0	0.0

Inundation Event

Level Threshold = 16.90 m

Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
16.9	W7; W7-W9 (intermediate)	1.38	3.00	10.44	22.60



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PROJECT

Glen Earrach Pumped Storage Hydro

CLIENT

Glen Earrach Energy Ltd.

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United Kingdom

LEGEND

- Urquhart Bay Wood - Special Areas of Conservation (SAC)
- LiDAR Survey Extent
- OS OML Surface Water
- Modelled Watercourse

Predicted Water Area (Meters Above Datum)

- 16.9m - 10.44ha

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PROJECT NUMBER

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FIGURE TITLE

Urquhart Bay Wood LiDAR Survey - Predicted Water Areas at 0.2m Level Bandings

FIGURE NUMBER

Figure 2.7

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

1:4,000 @ A3

0 250 500 Metres

No inundation events occurred
Season: winter
Level threshold: 16.9 m
Scheme: baseline vs GE + LNC + LK

Inundation Event

Level Threshold = 17.10 m

Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
17.1	W7 / W9 (transition)	1.24	2.70	11.68	25.30

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United Kingdom

 Urquhart Bay Wood - Special Areas Conservation (SAC)
 LiDAR Survey Extent
 OS OML Surface Water
 Modelled Watercourse

Predicted Water Area (Meters Above Datum)

 17.1m - 11.68ha

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Urquhart Bay Wood LiDAR Survey -
Predicted Water Areas at 0.2m Level
Bandings

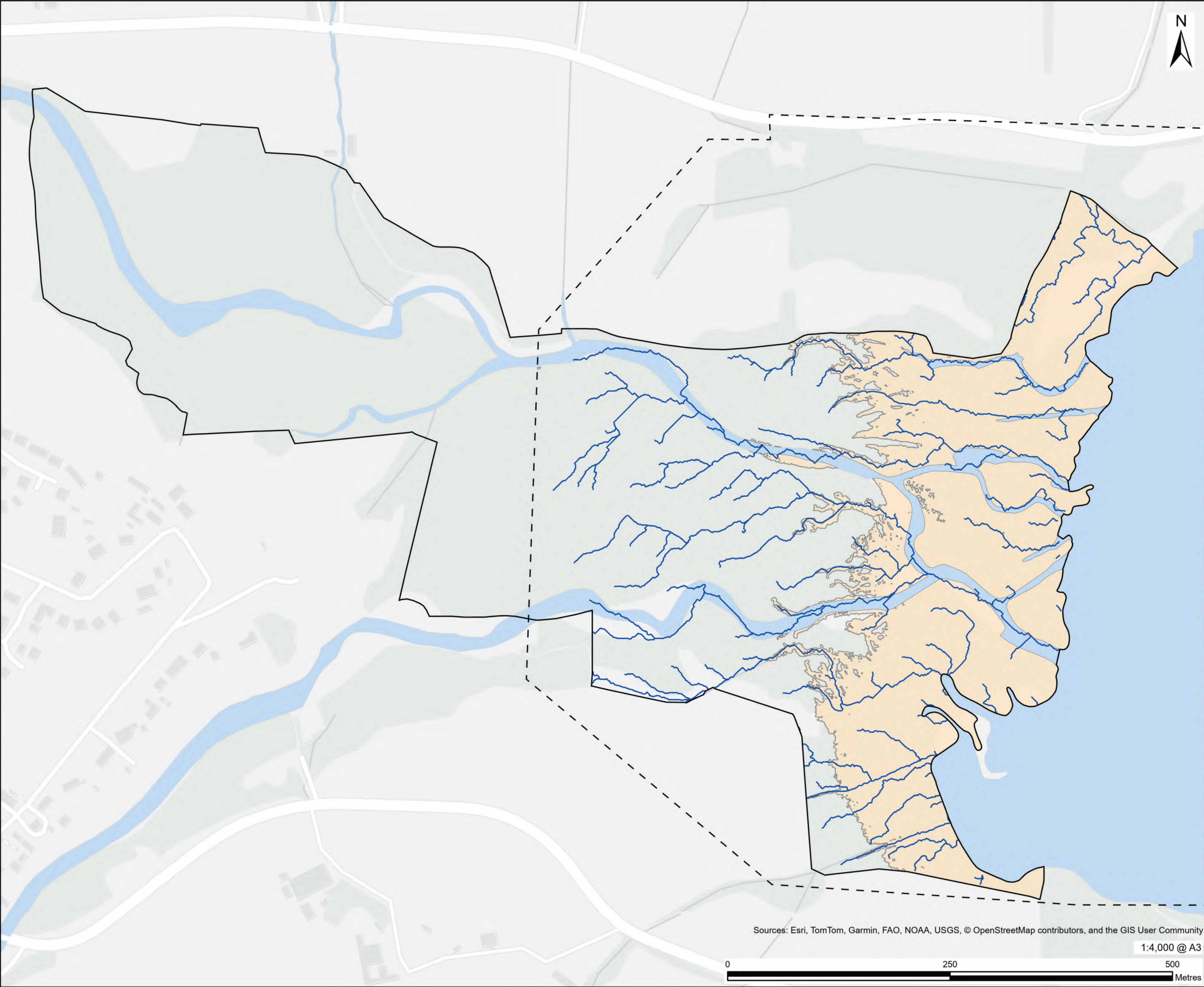
Figure 2.8

No inundation events occurred
Season: winter
Level threshold: 17.1 m
Scheme: baseline vs GE + LNC + LK

Inundation Event

Level Threshold = 17.30 m

Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
17.3	W9 dominant	1.52	3.30	13.2	28.60



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PROJECT

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CLIENT

Glen Earrach Energy Ltd.

CONSULTANT

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United Kingdom

LEGEND

- Urquhart Bay Wood - Special Areas of Conservation (SAC)
- LiDAR Survey Extent
- OS OML Surface Water
- Modelled Watercourse
- Predicted Water Area (Meters Above Datum)
 - 17.3m - 13.20ha

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60719875

FIGURE TITLE

Urquhart Bay Wood LiDAR Survey - Predicted Water Areas at 0.2m Level Bandings

FIGURE NUMBER

Figure 2.9

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

1:4,000 @ A3

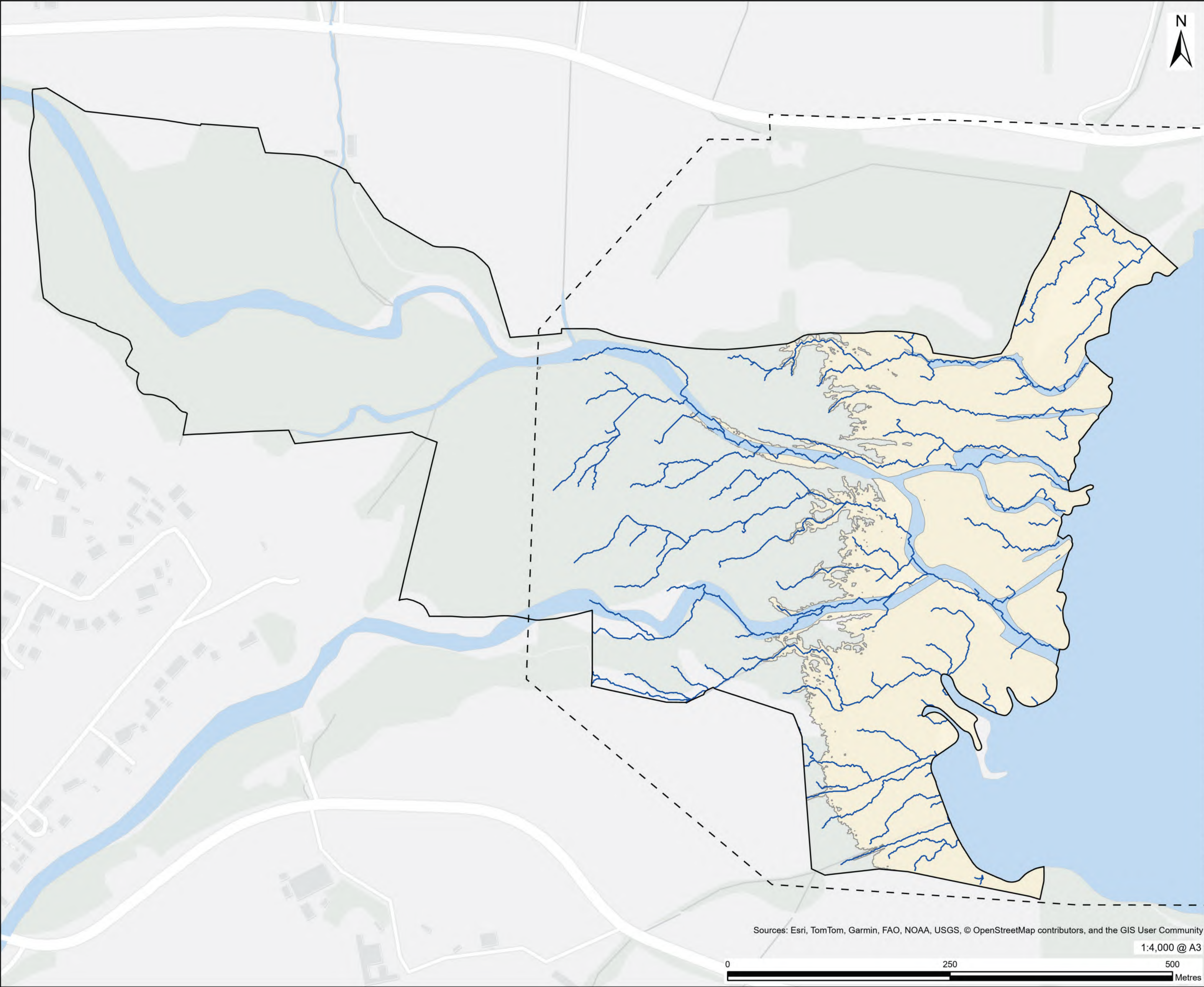
0 250 500 Metres

No inundation events occurred
Season: winter
Level threshold: 17.3 m
Scheme: baseline vs GE + LNC + LK

Inundation Event

Level Threshold = 17.50 m

Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
17.5	W9 dominant	1.18	2.50	14.38	31.10



AECOM

PROJECT

Glen Earrach Pumped Storage Hydro

CLIENT

Glen Earrach Energy Ltd.

CONSULTANT

AECOM Limited
Aldgate Tower
2, Leman Street
London, E1 8FA
United Kingdom

LEGEND

- Urquhart Bay Wood - Special Areas of Conservation (SAC)
- LiDAR Survey Extent
- OS OML Surface Water
- Modelled Watercourse

Predicted Water Area (Meters Above Datum)

- 17.5m - 14.38ha

NOTES

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Predicted Water Areas have been derived from a LiDAR based Digital Terrain Model (DTM) supplied by Zenith Surveying Ltd. (December 2025)

Modelled Watercourses have been generated from ESRI Spatial Analyst flow accumulation modelling based on the LiDAR DTM. A flow accumulation threshold of 1000sqm has been applied.

ISSUE PURPOSE

FINAL

PROJECT NUMBER

60719875

FIGURE TITLE

Urquhart Bay Wood LiDAR Survey - Predicted Water Areas at 0.2m Level Bandings

FIGURE NUMBER

Figure 2.10

Sources: Esri, TomTom, Garmin, FAO, NOAA, USGS, © OpenStreetMap contributors, and the GIS User Community

1:4,000 @ A3

0 250 500 Metres

No inundation events occurred
Season: winter
Level threshold: 17.5 m
Scheme: baseline vs GE + LNC + LK