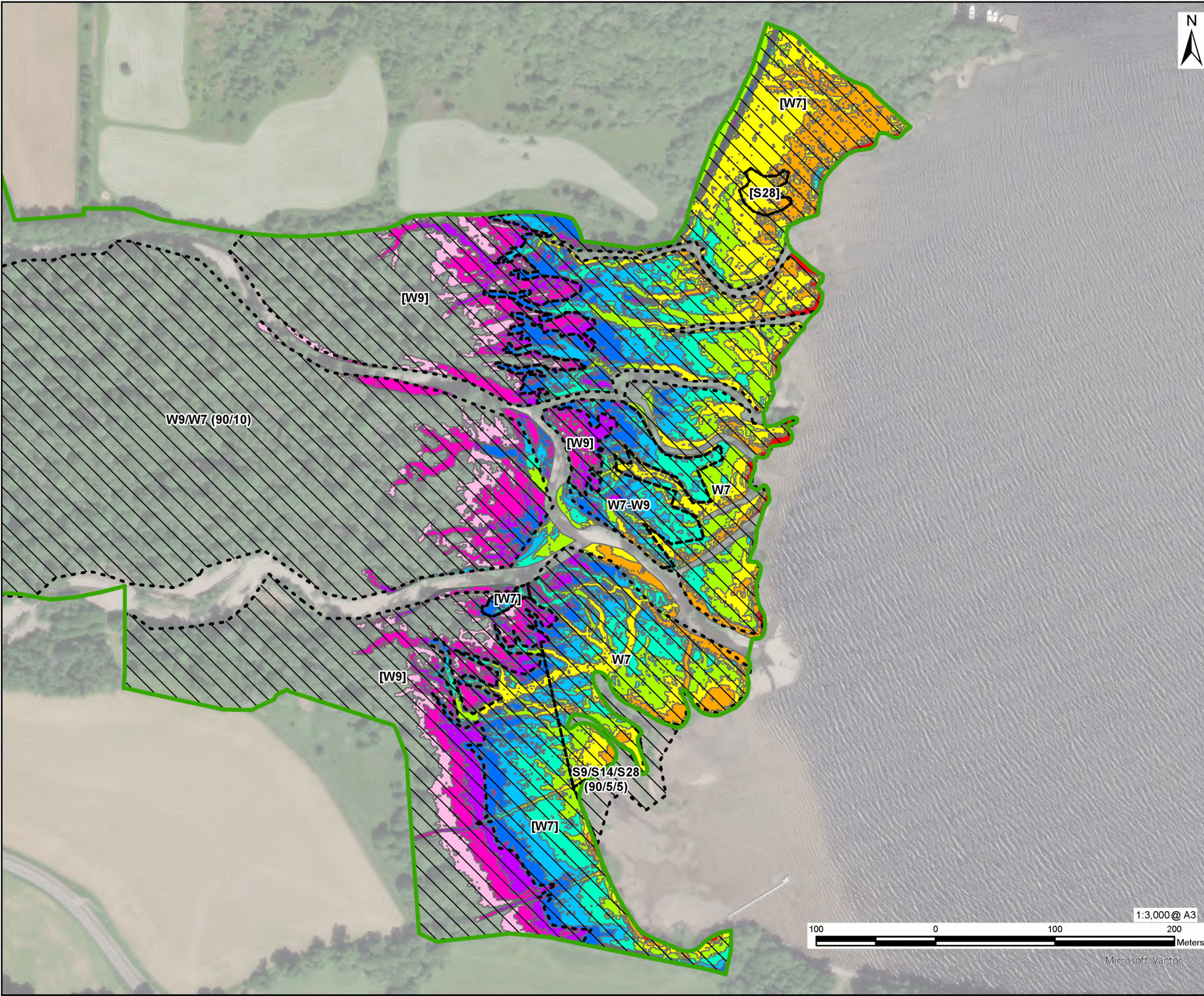


Inundation Event Analysis
LnC + LK + GEE
Seasonal Variable Weir

Summer
(Jun-Aug)



AECOM

PROJECT

Glen Earrach PSH

CLIENT

Glen Earrach Energy Ltd

CONSULTANT

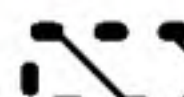
AECOM Limited
1 Tanfield
Edinburgh
EH3 5DA
www.aecom.com

LEGEND

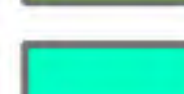
SAC boundary

 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

© Crown Copyright 2026. All rights reserved.
Ordnance Survey Licence AC0000808122.

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

1:3,000 @ A3

100 0 100 200 Meters

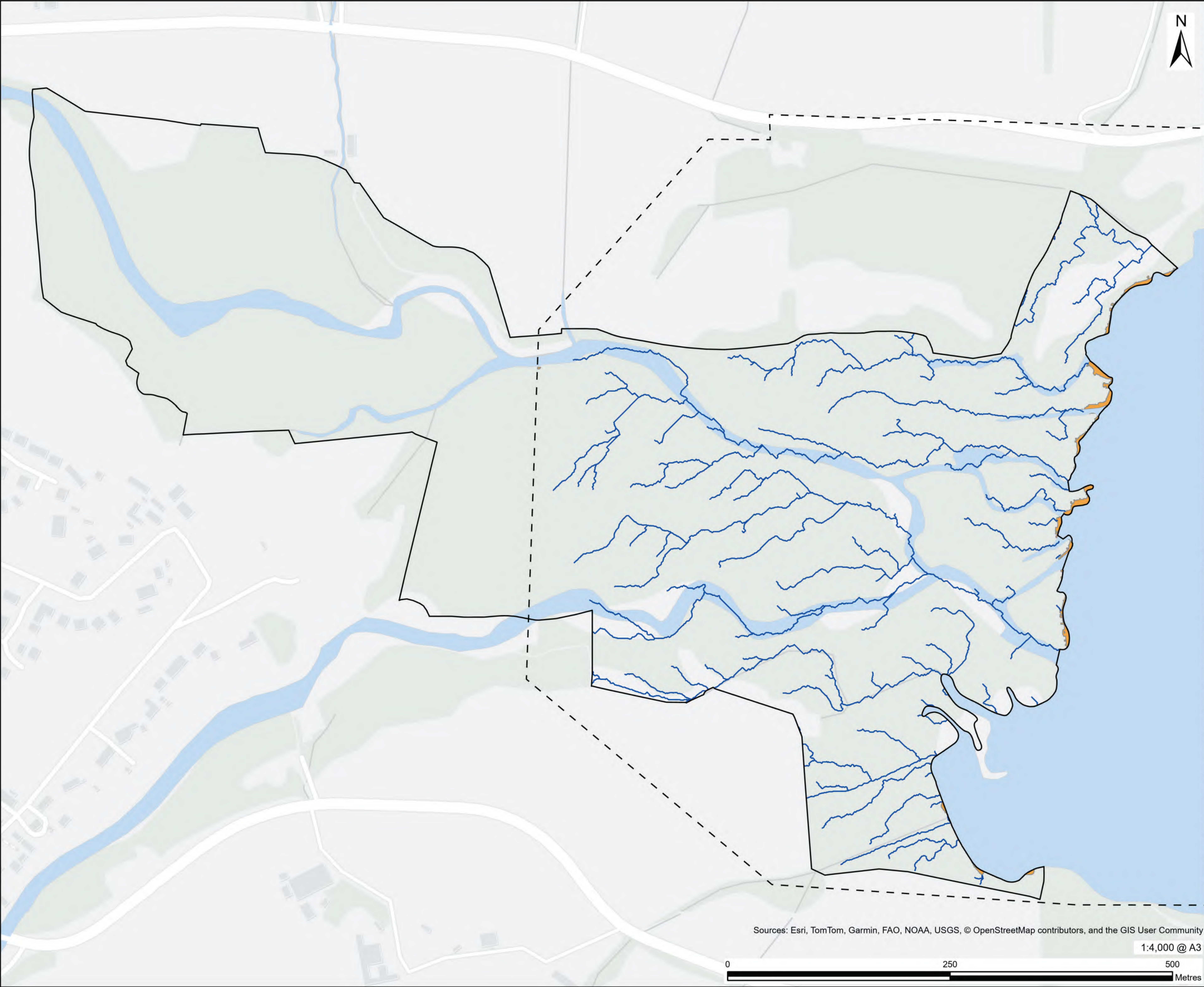
Microsoft, Vantor

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.

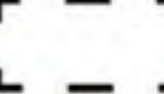
CONSULTANT

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

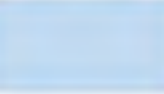
LEGEND



Urquhart Bay Wood - Special Areas of Conservation (SAC)



LiDAR Survey Extent



OS OML Surface Water



Modelled Watercourse

Predicted Water Area (Meters Above Datum)



15.7m - 0.14ha

NOTES

© Crown Copyright 2026. All rights reserved.
Ordnance Survey Licence AC0000808122.

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

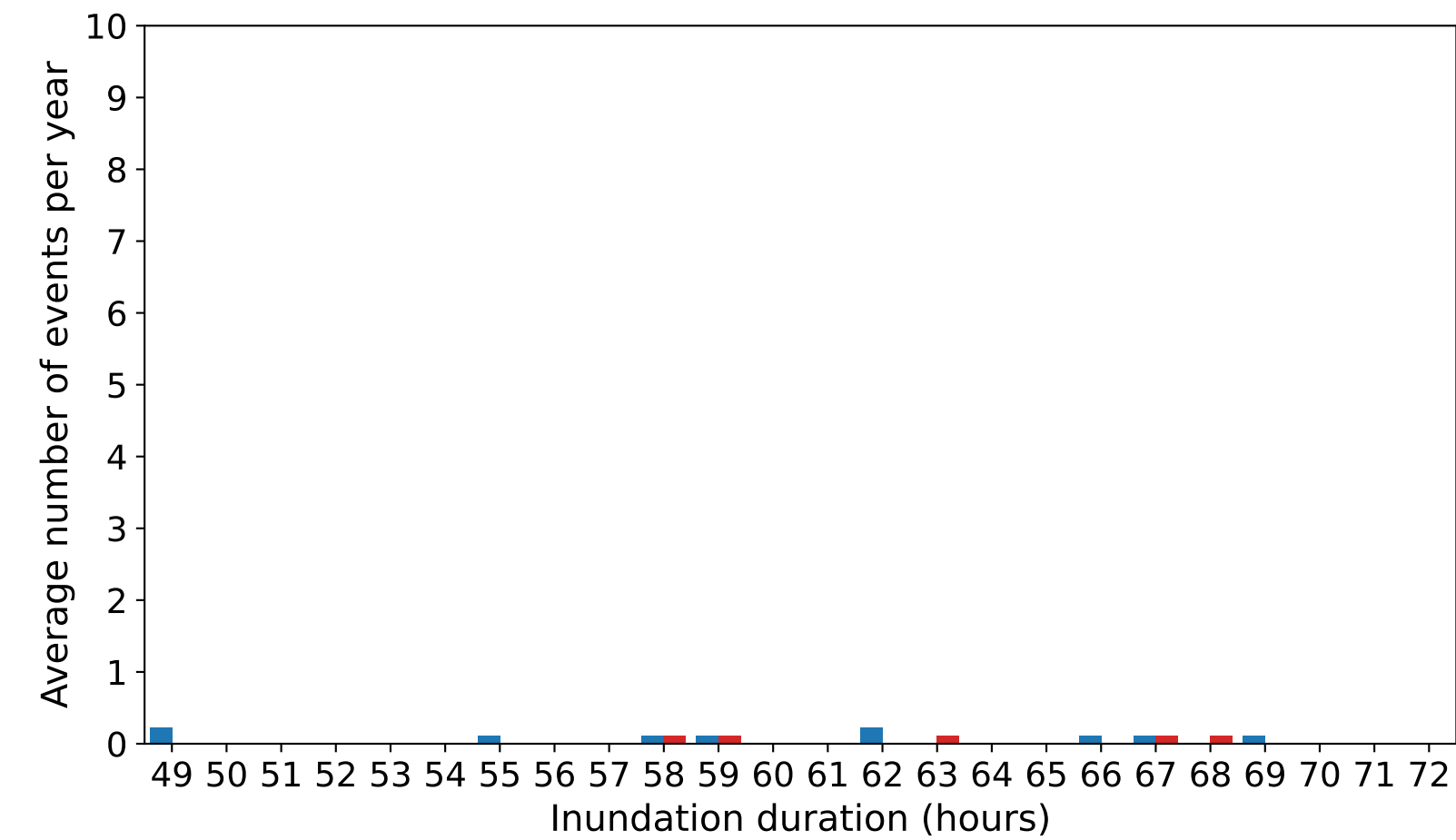
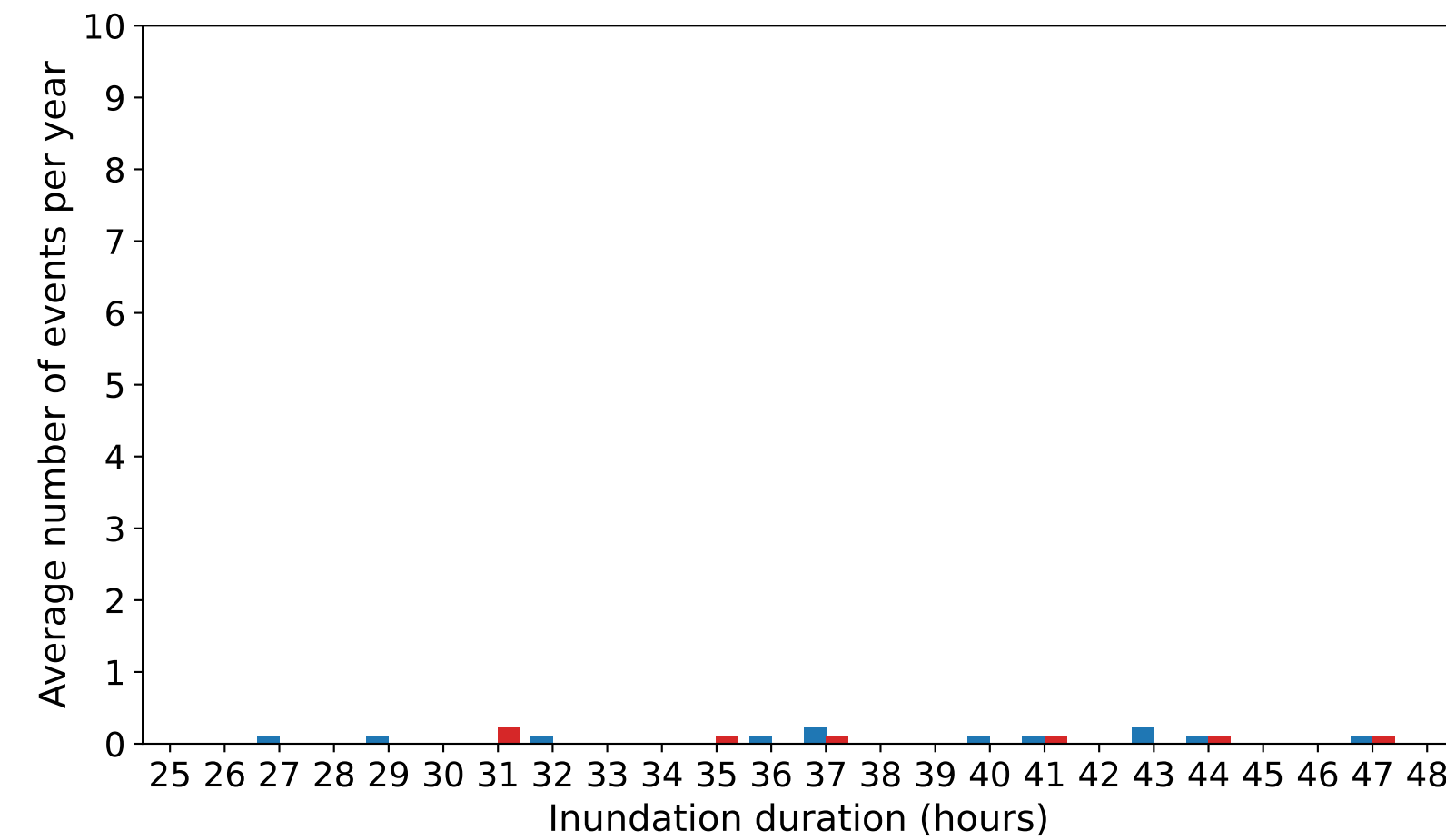
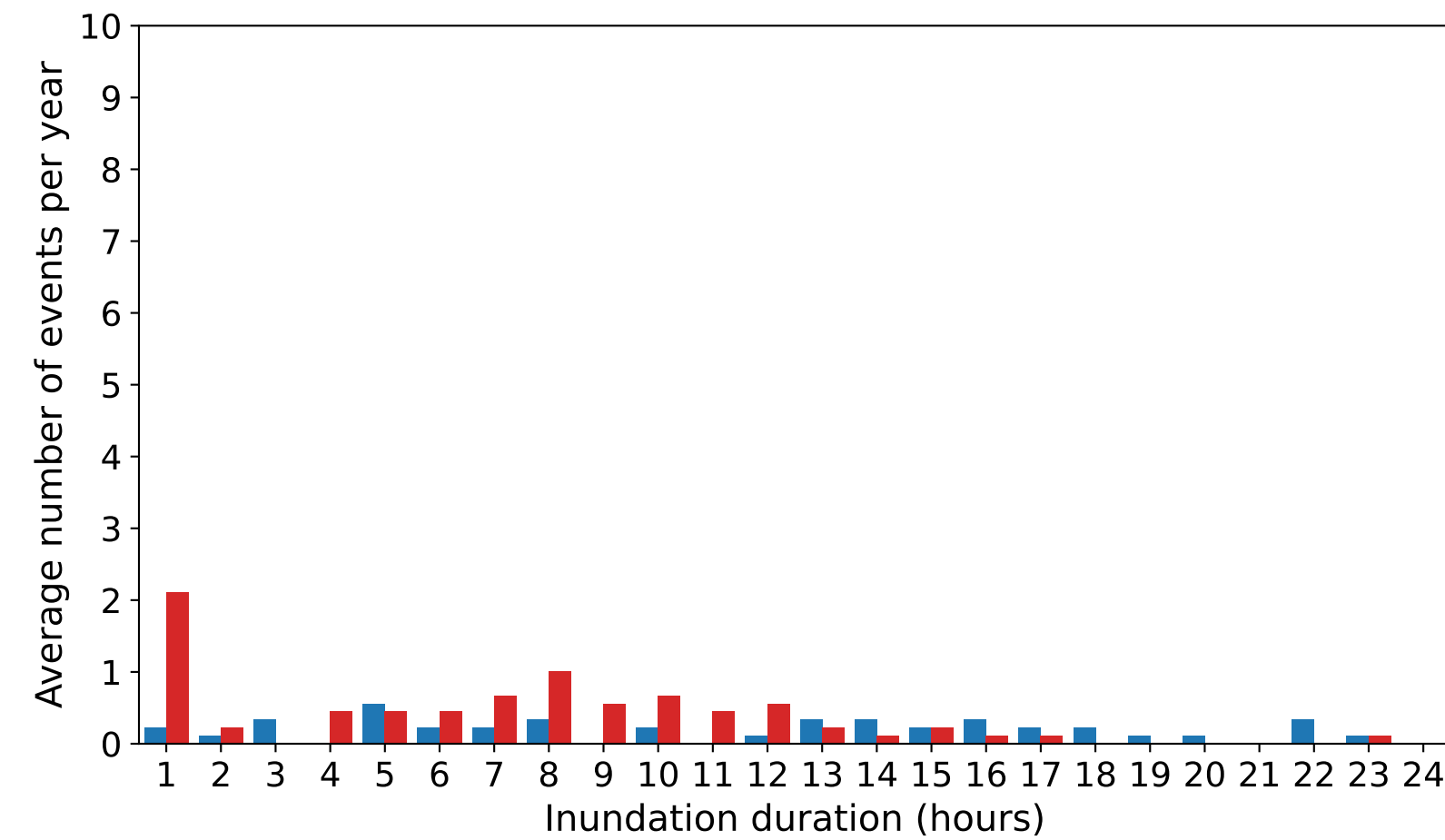
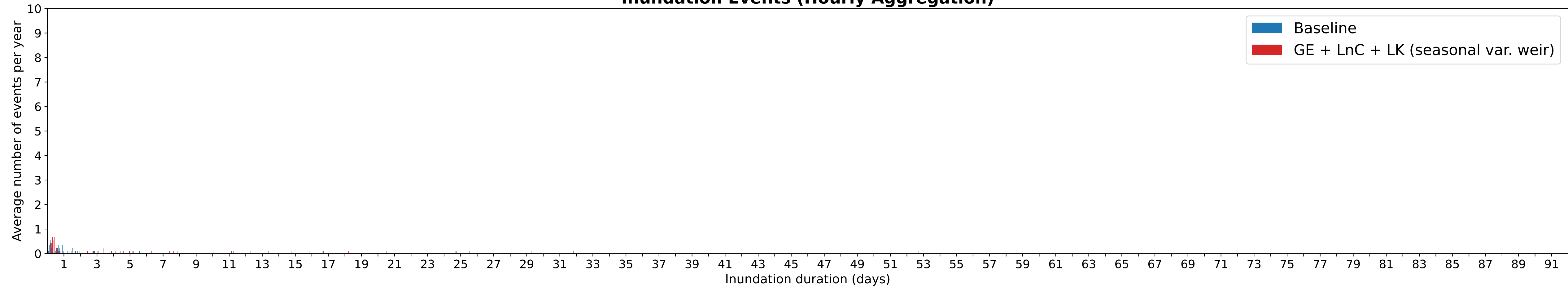
Figure 2.1

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

1:4,000 @ A3

0 250 500 Metres

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



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

Summer - 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	3 hr	13 hr	37 hr (1.5 days)	114 hr (4.8 days)	593 hr (24.7 days)
GE + LnC + LK (seasonal var. weir)	1 hr	6 hr	12 hr	123 hr (5.1 days)	594 hr (24.8 days)

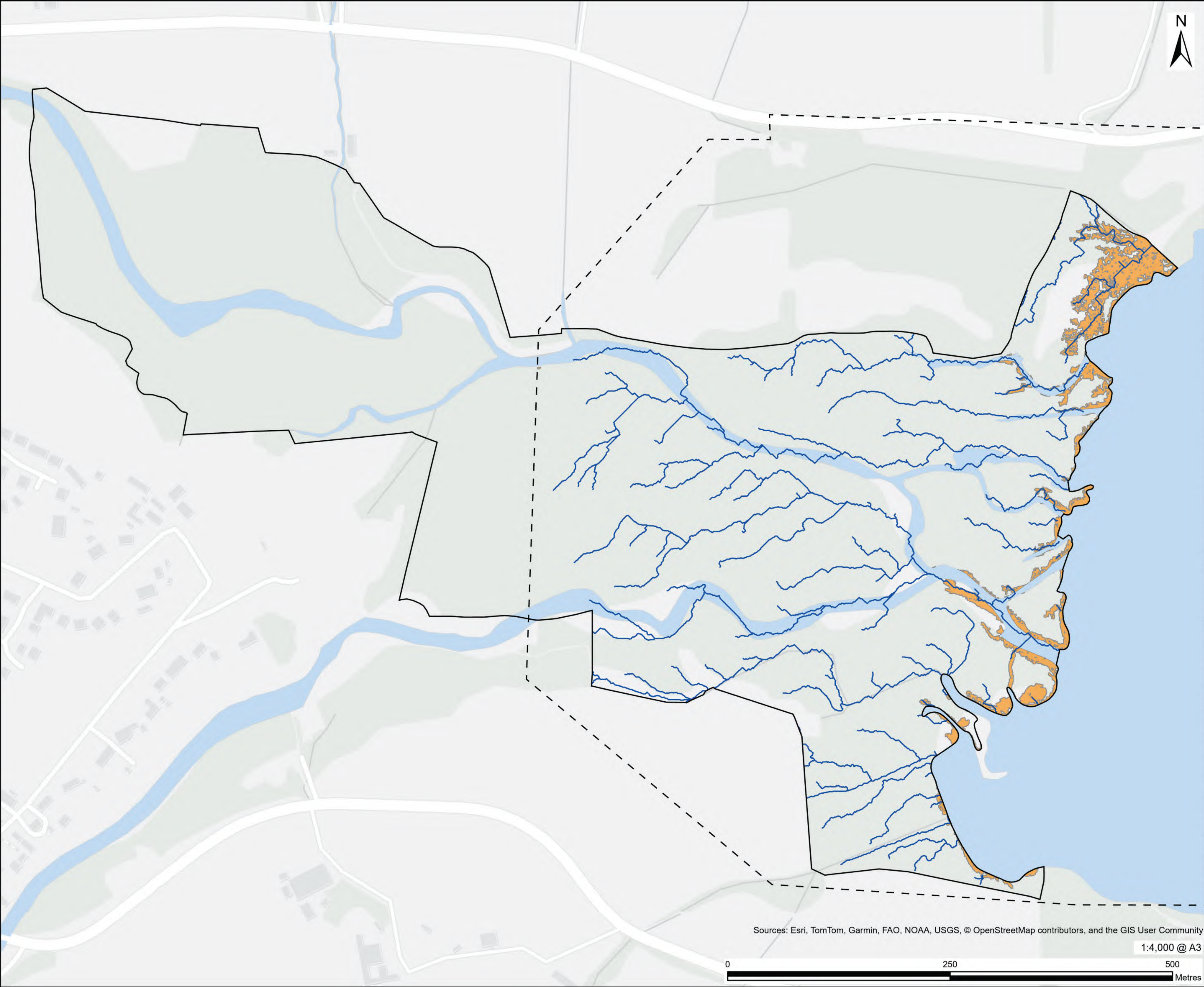
Event counts by duration category
(Average number per year)

	Baseline	GE + LnC + LK (seasonal var. weir)
Sums of ≤ 24 hr (up to 1 day)	4.7	8.4
Sums of 25 – 72 hr (just over 1 day up to 3 days)	2.4	1.3
Sums of 73 – 168 hr (just over 3 days up to 7 days)	1.2	2.1
Sums of > 168 hr (over 1 week)	2.1	2.7

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



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)

- 15.9m - 1.33ha

NOTES

© Crown Copyright 2026. All rights reserved. Ordnance Survey Licence AC0000808122.

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.

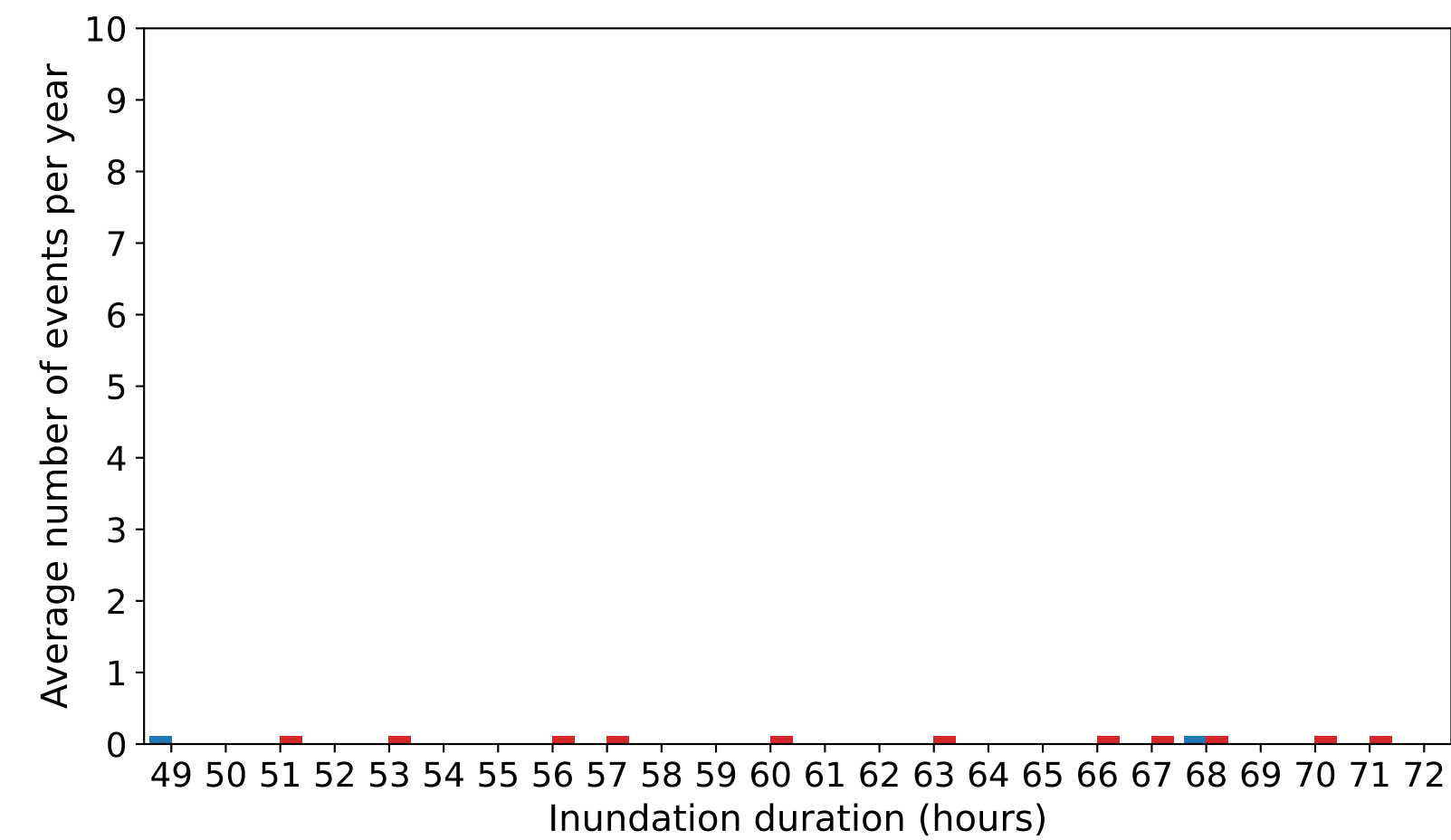
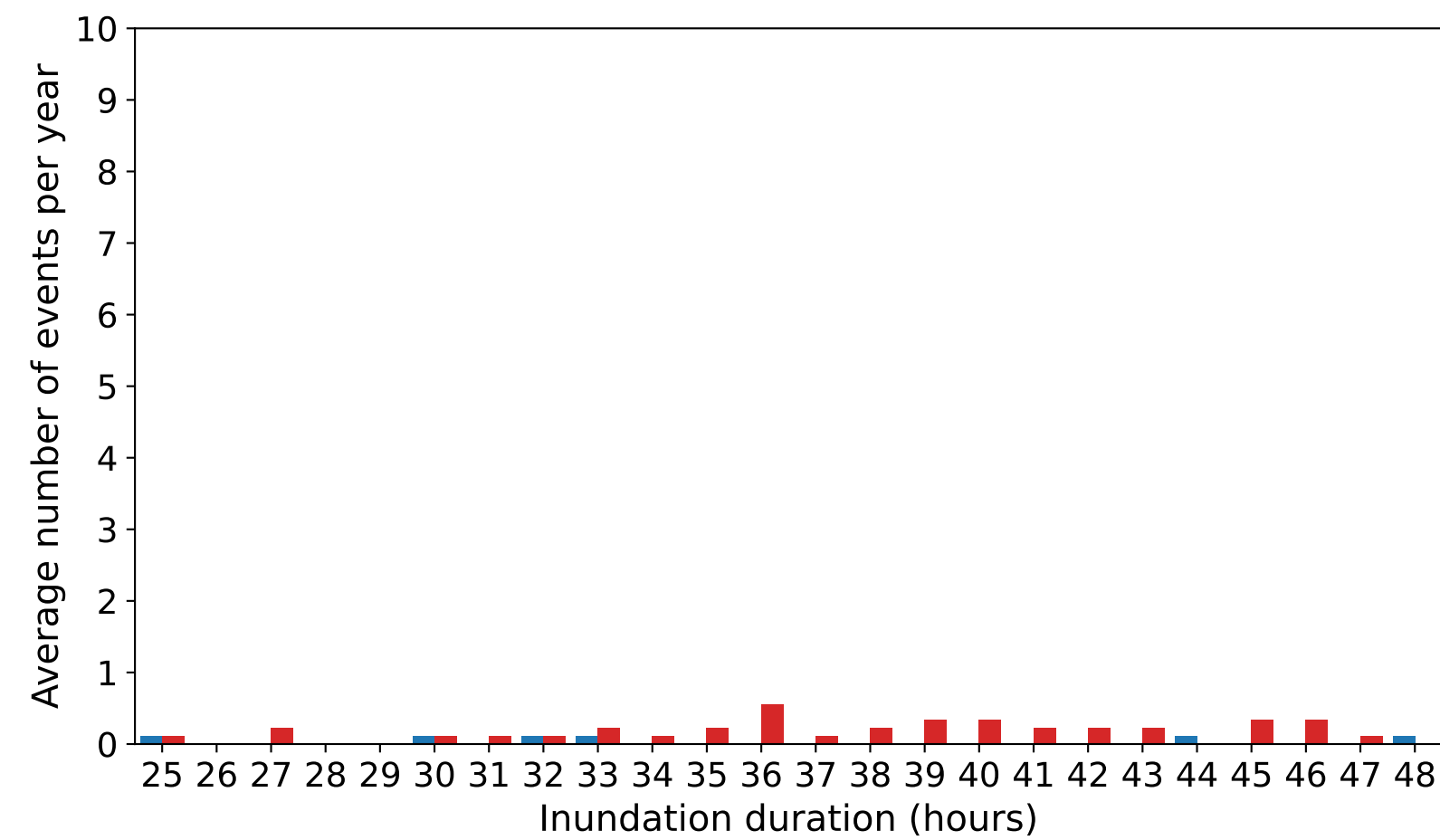
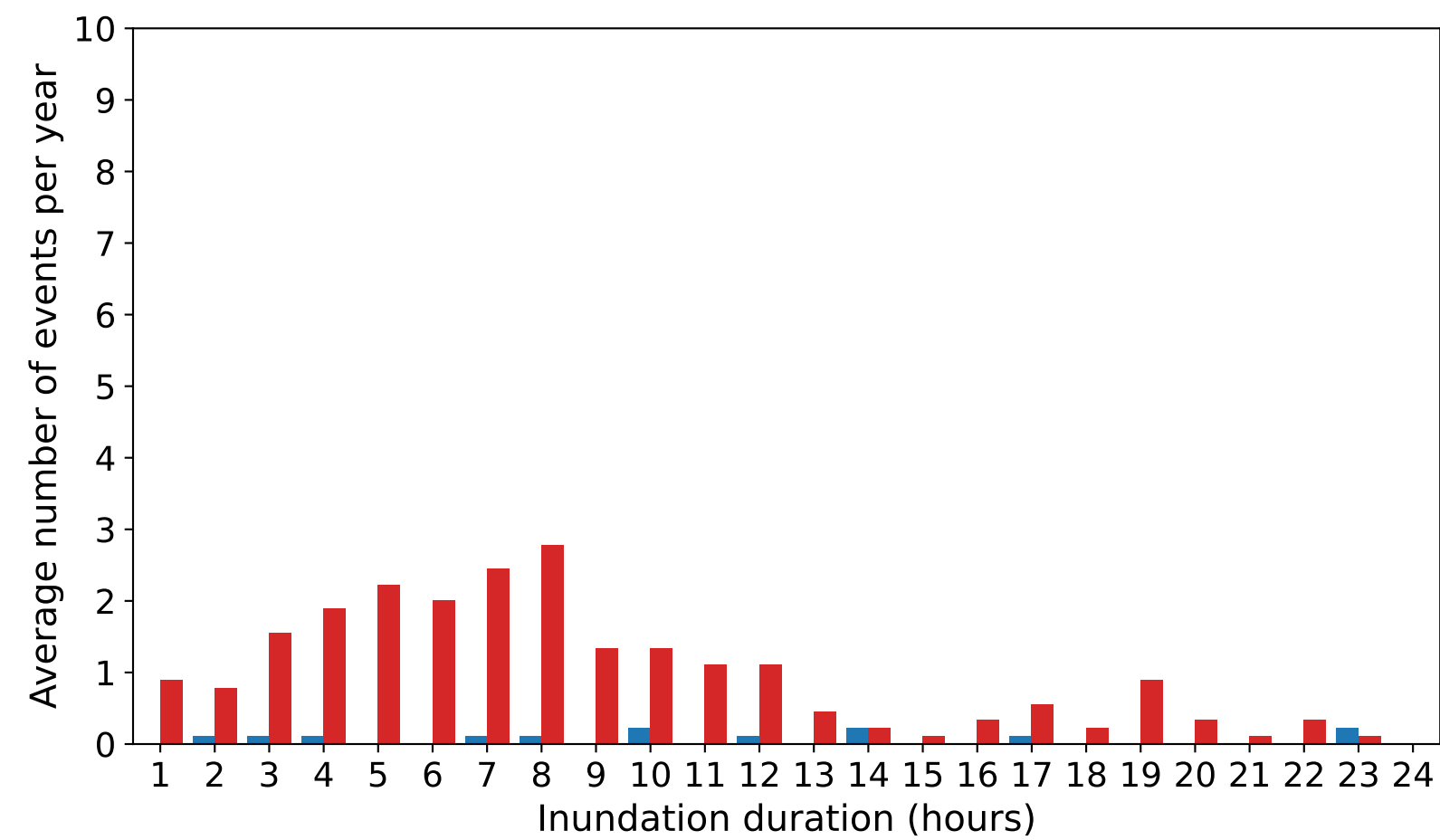
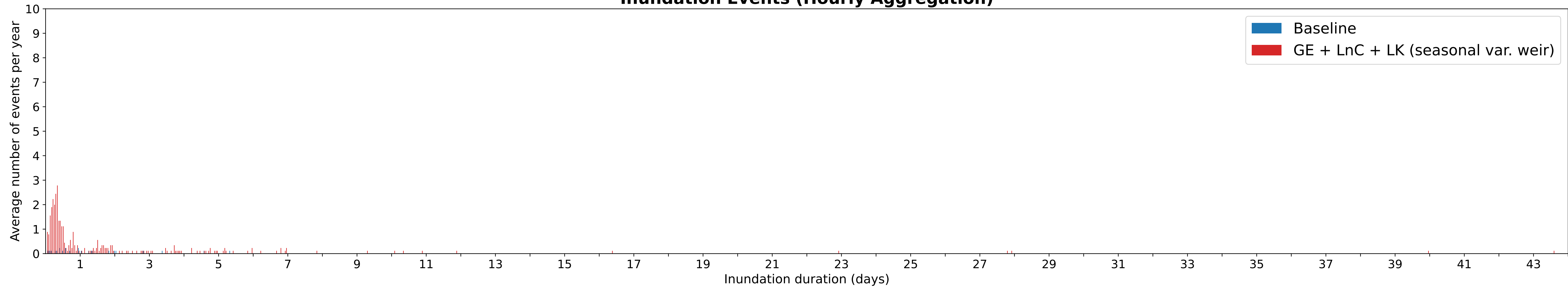
ISSUE PURPOSE
FINAL

PROJECT NUMBER
60719875

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

FIGURE NUMBER
Figure 2.2

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



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

Summer - 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	10 hr	23 hr	44 hr (1.8 days)	110 hr (4.6 days)
GE + LnC + LK (seasonal var. weir)	3 hr	6 hr	11 hr	40 hr (1.7 days)	163 hr (6.8 days)

Event counts by duration category
(Average number per year)

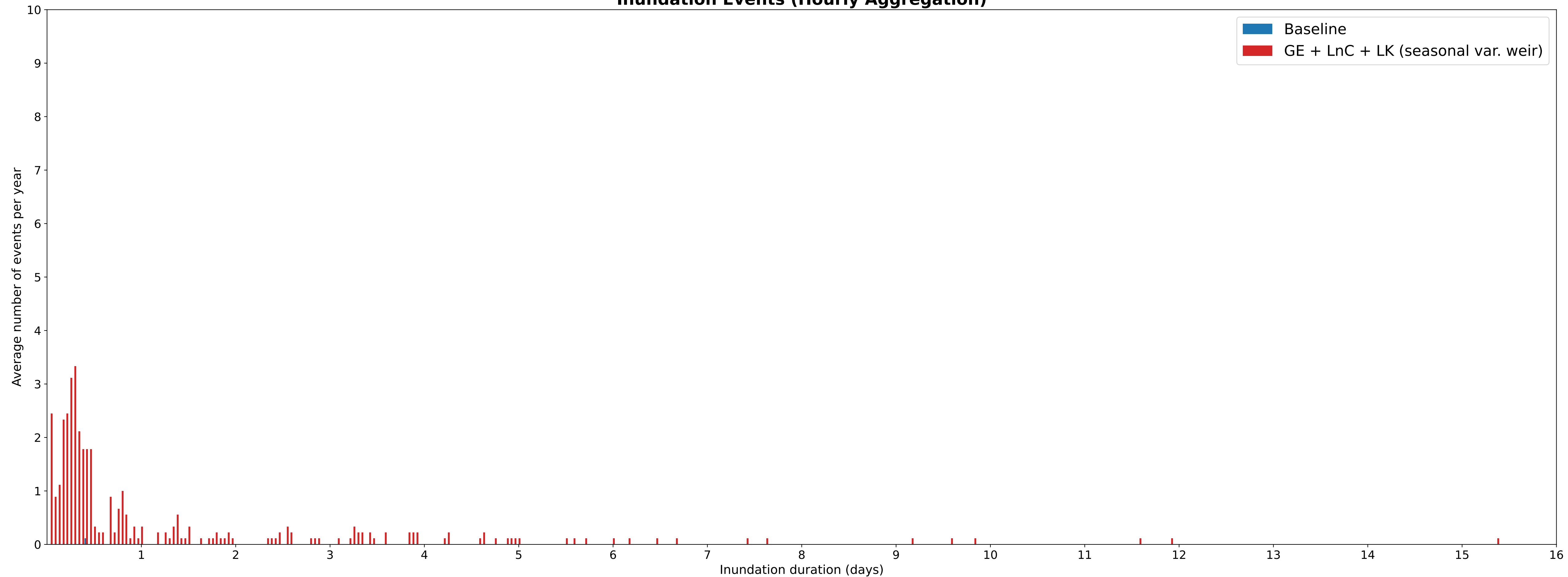
	Baseline	GE + LnC + LK (seasonal var. weir)
Sums of $\leq$ 24 hr (up to 1 day)	1.4	23.1
Sums of 25 – 72 hr (just over 1 day up to 3 days)	0.9	5.4
Sums of 73 – 168 hr (just over 3 days up to 7 days)	0.3	4.6
Sums of > 168 hr (over 1 week)	0.0	1.3

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

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



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

Summer - 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	10 hr	10 hr	10 hr	10 hr	10 hr
GE + LnC + LK (seasonal var. weir)	1 hr	6 hr	9 hr	30 hr (1.2 days)	118 hr (4.9 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)	0.1	28.1
Sums of 25 - 72 hr (just over 1 day up to 3 days)	0.0	4.6
Sums of 73 - 168 hr (just over 3 days up to 7 days)	0.0	4.2
Sums of $>$ 168 hr (over 1 week)	0.0	0.9

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

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

 Urquhart Bay Wood - Special Areas Conservation (SAC)
 LiDAR Survey Extent
 OS OML Surface Water
 Modelled Watercourse
 Predicted Water Area (Meters Above Datum)
 16.3m - 5.58ha

© Crown Copyright 2026. All rights reserved
Ordnance Survey Licence AC0000808122.

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.

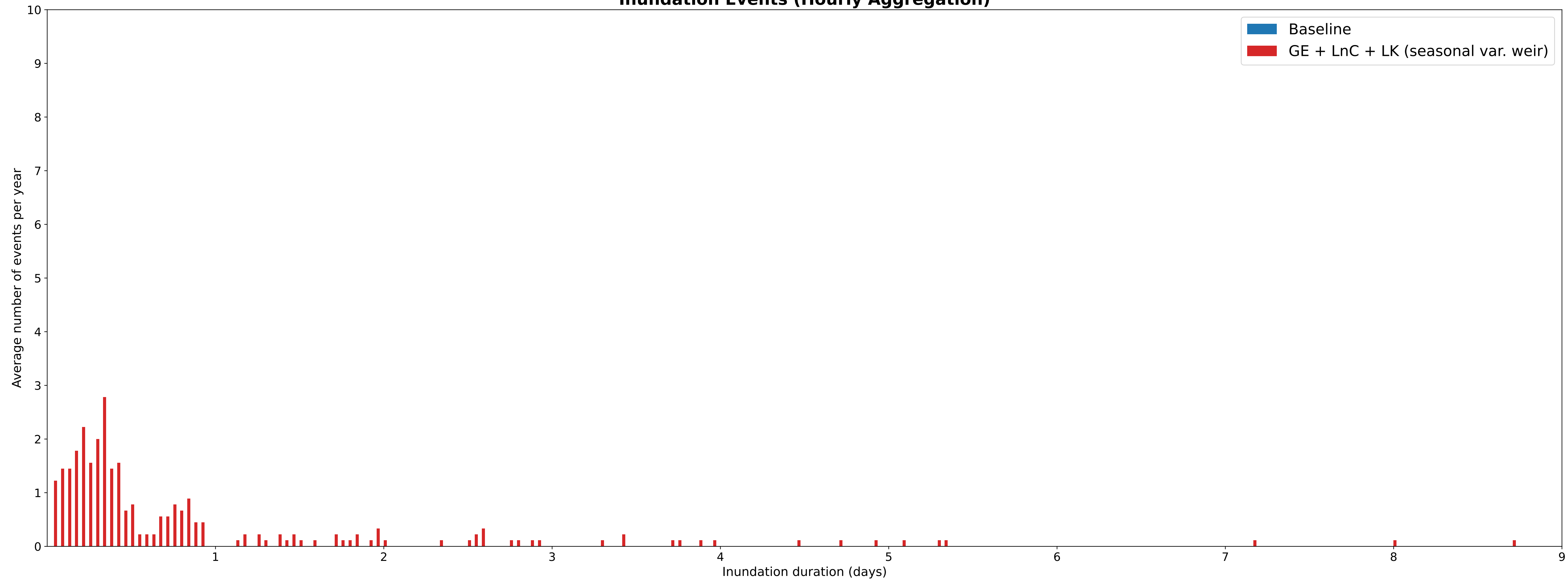
FINAL

60719875

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

Figure 2.4

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



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

Summer - 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	-	-	-	-	-
GE + LnC + LK (seasonal var. weir)	2 hr	5 hr	9 hr	20 hr	82 hr (3.4 days)

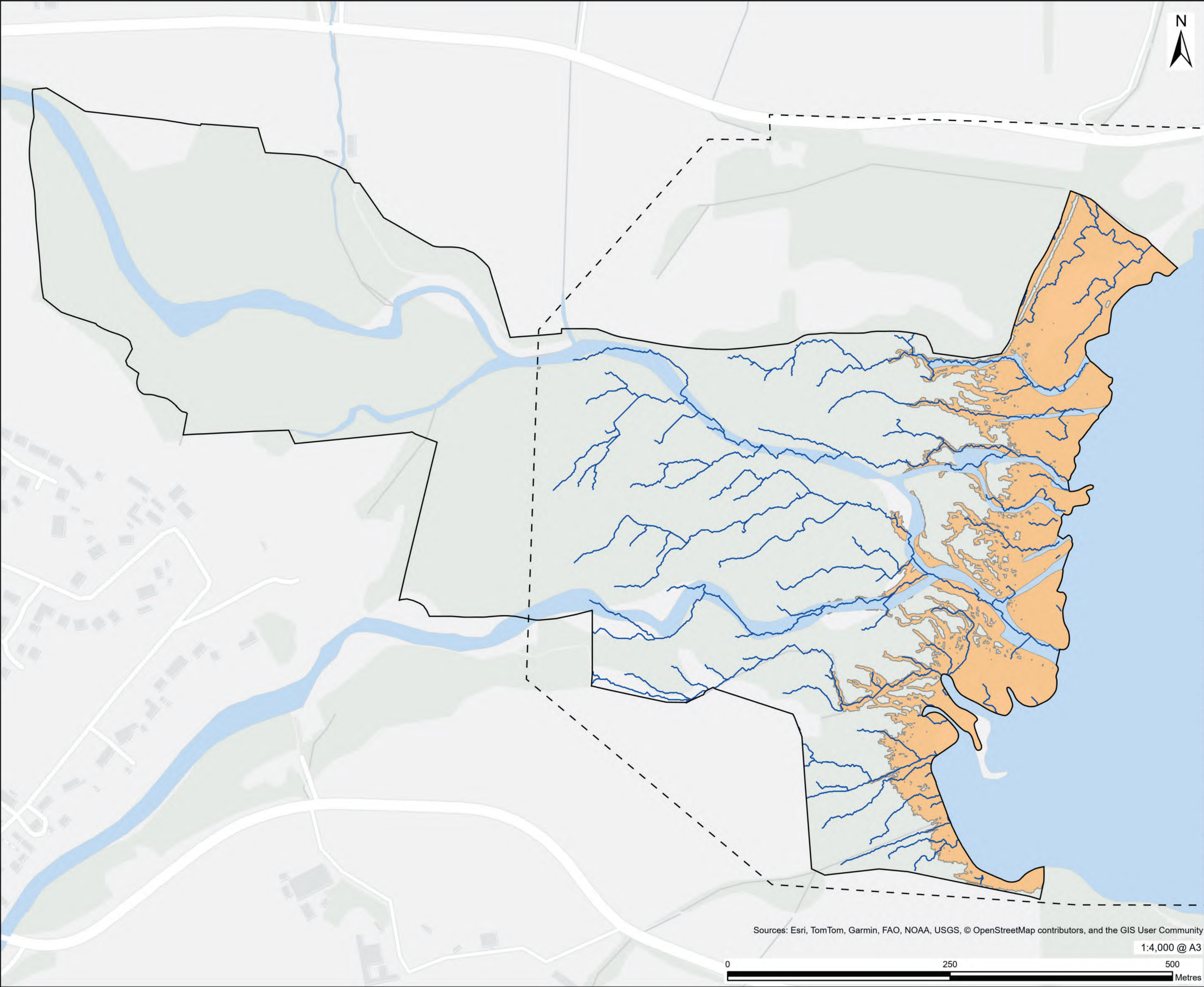
Event counts by duration category
(Average number per year)

	Baseline	GE + LnC + LK (seasonal var. weir)
Sums of ≤ 24 hr (up to 1 day)	0.0	23.9
Sums of 25 - 72 hr (just over 1 day up to 3 days)	0.0	3.9
Sums of 73 - 168 hr (just over 3 days up to 7 days)	0.0	1.4
Sums of > 168 hr (over 1 week)	0.0	0.3

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



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)

- 16.5m - 7.49ha

NOTES

© Crown Copyright 2026. All rights reserved.
Ordnance Survey Licence AC0000808122.

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

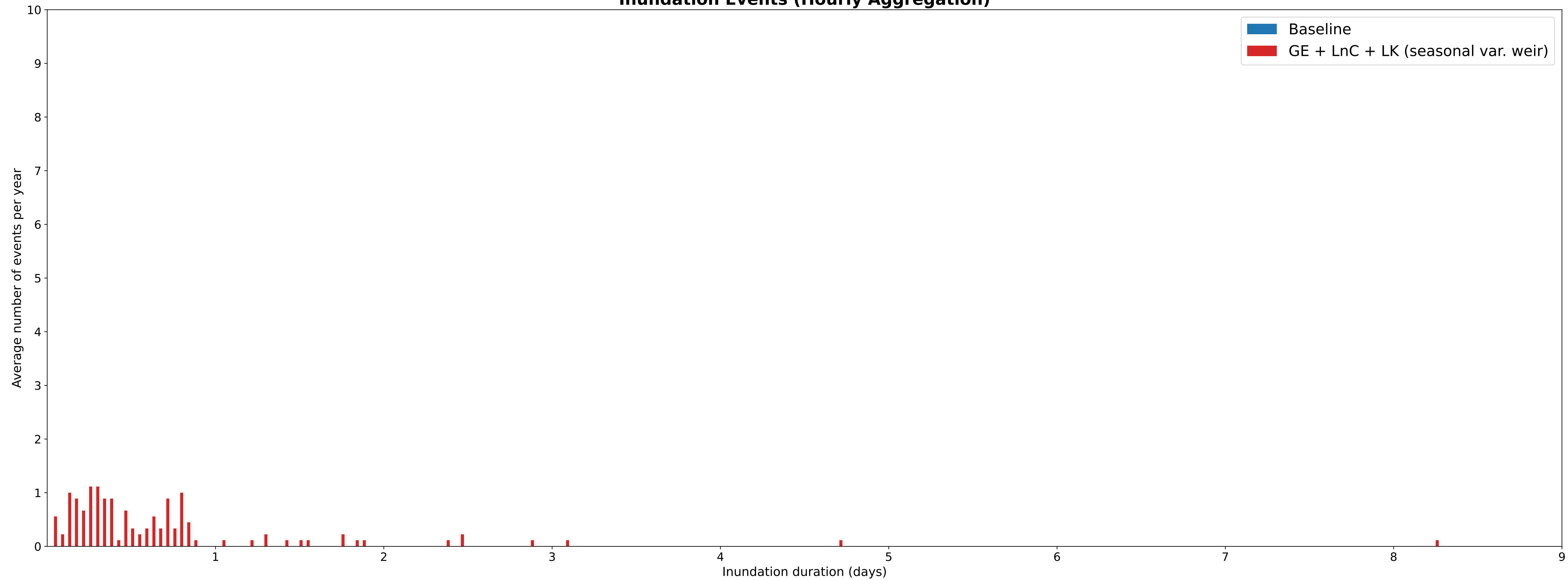
FIGURE TITLE

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

FIGURE NUMBER

Figure 2.5

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



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

Summer - 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	-	-	-	-	-
GE + LnC + LK (seasonal var. weir)	2 hr	6 hr	9 hr	18 hr	57 hr (2.4 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)	0.0	12.7
Sums of 25 - 72 hr (just over 1 day up to 3 days)	0.0	1.7
Sums of 73 - 168 hr (just over 3 days up to 7 days)	0.0	0.2
Sums of > 168 hr (over 1 week)	0.0	0.1

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

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

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

Predicted Water Area (Meters Above Datum)

 16.7m - 9.06ha

© Crown Copyright 2026. All rights reserved
Ordnance Survey Licence AC0000808122.

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.

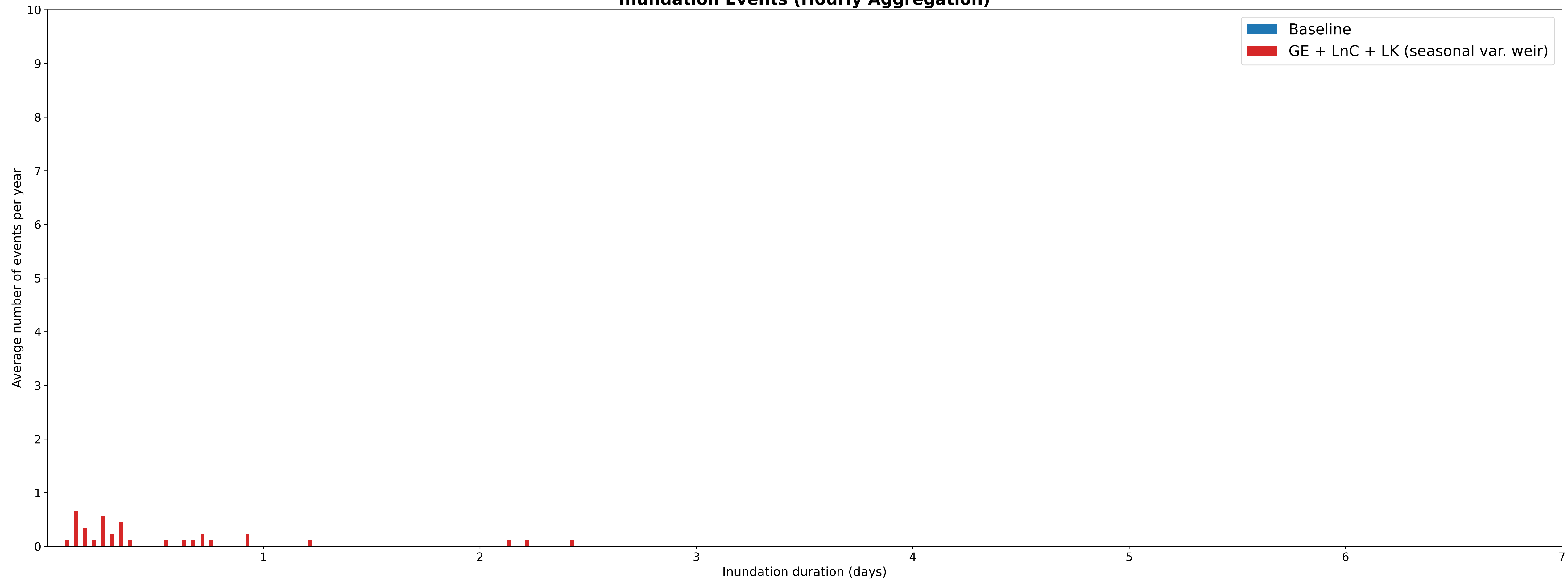
FINAL

60719875

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

Figure 2.6

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



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

Summer - 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	-	-	-	-	-
GE + LnC + LK (seasonal var. weir)	3 hr	4 hr	7 hr	17 hr	53 hr (2.2 days)

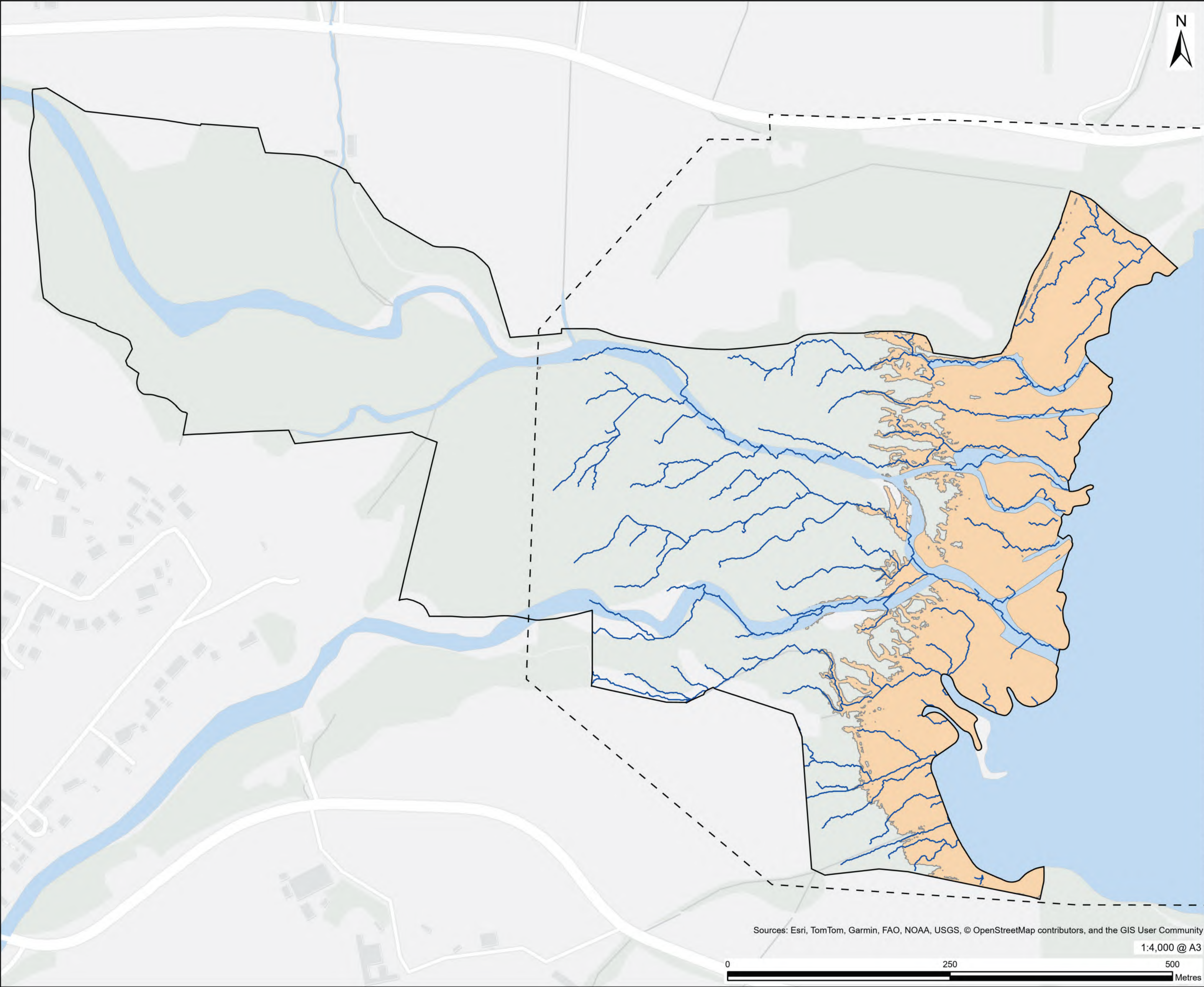
Event counts by duration category
(Average number per year)

	Baseline	GE + LnC + LK (seasonal var. weir)
Sums of ≤ 24 hr (up to 1 day)	0.0	3.4
Sums of 25 - 72 hr (just over 1 day up to 3 days)	0.0	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 = 16.90 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



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

1:4,000 @ A3

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM, or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

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)
 - 16.9m - 10.44ha

NOTES

© Crown Copyright 2026. All rights reserved.
Ordnance Survey Licence AC0000808122.

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

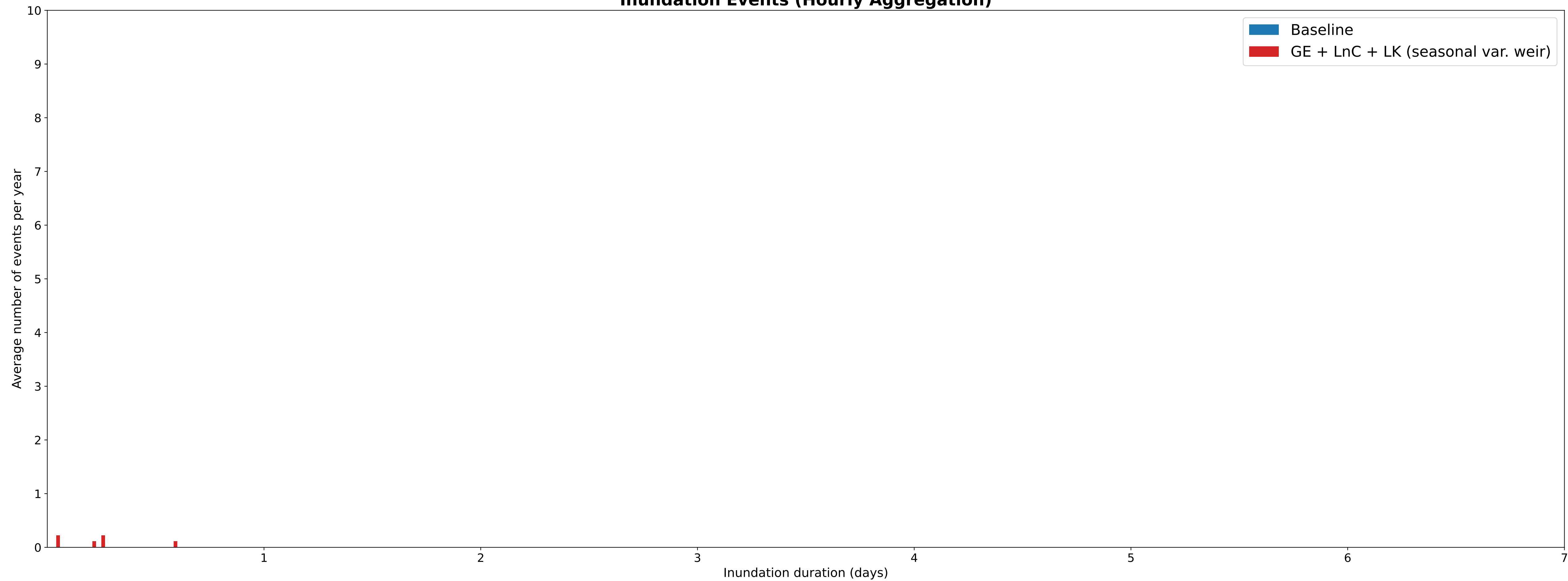
FIGURE TITLE

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

FIGURE NUMBER

Figure 2.7

Summer - Level [16.90] m - Seasonal Variable Weir Inundation Events (Hourly Aggregation)



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

Summer - Level [16.90] 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	-	-	-	-	-
GE + LnC + LK (seasonal var. weir)	1 hr	1 hr	6 hr	6 hr	14 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)	0.0	0.7
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 = 17.10 m

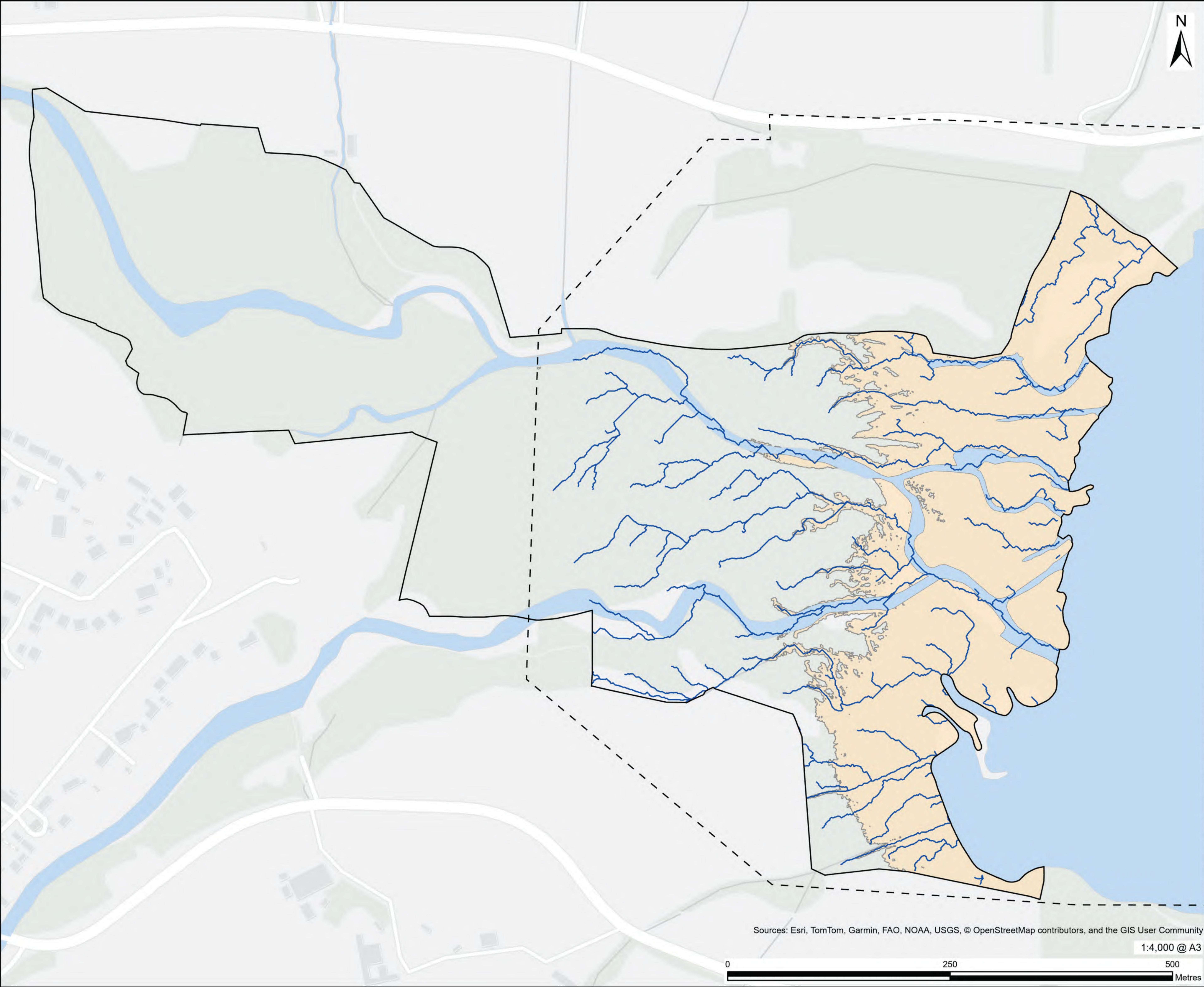
Water level (m AOD)	Habitat / NVC at this level band	Area at this level band (ha)	Percentage of SAC (%)	Cumulative Area of SAC at this level (ha)	Cumulative Percentage of SAC (%)
17.1	W7 / W9 (transition)	1.24	2.70	11.68	25.30

No inundation events occurred
Season: summer
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



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

1:4,000 @ A3

This drawing has been prepared for the use of AECOM's client. It may not be used, modified, reproduced or relied upon by third parties, except as agreed by AECOM, or as required by law. AECOM accepts no responsibility, and denies any liability whatsoever, to any party that uses or relies on this drawing without AECOM's express written consent. Do not scale this document. All measurements must be obtained from the stated dimensions.

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)
 - 17.3m - 13.20ha

NOTES

© Crown Copyright 2026. All rights reserved.
Ordnance Survey Licence AC0000808122.

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

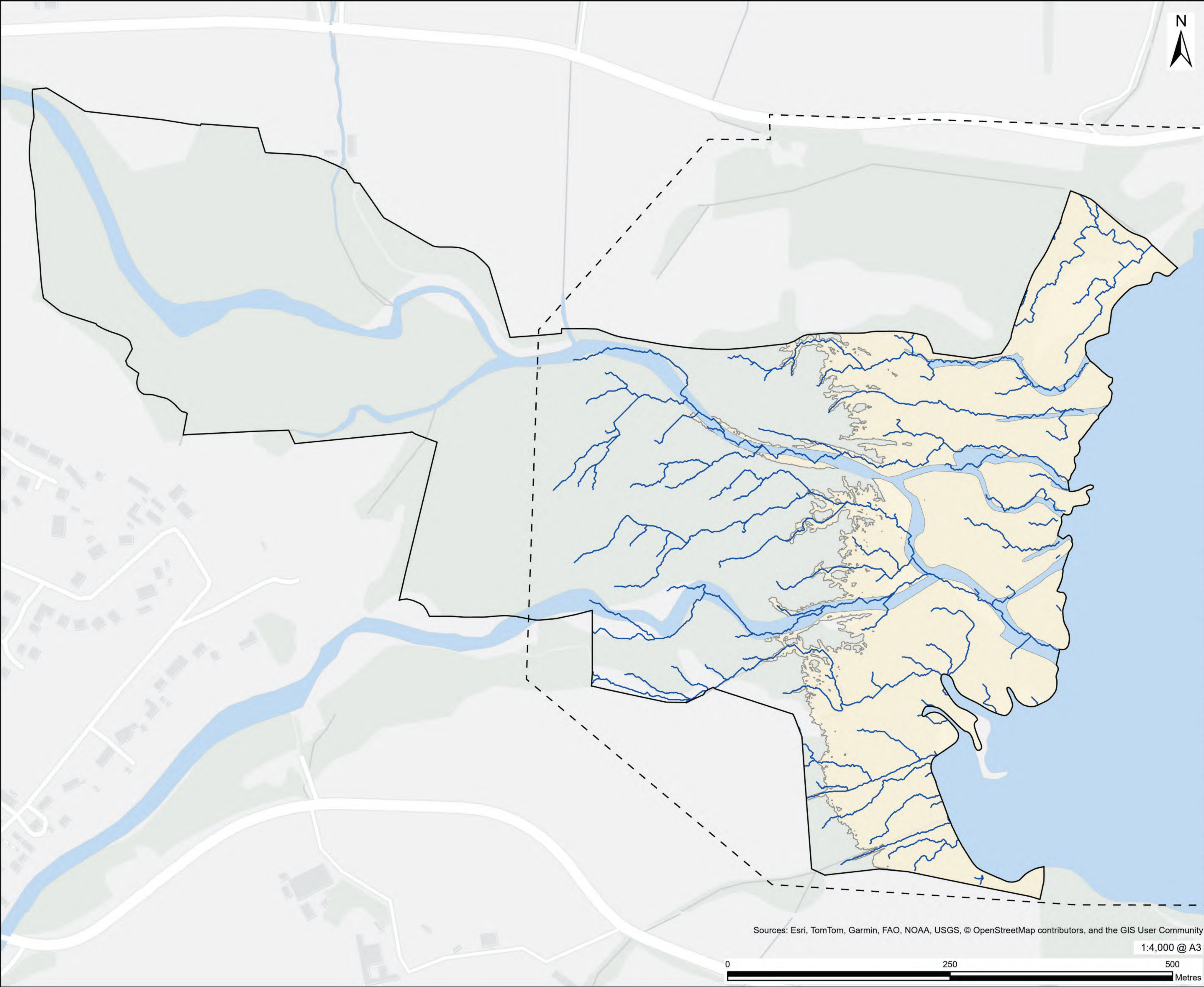
Figure 2.9

No inundation events occurred
Season: summer
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

© Crown Copyright 2026. All rights reserved.
Ordnance Survey Licence AC0000808122.

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: summer
Level threshold: 17.5 m
Scheme: baseline vs GE + LNC + LK