

101507228

Revision 01

WATER MANAGEMENT WORKING GROUP

NOT PROTECTIVELY MARKED

Meeting:	7 th April 2025, 15:00-16:30
Location:	MS Teams
Chair:	Bethany Rance (ESC)
Attendees:	SZC – Steve Mannings (SM), Joe Shipperbottom (JS) – (Obs), Stuart Smith (SS) – (Obs) ESC – Bethany Rance (BR), James Meyer (JM) – (Obs) WLMA – Judith Stoutt (JSt) – (Obs) Natural England – Sean Mahoney (SM) Environment Agency – Chris Strachan (CS), Jackie James (JJ) – (Obs) EDF Energy – Tim McHardy (TM) – (Obs)
Apologies:	SZC – Nick Stayt (NS)

Meeting Notes:

INTRODUCTION AND REVIEW OF PREVIOUS ACTIONS

Actions raised during the previous meeting:

Date Raised	Ref.	Description	Lead	Date Due
07/10/2024	1	SZC to provide a summary, of statistical methods which will be used for the interpretive assessment	SZC	closed
07/10/2024	2	SMan proposed exploring whether the water quality data could be simplified and represented graphically on the dashboard, with the possibility of offering both the current and alternative formats (graphs) for review	SZC	closed
07/10/2024	3	SMan to share note on accessibility of water monitoring locations	SZC	07/04/2025
13/01/2025	4	NS to share the updated ToR with the group via email for review and final confirmation	SZC	closed
13/01/2025	5	Group to gain an understanding of the requirements for different CWDA permits. If a permit is discharged before the April WMWG meeting, it will be added as an agenda item for discussion	SZC	closed
13/01/2025	6	NS to refine the Water Quality graphic for better clarity and ease of interpretation	SZC	closed

- Action 1: closed. outline report structure was circulated on 14th March.
- Action 2: closed. updated graphics provided in water quality dashboard provided by NS
- Action 3: ongoing. on hold. There is an issue with some locations due to water levels. Water levels now appear to be on a downward trend. To be reviewed in Q2 2025.
- Action 4: closed. Update to be provided in this session.
- Action 5: closed. SZC and ESC do not support using the forum for EPR discussions due to concerns about the group's lack of authority over permitting issues related to DCO requirements. Additionally, permitting and monitoring

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should be treated as separate matters, with monitoring points identified but listed separately from the WLMP.
Action 6: closed. updated graphics provided in water quality dashboard provided by NS

Terms of Reference:

- Group agrees to get ToR approved by the end of April.

Action – Group to agree ToR by the end of April

Monthly Reporting: Sizewell Marshes SSSI Water Monitoring Dashboard – February 2025

Sizewell C: Sizewell Marshes SSSO Flash Report – February 2025

Groundwater level – in-month trend

- JS introduced a new slide based on previous iteration of report that gives context to the in-month trends across Sizewell Marshes. The slide features a hydrograph that summarises all level data from each piezometer, along with the associated triggers for February. Additionally, daily rainfall data is plotted alongside this information.
- JM inquired about the changes in the penstock and its connection to groundwater levels, specifically how these changes might manifest, given that it regulates surface water discharge. SM responded that monitoring over the years indicates that ditch and water levels within the peat are in hydraulic continuity. While there may be some lag, both factors are interrelated, and a connection is anticipated that will need to be observed over time.

Groundwater level – annual trigger graphs and in-month analysis

- JS presented individual hydrographs for each piezometer with established trigger levels.
- The graphs feature a line representing ground level, along with lines indicating the upper trigger (effective from April to October) and the lower trigger (applicable year-round). Filled boxes denote instances where the trigger has been exceeded, while hollow boxes indicate periods where the trigger has not been passed.
- As a rolling summary, the in-month analyses are highlighted to distinguish them from historical monthly averages.

Groundwater level – peat trigger levels rolling summary 2024/25

- JS provided a contextual overview of piezometer locations.
- JS identified that based on review steps, no further investigation required.
- A key is used to indicate the status of the investigation, whether there has been a lower or upper trigger pass, or no pass at all. For February, lower triggers were exceeded at three locations, with consistent readings at P8 and P14, while P9 marked a new instance of a lower trigger pass.

Groundwater level – reporting and adaptive mitigation

- JS presented the steps taken when investigating any instances of trigger exceedance, as well as a flow diagram extracted from the WMMP presentation, illustrating the procedural steps followed.
- This framework enhances transparency by clearly delineating the process outlined in the plan.

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- JM inquired about the relocation status of P1 and P7. JS responded that P1 now has an internal project permit in place for relocation at the end of April, allowing for data collection at the new location starting in May. P7, however, does not have a scheduled relocation date due to ongoing access issues, similar to P4 where flooding is a concern. Access to the area designated for P7 is currently restricted, making it challenging to determine a timeline. SM added that the access plan for P7 and P4 is on hold. Therefore, the current strategy is to monitor water levels over the coming months and assess whether conditions in that area change. If access remains unattainable for an extended period, discussions will be held regarding potential abandonment or relocation.

Groundwater quality – piper plots

- Following previous actions, water quality information is now being presented in a more accessible format.
- The new plots display water quality data, primarily focusing on the ionic composition of cations and anions at each monitoring location. The piper plots indicate the type of water associated with these piezometers and potential water sources.
- The piper plot presents in-month results alongside historical data, which collectively offer a trend analysis of water quality across all monitoring locations. Points that emerge as outliers or exhibit a drift indicate changes in water composition, warranting further investigation.
- A key is included to explain the plotting, such as calcium type water for cations and bicarbonate type for anions. The plots consistently show a strong calcium bicarbonate water type, observed month after month at locations P1, P9, P12, and P15 (with more variance noted at P12 and P15). This suggests that the calcium bicarbonate waters typically indicate a fresh groundwater system in coastal areas.
- SM inquired whether this indicates a strong Crag signature. JS confirmed that while there is a Crag signature, determining whether it originates from the Crag itself or from surface water systems receiving water from the Crag outside the sub-catchment requires further assessment.
- SS added that the samples taken indicate that the water flowing through these locations has a Crag origin, although they are not sampling directly from the Crag. In contrast, P2, P8, and P14 exhibit different signatures, reflecting a more saline influence typical of coastal environments.
- JS noted that there is a greater dominance of chloride at P2, P8, and P14, which are located closest to Sizewell drains. This suggests that seawater may be influencing the water composition in the peat adjacent to the drain.

Further actions summary

- A relocation date for P1 is set for later this month, while P4 is under ongoing review due to accessibility issues.
- At P8, trigger levels are currently above ground level, leading to a review of the datums. The team is on-site surveying the elevation of datums around the piezometers to assess any changes in elevation and determine if trigger levels need adjustment.
- SS mentioned that as the new piezometer is integrated and adjustments are made, the peat surface may heave and settle over time, potentially affecting some piezometers. Periodic resurveying will assist in accurately interpreting their positions.
- Observation of a general decline in groundwater levels within the peat during February.

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Structure of interpretive report

- JS reviewed the sections of the report and invited feedback from the group to facilitate timely publication.
- JJ suggested the inclusion of a basic annotated map at the end of the report to illustrate site activities occurring throughout the year in relation to monitoring points.

Action – SZC to incorporate annotated map at end of interpretive report to illustrate site activities occurring throughout the year in relation to monitoring points

- SM requested any additional feedback within the next five days to be considered in this version of the report

Action – Group to provide feedback on interpretive report within 5 days

- SM inquired whether the group would like to include recommendations and management considerations. He noted that once the drain has been diverted and the barrier wall is in place, the primary option for adjustment will be to modify the control structure on Sizewell Drain. He had not included this in the interpretive report, as it seemed fixed.
- SM also emphasised the importance of aligning the report with the botanical monitoring of fen meadow to ensure consistency and coherence between the two documents.

Actions raised during the meeting:

Date Raised	Ref.	Description	Lead	Date Due
07/10/2024	1	SMan to share note on accessibility of water monitoring locations	SZC	07/04/2025
07/04/2025	2	Group to agree ToR by the end of April	Working Group	01/05/2025
07/04/2025	3	SZC to incorporate annotated map at end of interpretive report to illustrate site activities occurring throughout the year in relation to monitoring points	SZC	07/07/2025
07/04/2025	4	Group to provide feedback on interpretive report within 5 days	Working Group	12/04/2025

Author: Caitlin Murphy (SZC)