Appendix 20 - River Dee SAC Habitats Assessment – Phosphorous Neutral

1. Introduction

New targets were recently imposed by Natural Resources Wales (NRW) to ensure developments do not increase phosphate pollution in rivers which form part of Special Areas of Conservation (SAC). This followed revisions to Joint Nature Conservation Committee (JNCC) monitoring guidance which led Natural Resources Wales (NRW) to review its conservation objectives for river Special Areas of Conservation (SACs) in Wales, notably with respect to phosphorus where targets have been substantially tightened.

Natural Resources Wales is in the process of amending its freshwater SAC Core Management Plans to incorporate the new targets. Phosphorus targets are set as the annual and growing season means. The standard determinand for assessing bio-available phosphorus in rivers is orthophosphate as P.

The River Dee is designated as a SAC and has phosphorous standards set in NRW's draft SAC management plan for the river[(1)] which vary for different stretches of the river.

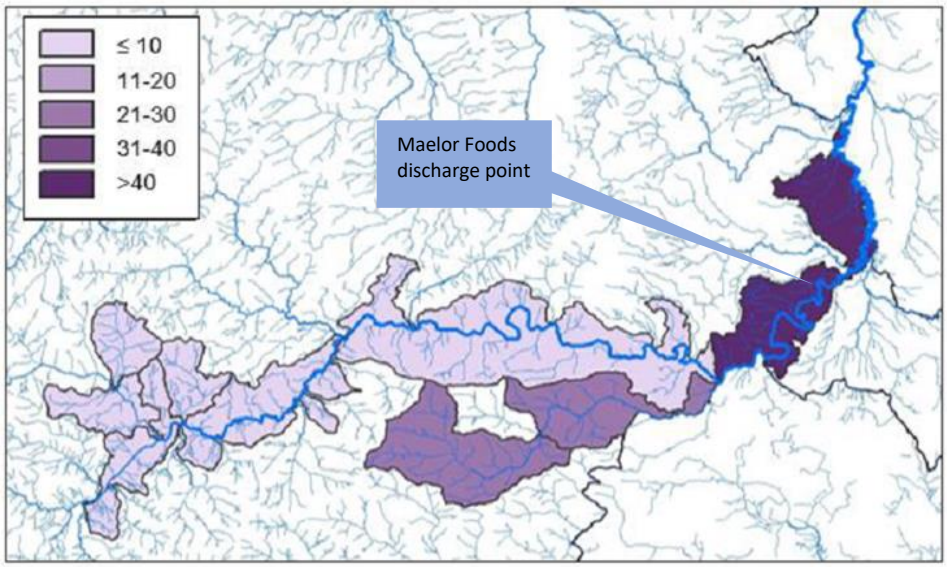
This habitats impact assessment is to be used for Maelor Foods' Environmental Permit Variation Application and their Planning Application for their Phase 2 plans which will double the throughput capacity of the installation. It assesses the potential impact of the Phase 2 operations at Maelor Foods on the draft SAC management plan phosphorous standards for the River Dee SAC and covers the installation's following potential aspects and impacts:

a. Treated Process Wastewater Discharge to River Dee
b. Treated Domestic Sewage Discharge to River Dee
c. Application of Wastewater Treatment Plant Sludge to Land in the River Dee SAC catchment

2. River Dee SAC Management Plan Phosphorous Targets & Compliance

Figure 1 shows a map of phosphorus targets for the River Dee & Llyn Tegid SAC and the location of the Maelor Foods Installation's discharge of treated wastewater. This shows the phosphorous concentration target for the river at the discharge point is >40 µg/l. The target is in fact 50µg/l.

Figure 1 – Phosphorous Targets for River Dee & Lyn Tegid SAC [(1)]



All concentrations are annual means and growing season means in µg/l.

Figure 2 shows the Chester Weir to Ceiriog stretch of the River Dee, the location of the Maelor Foods Wastewater Treatment Plant (WWTP) discharge and NRW's upstream and downstream river monitoring points:

- Site ID 87 – River Dee at Old Bangor Bridge, which is located 1.5 km immediately upstream of the discharge site. Grid Ref SJ 38780 45439
- Site ID 671 – River Dee at Farndon Bridge, which is approximately 20 km downstream of the discharge site. Grid Ref SJ 4117054370

Figure 2 – WWTP discharge point and river monitoring points upstream & downstream

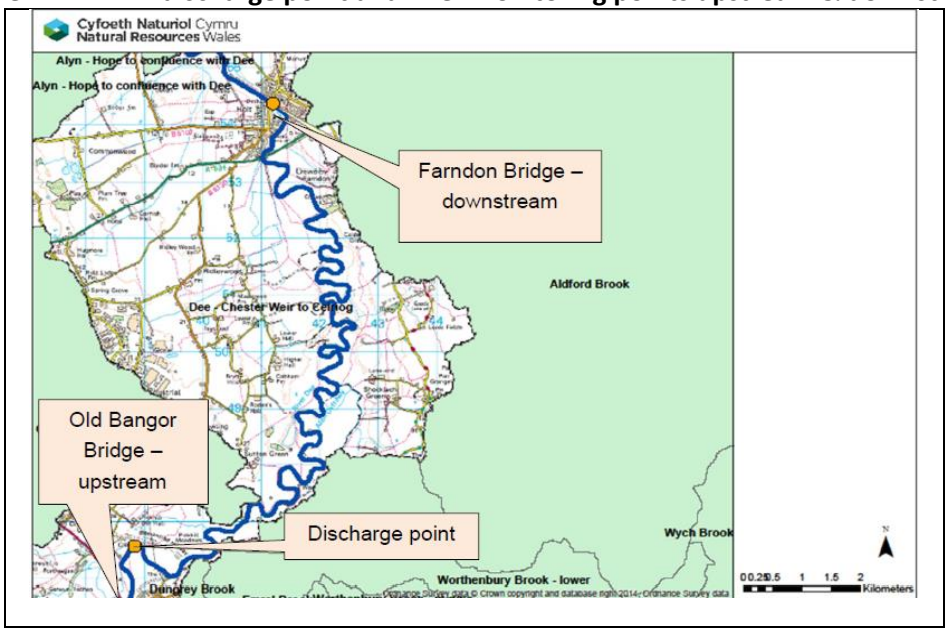


Figure 3 shows an extract of Table 2, page 28 of NRW's report "Compliance Assessment of Welsh River SACs against Phosphorus Targets [(1)] which shows results of river water monitoring undertaken over 3 years (2017 – 2019).

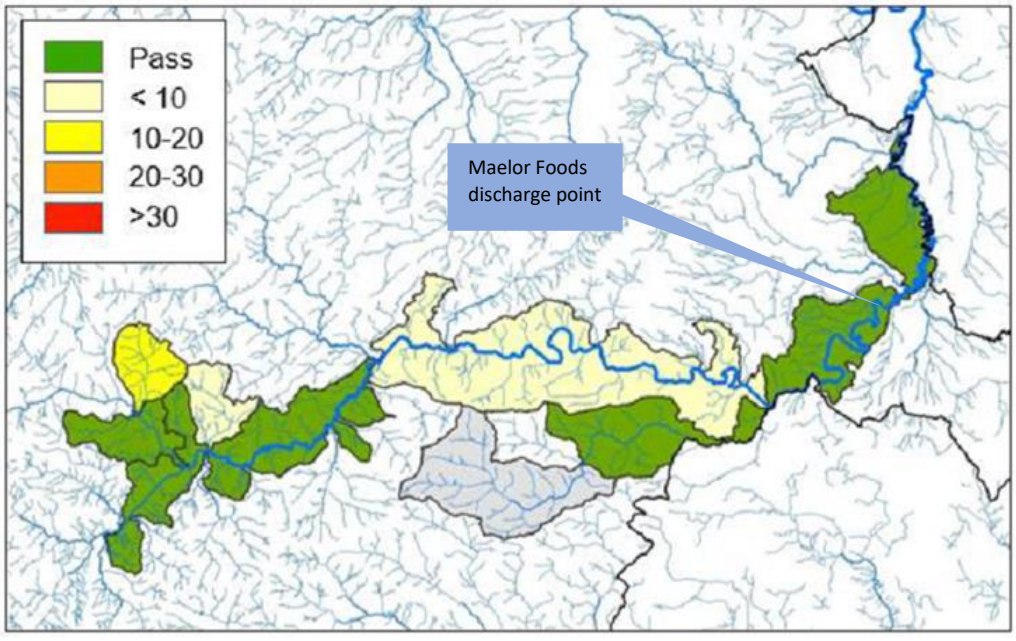
Figure 3 – Results of River Dee water monitoring undertaken over 3 years (2017 – 2019)

Waterbody ID	Waterbody Name	Site	Target (µg l^{-1})	N Samples	Annual Mean (µg l^{-1})	Growing Season Mean (µg l^{-1})	Result	Status
GB111067051990	Mynach	300	10	19	25	27	Fail	Confirmed
GB111067051900	Tryweryn - Dee to Mynach	294	10	25	10	4	Pass	-
GB111067051960	Meloch	496	10	19	20	9	Fail	Unconfirmed
GB111067052240	Dee - Alwen to Llyn Tegid/ Bala Lake	1	10	27	7	4	Pass	-
GB111067052060	Dee - Ceiriog to Alwen	70	10	31	15	16	Fail	Confirmed
GB111067051610	Ceiriog - upstream of Teirw	-	28	No data			Not Assessed	-
GB111067051910	Ceiriog - confluence Dee to Teirw	578	28	31	22	26	Pass	-
GB111067057080	Dee - Chester Weir to Ceiriog	87, 671, 689	50	60	15, 50, 47	17, 46, 49	Pass	-

Table 2. Phosphorus Compliance for the River Dee SAC. All orthophosphate concentrations are in µg l^{-1}.

Figure 4 shows the Phosphorus compliance map for the River Dee SAC[(1)]. Water bodies shaded green pass their target. Other colours fail the target with different colours representing the magnitude of failures in µg/l, expressed as the larger of annual means and growing season means.

Figure 4 - Phosphorus compliance map for the River Dee SAC



This shows that the Chester Weir to Ceiriog stretch of the River Dee into which the Maelor Foods WWTP discharge is made is passing its SAC phosphate target of 50 µg/l.

3. Assessment of Maelor Foods Treated Process Wastewater Discharge to River Dee

Phase 1 performance review

NRW issued an environmental permit for the Maelor Foods installation for its Phase 1 operations in 2017 and operations began in November 2017. The permit number is EPR/AB3591ZQ.

Under Phase 1 and the proposed Phase 2 operations the maximum potential volume of treated wastewater is recycled for cleaning activities and the wastewater generation is minimised, in line with Best Available Techniques (BAT) standards. Similarly, the wastewater treatment techniques used and the emission levels achieved are in line with Best Available Techniques (BAT) standards.

NRW assessed and approved our BAT justifications for the techniques used for wastewater treatment and management in determining our environmental permit application for Phase 1. This Habitats impact assessment forms part of our application to vary our permit for Phase 2 which includes an updated BAT assessment, albeit BAT standards are essentially unchanged since 2017. NRW will assess this in the same way in determining our application.

Our environmental permit application for Phase 1 also included a 2015 water quality impact assessment for the discharge of treated process wastewater from the installation into the River Dee SAC. Table 1 shows the environmental permit emission limits NRW imposed on the daily discharge rate and concentrations of key parameters, including phosphate.

Table 1 – Permit Emission Limits for Water Emissions

Emission Point	Determinand	Discharge Limit	Units	Expressed as
WWTP (W1) on site plan in schedule 7 emission to River Dee	Average daily volume	1,200	m^3/day	mean
	Maximum daily volume	1,520	m^3/day	maximum
	Biochemical oxygen demand (BOD)	20	mg/l	maximum
	Total suspended solids	30	mg/l	maximum
	Ammonia as N	5	mg/l	maximum
	Phosphate as P	2.5	mg/l	maximum
	pH range (min to max)	6 to 9	N/A	Max & min
	Temperature	30	°C	maximum
	Visible oil and grease	None visible	None	Visual test

Table **2** and Table 3 show the summary of the 2015 modelled downstream river concentrations and % change in concentration for the average daily discharge flow and the maximum daily discharge flow.

Table 2 - Summary of the 2015 River Quality Modelling – average discharge flow

Determinand	Observed upstream river concentration		Modelled discharge permit		Modelled downstream river concentration		% change in downstream river concentration	
	Mean	90%ile (from RQP)	Limit	Type	Mean	90%ile	Mean	90%ile
BOD	1.0	1.7	30 mg/l	Maximum	1.0	1.7	0.0	0.0
TSS	6.5	13.5	45 mg/l	Maximum	6.6	13.3	1.5	-1.0
Ammonia	0.02	0.03	10 mg/l	Maximum	0.02	0.03	0.0	0.0
Phosphate	0.02	0.04	2.5 mg/l	Maximum	0.02	0.04	0.0	0.0
pH (lower limit)	7.7	8.0	6	Minimum	7.7	8.0	0.0	0.0
pH (upper limit)	7.7	8.0	9	Maximum	7.7	8.0	0.0	0.0

Table 3 - Summary of the 2015 River Quality Planning Modelling – maximum discharge flow

Determinand	Observed upstream river concentration		Modelled discharge permit		Modelled downstream river concentration		% change in downstream river concentration	
	Mean	90%ile (from RQP)	Limit	Type	Mean	90%ile	Mean	90%ile
BOD	1.0	1.7	30 mg/l	Maximum	1.0	1.7	0.0%	0.0%
TSS	6.5	13.5	45 mg/l	Maximum	6.6	13.3	1.5%	-1.0%
Ammonia	0.02	0.03	10 mg/l	Maximum	0.02	0.04	0.0%	33.3%
Phosphate	0.02	0.04	2.5 mg/l	Maximum	0.02	0.04	0.0%	0.0%
pH (lower limit)	7.7	8.0	6	Minimum	7.7	8.0	0.0%	0.0%
pH (upper limit)	7.7	8.0	9	Maximum	7.7	8.0	0.0%	0.0%

For the average flow, the impact on the 90th percentile river quality was found to be negligible (0% change) for phosphate and very small (only observed at the third decimal place) for phosphate at the maximum daily flow.

Furthermore, the modelling was precautionary and based on worst case conditions i.e., maximum daily average flow, maximum daily flow (24-hour production process creating wastewater continuously) and maximum permitted emission concentrations. The modelling also assesses the impact under dry weather flow conditions in the river when dilution will be minimum and is based on the impact in the immediate mixing zone at the discharge point, not further downstream where further mixing and dilution will occur as more tributaries join the main river.

The WWTP began operation under Phase 1 in February 2018 and has performed very well after some initial teething problems in the 1st 3 months while the biological systems and operating procedures were established. A summary of results from monitoring undertaken in accordance with our environmental permit on samples of treated wastewater discharge during Phase 1 is provided in Table 4 and Table 5.

Table 4 - Average results from onsite laboratory for last 2 years

	Parameter, units and target / limit					
	COD (mg/l) 100	**SS (mg/l) 30**	**Ammonia (mg/l) 5**	**Phosphate (mg/l) 2.5**	**Temp (°C) 30**	**pH 6-9**
Average	36.8	16.27	0.08	0.37	22	7.35

Table 5 - Average results from our external lab permit compliance monitoring for last 2 years

	Parameter, units and target / limit			
	BOD (mg/l) 20	**SS (mg/l) 30**	**Ammonia (mg/l) 5**	**Phosphate (mg/l) 2.5**
Average	3.14	11.16	0.14	0.73

This shows that the quality of wastewater discharged into the river is much better than the worst-case scenarios modelled on a precautionary basis. Furthermore, the actual discharge flows are within the maximum values permitted.

The Phase 1 discharge of treated wastewater from the installation into the River Dee SAC occurred during NRW's 2017 – 2019 monitoring period for the Compliance Assessment of Welsh River SACs against Phosphorus Targets. This demonstrates that the water quality modelling predictions provided were reliable and the Phase 1 operations have had no impact on the SAC management plan phosphorous targets which are met in this stretch.

Phase 2 proposals review

For Phase 2, the throughput at the installation will double and generate double the volume of wastewater for treatment and subsequent discharge to the River Dee SAC.

Excluding temperature, pH and visible oil, the Phase 2 proposed determinands for the treated wastewater emission point W1 are reduced by 50% - 60% from Phase 1, to maintain load standstill when doubling daily volume, as shown in Table 6.

Table 6 – W1 Discharge Parameters for Phase 2

Emission Point	Determinand	Discharge Limit	Units	Expressed as
WWTP (W1) on site plan in schedule 7 emission to River Dee	Average daily volume	2,400	m^3/day	mean
	Maximum daily volume	3,120	m^3/day	maximum
	Biochemical oxygen demand (BOD)	10	mg/l	maximum
	Total suspended solids	15	mg/l	maximum
	Ammonia as N	2	mg/l	maximum
	Phosphate as P	1	mg/l	maximum
	pH range (min to max)	6 to 9	N/A	Max & min
	Temperature	30	°C	maximum
	Visible oil and grease	None visible	None	Visual test

Our environmental permit variation application for Phase 2 also includes an updated 2023 water quality impact assessment for the discharge of treated process wastewater from the installation into the River Dee SAC using the latest river quality and flow data provided by NRW. This compares the impact of Phase 1 and Phase 2 using the latest river data so there is a direct comparison of the impact Phase 2 may make.

Table 7 and Table 8 show the summary of the modelled downstream river concentrations and % change in concentration for the average daily discharge flow for both Phase 1 and Phase 2 respectively.

Table 7 - Summary of 2023 River Quality Modelling – average discharge flow current (Phase 1)

Determinand	Observed upstream river concentration		Modelled discharge permit		Modelled downstream river concentration		% change in river from u/s	
	Mean	90%ile	Limit	Type	Mean	90%ile	Mean	90%ile
BOD	1.35	1.62	20 mg/l	Maximum	1.36	1.63	0.9	0.6
Ammonia	0.015	0.029	5 mg/l	Maximum	0.016	0.031	3.5	6.9
Orthophosphate	13.0	24.9	2500 ug/l	Maximum	13.7	25.9	5.4	4.0
pH	8.10	8.49	6 to 9	Range	8.10	8.49	0.03	0

Table 8 - Summary of 2023 River Quality Modelling – average discharge flow proposed (Phase 2)

Determinand	Observed upstream river concentration		Modelled discharge permit		Modelled downstream river concentration		% change in river from u/s	
	Mean	90%ile	Limit	Type	Mean	90%ile	Mean	90%ile
BOD	1.35	1.62	10 mg/l	Maximum	1.35	1.62	0.1	0.0
Ammonia	0.015	0.029	2 mg/l	Maximum	0.016	0.03	3.5	3.4
Orthophosphate	13.0	24.9	1000 ug/l	Maximum	13.6	25.7	4.6	3.2
pH	8.10	8.49	6 to 9	Range	8.10	8.49	0	0

Based on the latest river data, this comparison shows that for both the Phase 1 and Phase 2 average discharge flows, the downstream river quality is well within the 50µg/l target standard. For Phase 2, the downstream river concentration is reduced by 1% and 0.8% for the mean and 90%ile respectively which is in accordance with NRW's policy of no increase in downstream river concentrations.

Table 9 and Table 10 show summaries of the modelled downstream river concentrations and % change in concentration for the maximum daily discharge flow for both Phase 1 and Phase 2 respectively.

Table 9 - Summary of 2023 River Quality Modelling – maximum discharge flow current (Phase 1)

Determinand	Observed upstream river concentration		Modelled discharge permit		Modelled downstream river concentration		% change in river from u/s	
	Mean	90%ile	Limit	Type	Mean	90%ile	Mean	90%ile
BOD	1.35	1.62	20 mg/l	Maximum	1.36	1.63	0.9	0.6
Ammonia	0.015	0.029	5 mg/l	Maximum	0.017	0.032	9.9	10.3
Orthophosphate	13.0	24.9	2500 ug/l	Maximum	14.0	26.3	7.7	5.6
pH	8.10	8.49	6 to 9	Range	8.10	8.49	0.03	0

Table 10 - Summary of 2023 River Quality Modelling – maximum discharge flow proposed (Phase2)

Determinand	Observed upstream river concentration		Modelled discharge permit		Modelled downstream river concentration		% change in river from u/s	
	Mean	90%ile	Limit	Type	Mean	90%ile	Mean	90%ile
BOD	1.35	1.62	10 mg/l	Maximum	1.36	1.63	0.9	0.6
Ammonia	0.015	0.029	2 mg/l	Maximum	0.017	0.031	9.9	6.9
Orthophosphate	13	24.9	1000 ug/l	Maximum	13.8	26.0	6.2	4.4
pH	8.10	8.49	6 to 9	Range	8.10	8.49	0	0

Based on the latest river data, this comparison shows that for both the Phase 1 and Phase 2 maximum discharge flows, the downstream river quality is still well within the 50µg/l target standard. For Phase 2, the downstream river concentration is reduced by 1.4% and 1.1% for the mean and 90%ile respectively which is in accordance with NRW's policy of no increase in downstream river concentrations.

Furthermore, as for the 2015 study, the 2023 modelling is based on worst case (i.e., maximum daily average / maximum daily flow at maximum emission concentrations) in dry weather flow conditions in the river and assesses the impact in the immediate mixing zone, not further downstream where more dilution will occur.

A summary comparison of the river quality impact for Phase 1 and Phase 2 discharges is shown in Table 11.

Table 11 - Comparison of the river quality impact for Phase 1 and Phase 2

Determinand	% change in river quality compared to current permit			
	2,400 m3/d		3,120 m3/d	
	Mean	90%ile	Mean	90%ile
BOD	-0.7	-0.6	0	0
Ammonia	0	-3.2	0	-3.1
Orthophosphate	-1	-0.8	-1.4	-1.1
pH	-0.03	0	-0.03	0

The authors of the 2023 study report noted that the river Mean phosphate concentration has increased by 0.04 mg/l in the upstream river since the initial investigation in 2015 and is now non-compliant with the Water Framework Directive Good Status standard (0.054mg/l). This is not associated with the Maelor Foods installation and may be due to diffuse agricultural pollution or other point source discharges in the catchment upstream of Maelor Foods.

Conclusion

Based on the proposed reduced emission limit concentrations, the proposed increase in average operational discharge (from 1,200 m^3/day to 2,400 m^3/day) is predicted to result in a worst-case scenario 1% decrease in mean phosphate (13.7 to 13.6µg/l) i.e. an improvement on Phase 1 impact.

For the increase in the maximum discharge (from 1,520 m^3/day to 3,120 m^3/day) a worst-case scenario 1.4% decrease in mean phosphate (14.0. to 13.8µg/l) is predicted, i.e., an improvement on Phase 1 impact.

Given the precautionary approach undertaken for the modelling and the superior water quality actually achieved by the WWTP, we conclude that the discharge from the WWTP under Phase 2 will have a positive, non-detrimental impact on the SAC phosphate target for the River Dee SAC, Chester Weir to Ceiriog stretch which is currently being achieved.

4. Assessment of Maelor Foods Treated Domestic Sewage Discharge to River Dee

Through the Environmental Permitting Regulations 2016 (EPR) and the preceding EPR 2010 all discharges from septic tank and small sewage treatment plants in Wales must be registered. This allows the risk these systems pose to be estimated and NRW can assess the cumulative impact on the water environment and identify if further steps, such as the construction of new public sewers or better maintenance of existing septic tanks, is appropriate where the environment is currently at risk.

The Maelor Foods Installation is served by a package sewage treatment plant (STP) that was installed in 2015 and issued with an environmental permit issued by NRW on 15th December 2015, EPR/WB3990HT, before the processing plant and its wastewater treatment plant were constructed.

This permit regulates the discharge of secondary treated sewage effluent, a maximum of 15m^3/day, treated by a package treatment plant and discharged into an unnamed tributary of the River Dee via a surface water sewer. The system serves the toilets and wash facilities at the poultry processing factory. The daily volume is based on the total number of staff at the site and the size of the STP was specified to cater for Phase 2 plans. This permit does not regulate the discharge of trade effluent from this site as this is covered by the Regulated Industry permit (EPR/ AB3591ZQ).

The permit specifies emission limits in Table S3.1 as shown in Figure 5.

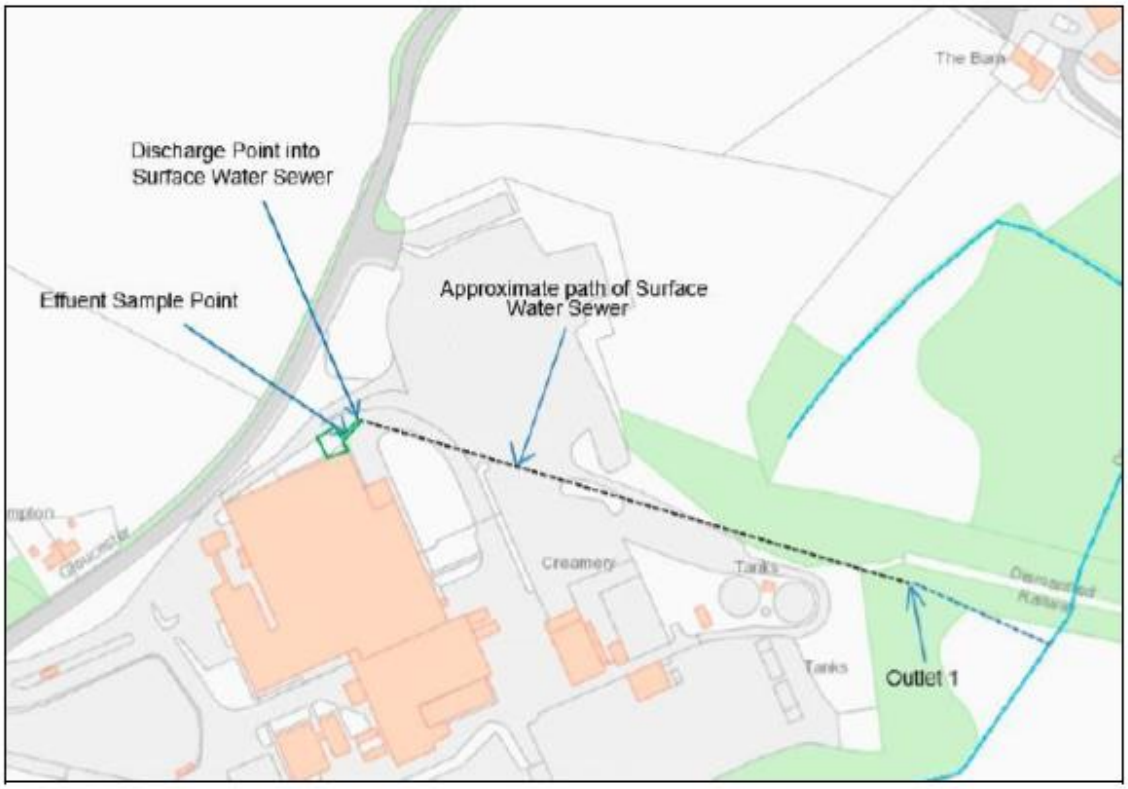
Figure 5 – Emission Limits for Package Sewage Treatment Plant

Table S3.1 Point Source emissions to water (other than sewer) – emission limits and monitoring requirements						
Discharge source and discharge point ref. & location	**Parameter**	**Limit (including unit)**	**Reference Period**	**Limit of effective range**	**Monitoring frequency**	**Compliance Statistic**
Secondary treated sewage effluent via Outlet 1	Maximum daily discharge volume	15 m^3/day	Total daily volume	N/A	N/A	Maximum
	ATU-BOD as O_2	20 mg/l	Instantaneous (spot sample)	N/A	N/A	Maximum
	Suspended solids (measured after drying at 105° C)	35 mg/l	Instantaneous (spot sample)	N/A	N/A	Maximum
	Ammoniacal nitrogen (expressed as N)	5 mg/l	Instantaneous (spot sample)	N/A	N/A	Maximum
	Visible oil or grease	No significant trace present	Instantaneous (spot sample)	N/A	N/A	No significant trace

There is no emission limit for phosphate.

The STP discharges into the surface water sewer culvert running under the Maelor Foods Installation which takes some clean site drainage from the installation before entering the River Dee – see plan inFigure **6**.

Figure 6 – Plan of STP discharge point



The outlet from this culvert is also a specified emission point to water (W2) in the Regulated Industry permit for the discharge of uncontaminated surface water runoff from clean yard and roof areas. There is a requirement for no visible oil and grease on release point W2.

The Chester Weir to Ceiriog stretch of the River Dee, into which the Maelor Foods STP discharge has been made since 2015 under Phase 1, is passing its SAC phosphate target so the impact of this discharge is considered trivial.

However, the Phase 2 staff levels will be higher so we have further assessed the impact. The STP installed in 2015 was specified to be able to handle forecast sewage volumes for the longer-term plans for the site under Phase 2 operations and has capacity for 500 on site staff.

British Water (www.britishwater.co.uk) publish standard figures for sewage volume per person for a number of different circumstances. For industrial facilities such as ours (office / factory without canteen preparing food) the sewage volume is estimated to be 50 litres per person per day.

Under Phase 1, staffing levels were 300 staff, which equated to 15m^3/day. Under Phase 2 the maximum number of staff on site will increase to 425 so the sewage volume will be 21.25m^3/day.

As a precautionary measure and to minimise our environmental permit requirements, for Phase 2 we are taking the opportunity to divert the treated wastewater from the STP into the inlet to the process wastewater treatment plant which has a phosphate treatment capability. This will give added security that this comparatively small volume of treated wastewater (21.25m^3/day) will be further treated to the highest quality and ensure phosphate and nitrogen levels are minimised. Once this is configured, we will apply to revoke the STP environmental permit. The impact of the wastewater treatment plant discharge is assessed above and includes the volume from the STP.

Conclusion

The Chester Weir to Ceiriog stretch of the River Dee, into which the Maelor Foods STP discharge has been made since 2015 under Phase 1, is passing its SAC phosphate target. There will be a very small increase in treated sewage volume discharged to the River Dee of 6.25m^3/day. The sewage treatment plant is designed to handle the increased sewage volumes of Phase 2 and will be able to achieve the same treated effluent quality as under Phase 1 volumes.

As a precaution, additional treatment will be provided by diverting the outlet from the STP into the onsite WWTP which has a phosphate treatment capability.

The discharge volume from the STP is only 0.2% of the volume to be discharged from the onsite wastewater treatment plant (3,120m^3/day) serving the factory which has been assessed as having a negligible impact on the River Dee SAC.

5. Assessment of Application of Wastewater Treatment Plant Sludge to Land in the River Dee SAC catchment

The deployment of sludge from the wastewater treatment plant to farmland as a fertiliser for agricultural benefit is a sustainable use of the phosphorus and nitrogen nutrients in the sludge. This replaces mineral based fertilisers which are a burden on scarce natural resources and in short supply due to the current geopolitical situation.

However, we are mindful that if our sludge is not applied to land in accordance with the Regulatory requirements and guidance, there is potential for diffuse water pollution which could impact the nitrogen and phosphorous levels in the River Dee SAC. The same risk applies to other fertilisers so the risk is not increased by using our sludge as a fertiliser.

For Phase 2 a sludge dewatering process will be installed which will significantly reduce the volume of sludge to be dealt with compared to Phase 1, even with double wastewater volume under Phase 2. We estimate this will reduce the number of sludge collections by around 80% and reduce the associated environmental emissions of vehicle movements and at the point of reuse offsite.

The dewatered sludge will have a dried cake consistency as opposed to a slurry when not dewatered. This makes it much easier to handle and reduces the risk of direct run off into watercourses when deployed to land.

Contractors who intend to land spread organic manure or manufactured fertiliser must comply with The Water Resources (Control of Agricultural Pollution) (Wales) Regulations 2021. NRW publish Guidance which describes the requirements farmers and land managers in Wales must follow to comply with these Regulations. In England the Farming Rules for Water (FRFW) are the equivalent.

Under these Regulations the premises where organic manure or manufactured fertiliser is applied to land must hold a relevant permit and materials must be applied in accordance with approved Deployments. NRW is the Regulator responsible for enforcing this legislation in Wales.

These and the Farming Rules for Water are a relatively new set of regulations that all farmers must follow and were introduced to help protect water quality. One of the most important Farming Rules for Water, known as ‘rule one’, says each application of organic manure – including digestate – or manufactured fertiliser to agricultural land must be planned **so it does not exceed the needs of the soil and crop on that land**.

The application must also **not give rise to a significant risk of agricultural diffuse pollution and must consider the weather conditions and forecasts for that land at the time of the application.**

NRW offer advice and guidance to land managers on compliance with the Regulations but reserve the right to take further enforcement action where appropriate and necessary.

RB209[(2)], the most widely recognised Nutrient Management Guide, helps farmers and land managers and advisers to make the most of organic materials and balance the benefits of fertiliser use against the costs - both economic and environmental. It gives recommendations on major nutrient requirement (N, P, K, and Mg) of most, if not all, crops grown in the UK. It contains recommendations for optimising nutrient uptake by crops to help minimise an excess in the soil.

A spreading activity will be assessed by NRW as occurring in a higher risk location if it is within a groundwater source protection zone 2 and or less than 500 metres from a European site, Ramsar site and or a Site of special scientific interest. So, if our sludge is to be applied to land within the River Dee SAC catchment area it may be deemed to be a higher risk location.

NRW's assessment in such cases will require a site-specific risk assessment to be provided and the nature of the deployment may require NRW as the statutory nature conservation body (SNCB) to consult with the competent authority during an appropriate assessment to provide advice and assistance on some decisions. Habitats Regulation 63(4) provides for public consultation at the discretion of the competent authority (it is not a statutory requirement). The "appropriate authority" in Wales under the Habitats Regulations is the Welsh Ministers.

Though separate to NRW assessing a deployment, they should have more confidence in a proposed landspreading activity if it can be demonstrated in the site-specific risk assessment that the farmer accepting the waste will comply with the FRfW. This means the farmer has planned their use of organic manure to not exceed the needs of the soil and crop on the land to be spread, it will also not give rise to a significant risk of agricultural diffuse pollution. Examples of factors to take account of and reasonable precautions to follow are given in the FRfW.

Conclusion

Land fertiliser demands in the SAC catchment are fixed by the crop requirements and our sludges are a replacement for mineral-based fertilisers which pose the same risk of diffuse pollution and are less sustainable.

Our Phase 2 volumes will be less than Phase 1 and will be a drier material, posing less runoff potential and making it easier to manage.

There is no additional risk of causing diffuse water pollution associated with the offsite deployment of our Phase 2 sludge volumes to farmland if the existing regulatory processes and guidance are followed by contractors and landowners at deployment sites and if NRW regulate them effectively.

Higher risk deployment sites will be required to undertake more detailed assessments before obtaining approval for deployments.

Our sludge deployments to land pose less diffuse pollution risk than other manures and slurries applied by farmers to their own land which are not regulated to the same extent and rely on farmers following guidance.

References

(1) 'Compliance Assessment of Welsh River SACs against Phosphorous targets'
(2) Nutrient Management Guide (RB209) - https://ahdb.org.uk/knowledge-library/rb209-section-2-organic-materials