EPA Information Note on the Management of Short Term Pollution (STP) Events specified in the 2008 Bathing Water Quality Regulations (SI No. 79 of 2008)

1. Purpose of this Document

The purpose of this document is to provide an interpretation of short term pollution events as specified in the Bathing Water Quality Regulations 2008 (SI 79 of 2008) and the respective procedures to be followed. The Bathing Water Quality Regulations 2008 will be referred to as 'BW Regulations', for brevity purposes, in this document. The document incorporates relevant information from the BW Regulations and latest guidance provided by the European Commission (Commission).

This document should be read in conjunction with the BW Regulations, Directive 2006/7/EC concerning the management of bathing water quality, and the *EPA Guidance Note for Local Authority Management and Reporting of Bathing Water Incidents Under the 2008 Bathing Water Quality Regulations* (updated May 2018).

2. Short Term Pollution

Short-term pollution (STP) is defined (Regulation 2(2)) as **microbiological** contamination (referred to in Schedule 4, Column A as the parameters Intestinal enterococci and *Escherichia coli*) which has:

- clearly identifiable causes;
- is not normally expected to affect bathing water quality for more than approximately 72 hours after first being affected and;
- for which the local authority has established procedures to **predict** (including surveillance, early warning systems and monitoring) and deal with the short-term pollution.

The relevant local authority is required to have established adequate management measures to prevent bathers' exposure to pollution by means of a prior warning notice, and subsequently where necessary, an advisory or bathing prohibition notice together with steps to prevent, reduce, or eliminate the causes of pollution (Schedule 6). During STP events, monitoring as specified in the monitoring calendar is required to continue uninterrupted. One additional sample is required to be taken to confirm the STP event has ended. This 'End of Event' sample (also referred to as 'End of Incident' sample) is not included for assessment and if it is necessary to replace a disregarded sample, a **replacement sample** (see definition on page 14) must be taken within 7 days after the end of the STP event is confirmed (Regulation 7(4), Schedule 2).

All STP events are required to be reported to the EPA via the Bathing Water Information System (BWIS) and information on this process is detailed in the *EPA Guidance Note for Local Authority Management and Reporting of Bathing Water Incidents Under the 2008 Bathing Water Quality Regulations (updated May 2018)*. Details of STP incidents, together with impacts and remedial/management measures are reported to the Commission by the Agency in its annual data return and should therefore be fully documented by the local authority.

The BW Regulations 2008 (Schedule 6) allow bathing waters classed as Excellent, Good and Sufficient to avail of the replacement of samples under the requirements of STP, however, this is not applicable to bathing waters classed as Poor. Separate guidance is provided for Poor bathing waters detailed in the *EPA Guidance on the Management of Poor Bathing Waters* (dated 19 May 2015)

2.1 Commission's View on the 'Predictability' of a STP event

In the Commission's view (ETC/ICM 28 Sept 2012 update), STP refers to **microbiological** contamination that could affect the water quality of a bathing water. The **'predictability'** of a STP event **refers to prior knowledge of conditions** (such as meteorological impacts e.g. heavy rainfall, infrastructure failures e.g. storm overflow operations, or engineering hazards e.g. planned maintenance of sewer networks) **that can trigger STP events**. Given this interpretation of the 'predictability' of a STP event an 'STP prediction model' is not necessarily required where prior knowledge of the conditions that can trigger STP events exists within the local authority.

While both Directive 2006/7/EC, and the 2008 BW Regulations, specify that a STP event is not normally expected to affect bathing water quality for more than approximately 72 hours, the Commission's view is that no time limit for STP is considered at present for assessment purposes (ETC/ICM 28 Sept 2012 update). The Commission's view may change in the future, however, the bathing water legislation states that a STP event is not generally expected to affect bathing water quality for more than 72 hours.

The Commission's view also states:

- The likely causes of such pollution, and hence if there is a risk of STP, are required to be clearly identified in the bathing water profile. In addition, a notice at the bathing water is required to inform the public:
    - that the bathing water can be subject to STP and;
    - the number of days on which bathing was prohibited or advised against during the previous season as a result of STP.
- As the causes of STP events are considered to be clearly identifiable then the local authority is required to have in place a contingency/response plan to prevent bathers' exposure and to prevent, reduce, or eliminate the causes of pollution.
- During STP events, monitoring as specified in the monitoring calendar is required to continue uninterrupted.

If after the 'potential' STP, microbiological analysis shows no contamination was detected then the event is **not to be considered a STP** event and hence no further samples are required to be taken and the invalid incident will not be reported to the Commission (ETC/ICM 28 Sept 2012 update).

2.2 Prior Knowledge of Conditions triggering a STP event

Central to determining the likelihood of a STP event occurring is knowledge of the conditions which may trigger it whether the impact is from rainfall run off or as a result of wastewater discharges. Internal local authority communications should be able to identify potential impacts arising from planned engineering works however rainfall effects can be more difficult to predict and it is strongly recommended that local authorities review **advance meteorological information** on a regular basis.

In addition to the wealth of forecasting information provided on the Met Éireann website (www.met.ie) there are several other Internet weather websites that can also be consulted e.g. www.passageweather.com, www.xcweather.co.uk, or www.magicseaweed.com some of which give predictive rainfall and wave height data. Note however that **all** of these models carry some degree of uncertainty nonetheless they do afford an insight into probable meteorological conditions.
Bathing water profiles should clearly identify any potentially significant impact sources such as nearby streams, surface drainage, CSOs etc. together with assessing their microbial risk potential. It is also strongly recommended that in the event of a STP warning being issued by a local authority that these pollution sources also be sampled to determine the extent, if any, of their influence on bathing water quality.

Generally speaking, most waters of 'Excellent' status do not appear to be impacted appreciably by pollution events linked to rainfall however they may still be influenced by other factors such as storm conditions, engineering operations, or coastal repair work so vigilance is required. Waters in the 'Good' and 'Sufficient' categories do display evidence of sporadic and occasionally significant impacts and it is these more extreme events that the STP criteria are designed to mitigate.

2.2.1 Risk-Matrix of the Vulnerability of Bathing Water to Rainfall Impacts Linked to Forecast Rainfall

It is strongly recommended that local authorities adopt, as part of their own STP protocols, a risk-matrix such as indicated below whereby the known susceptibility of bathing water to rainfall impacts can be linked to forecast rainfall. In order to reduce the number of occasions where local authorities choose to implement STP warnings but where there are no apparent impacts it is necessary to closely examine local and regional data to provide individually tailored rainfall thresholds for STP warnings.

A review of past patterns of bacterial contamination and associated prior local rainfall will allow a vulnerability score to be assigned to any specific bathing water. The detailed data provided in any hydrodynamic models (where available) can be used as a supporting tool to refine this if required.

Rainfall trigger values of >=10mm over 24hrs, >=15mm over 48hrs, >=20mm over 72hrs have been identified as broad indicators of the potential for impacts on susceptible waters. These are generally lower than the rainfall thresholds used by Met Éireann for their severe weather warnings and it follows therefore that should such warnings be issued by Met Éireann it would be prudent to review the necessity for prior warning for vulnerable waters - particularly where compliance sampling would follow such events within 48 -72 hours.

Rainfall pattern (mm / Time)						
Vulnerability to Rainfall ↑		<5 mm over 24hr	5 – 10 mm over 24hr	10 -15 mm over 24hr	15 – 20 mm over 48hr	>20 mm over 72hr
	5	Low	Med	High	V. High	Ex. High
	4	Low	Med	Med	High	V. High
	3	Low	Low	Med	Med	High
	2	V. Low	Low	Low	Med	Med
	1	V. Low	V. Low	Low	Low	Med

(Sample Risk-Matrix of the vulnerability of bathing water to rainfall impacts linked to forecast rainfall provided by Kerry County Council)

2.2.2 Model Assessing Potential Correlation between Bathing Water Quality & Impacts of Rainfall

Information has been provided to a number of local authorities, by Dr. Batt Masterson (UCD) arising from work commissioned by Department of Housing, Planning and Local Government (DHPLG), to assess the existence of any potential correlation between bathing water quality and the impacts of rainfall as measured at local gauging stations. As such this model is **not** a prediction model and would need to be used in conjunction with advance meteorological information to provide prior knowledge of the forecast rainfall conditions that are expected to trigger a STP event.

To date this work has focussed largely on the assessment of those bathing waters with a "less than good" status over recent years. For these bathing waters the models provide suggested rainfall or flow gauging stations, trigger values (mm per unit time), and relevant timeframes e.g. previous 24/ 48 hours however in practice these can be difficult to apply as many of the monitoring stations may have no direct data interrogation capability. The core value of these models is to provide information on the levels of rainfall which may be likely to produce potential STP impacts and they are generally targeted to rainfall in the preceding 24-48 hours. It should be noted that these models can have quite a high inherent uncertainty and their exclusive use could result in a tendency for "false" decisions. These models provide local authorities with a useful tool to decide on the levels of rainfall which could result in potential STP impacts, however, they need to be used in conjunction with advance meteorological information and local knowledge to provide the best assessment of the conditions that could be expected to trigger a STP event and hence allow for a prior warning to be issued by the local authority at the bathing water in advance of the expected STP event. Queries on the application of the models should be directed to Dr Masterson.

2.3 Reporting of STP events to Agency

During the bathing season, local authorities are required to give prior warning of **all** potential STP events at the bathing water and to the Agency including any potential STP events that could occur on days not specified in the monitoring calendar. All confirmed STP events, including those arising on days not specified in the monitoring calendar, are required to be reported to the Commission (ETC/ICM 28 Sept 2012 update).

Local authorities are required to notify all potential STP events to the Agency via the Bathing Water Information System (BWIS) application on EDEN (www.edenireland.ie). Prior to the start of the potential STP event, local authorities are required to issue a Prior Warning notice (BN3) at the bathing water and to notify the Agency with initial submission of key information on the potential STP event via the notification form on BWIS.

As part of the initial submission the '**Start Date of the incident'** (see definition on page 14) needs to be provided. This is the date the local authority expects the potential STP event to commence. The initial submission on the potential STP incident via BWIS will automatically:

- notify the EPA Bathing Water Team and appropriate supporting OEE/OEA team (Office of Environmental Enforcement/ Office of Evidence and Assessment) of the incident,
- generate a tweet giving prior warning of the potential STP incident from the @EPABeaches Twitter™ account to followers and,
- publish details of the potential STP incident on the EPA bathing water website beaches.ie (https://www.beaches.ie).

During a STP event where the water quality of the bathing water deteriorates requiring the replacement of the prior warning with a bathing restriction i.e. Advisory or Prohibition then the BWIS incident notification form should be updated with new bathing restriction, monitoring results and incident details/actions taken. The Date & Time Notice Replaced field should also be completed.

Once local authorities confirm, following microbiological analysis, that a STP event either did not occur (contamination was not detected) or that the STP event is now over (the bathing water is no longer affected by contamination) then local authorities are required to remove the bathing restriction/warning from the bathing water and notify, via the BWIS incident notification form, the '**End Date of the incident'** (see definition on page 14) i.e. the date when it is confirmed that no contamination is present. This will automatically generate a tweet to followers of @EPABeaches that the STP incident is over and details of the STP incident will be removed from beaches.ie (*IT systems automatically update beaches.ie information & send tweets generally within an hour*).

Where microbiological analysis confirms, for any 'potential' STP, that there was no contamination detected then the event will **not** be considered a STP event and as such:

- will be deemed an invalid STP event & hence closed off by EPA Bathing Water team in BWIS
- will not be reported to the Commission.

Local authorities are required to submit the outstanding information on 'confirmed' STP incidents via the BWIS notification form as soon as available and all incident information including a 'Summary of Management Measures' is required to be reported to the Agency by 15 October each year. The incident information submitted on confirmed STP events will be used for EPA assessment & enforcement purposes and for reporting requirements to the Commission. The Agency is required to report all confirmed STP events, together with impacts and remedial/management measures, in a specified format to the Commission by 31 December each year.

This supporting information should be provided in a concise (not exceeding 1000 characters) but informative manner as free text format without the use of grammatical highlighting or formatting such as the use of underline, bullet points etc. This information will not be edited by the Agency prior to reporting to the Commission. The management measures should include the local authority and

bathing water name, sampling dates/results, details of all actions undertaken, or proposed to be undertaken, to mitigate the likelihood of recurrence of STP. The reporting of incidents is detailed in *EPA Guidance Note for Local Authority Management and Reporting of Bathing Water Incidents Under the 2008 Bathing Water Quality Regulations (updated May 2018)*.

2.4 Bathing Warning & Restrictions

Local authorities are required to complete and issue the standard prior warning notice 'Bathing Prior Warning Notice BN3' (A3 size format) at the bathing water **prior** to the 'potential' STP event arising (see Appendix 1). The prior warning should be posted at all main or popular entrances to the beach and at any other publicly accessible areas e.g. car-parks, toilets etc. Details should also be made available on local authority websites and other media channels if these are considered necessary.

The decision on how far in advance of the potential STP event should the prior warning be issued depends on the factors that are likely to trigger the pollution event. If pollution is rainfall induced there may be a lag time between rainfall and observable impact, however, if the impacts are likely to be linked to waste water treatment discharges this could be a much shorter time period.

No timeframe is specified in the BW Regulations, however, the prior warning should precede the commencement of the potential STP event to prevent bather exposure to the expected pollution.

During an STP incident, the prior warning notice may need to be replaced with a bathing restriction, i.e. an advisory notice or bathing prohibition, where sampling shows deterioration in water quality or where events arise whereby the water quality may deteriorate further. In these situations, local authorities will need to consult the Health Service Executive (HSE) and the HSE action levels for appropriate bather restriction and ensure the appropriate bathing restriction is applied. Any new notices should be uploaded in the incident notification form in BWIS and the Date & Time Notice Replaced field must be completed. The HSE action levels for appropriate bather restriction are provided in the *EPA Guidance Note for Local Authority Management and Reporting of Bathing Water Incidents Under the 2008 Bathing Water Quality Regulations (updated May 2018)*.

During an STP event, it should be noted that **any** gross malfunction or leakage from sewerage systems, or visual reports of sewage affecting the bathing water, should lead to an **immediate Bathing Prohibition** until the status of the bathing water quality can be verified.

A bathing warning/restriction notice should remain in place at the bathing water until it is confirmed that the bathing water is no longer affected and the water quality is acceptable for bathing. The *EPA Guidance Note for Local Authority Management and Reporting of Bathing Water Incidents Under the 2008 Bathing Water Quality Regulations (updated May 2018)* should be referred to for more information.

2.5 Sampling during STP events

Safety is paramount where, for health & safety reasons, weather prevents safe access to sample the bathing water. Where sampling cannot take place, for health & safety reasons, on the scheduled sampling date or other sampling with 'time limit' such as replacement sample then the Local Authority should immediately inform the EPA (bathingwater@epa.ie). More information and the actions to be

undertaken are in the *EPA Weather Prevents Safe Access to Bathing Water for Sampling - Information Note of Actions to be undertaken* (dated May 2015).

The monitoring results of all samples taken during the bathing season including non-scheduled sampling are required to be reported to the Agency via the Monitoring Data System (MDS) as soon as available. This will ensure that the reporting of bathing water quality to the public via www.beaches.ie is provided in a timely manner.

2.5.1 STP event arising affecting a scheduled sample specified in monitoring calendar

Monitoring, as specified in the monitoring calendar, is required to be continued uninterrupted when a potential STP event arises. Where microbiological analysis of the **scheduled sample** (see definition on page 14) detects contamination, this confirms an STP event has occurred – providing prior warning was given.

For a confirmed STP event affecting a scheduled sample:

- An additional sample is required to be taken to confirm the STP event has ended taken generally within 72 hours after the bathing water first affected - this End of Event (End of Incident) sample is not included for assessment;
- If necessary to replace a disregarded sample, a replacement sample must be taken within 7 days after the end of the STP event is confirmed (Regulation 7(4), Schedule 2).

Weekly Scheduled Sampling at Bathing Water

For a confirmed STP event at bathing waters where sampling is scheduled on a weekly basis during the bathing season, and where the sampling date of the replacement sample corresponds to the date of next scheduled sample, this scheduled sample may be used as the replacement sample for the STP event. As such no additional sample is required and as sampling is undertaken on a weekly basis then sampling frequency requirements, as per BW Regulations, will be adhered to. This is a pragmatic approach and is supported by advice from the European Topic Centre on Inland, Coastal and Marine Waters in relation to STP at bathing waters '*If sampling date of replaced sample corresponds with the next sample date in the monitoring calendar, no additional sample is* needed'. This situation would **only** apply if samples are scheduled on a weekly basis and may be subject to change by the Commission in the future.

2.5.2 STP event outside of monitoring calendar

During the bathing season, local authorities are required to give prior warning of all potential STP events including those that could occur on days outside of the monitoring calendar. All confirmed STP events, including those arising on days not specified in the monitoring calendar, are required to be reported to the Commission (ETC/ICM 28 Sept 2012 update).

For potential STP events outside of the monitoring calendar a sample is required to be taken to confirm that the bathing water is not/no longer contaminated before the prior warning notice can be removed from the bathing water and the 'End of Incident' can be notified via BWIS. As a STP event is generally over within 72 hours (after the bathing water is first suspected of being affected), the **End of Incident sample** (see definition on page 14) can be taken during this period or soon after. The End of Incident sample is not included for assessment.

Disregarding and replacement of samples is not an option as this can only be considered for samples specified in the monitoring calendars.

2.6 Assessment of STP events & Replacement of Samples

Local authorities are responsible for reporting all potential STP events to the Agency via BWIS. The Agency is responsible for undertaking the water quality assessment of bathing waters. As part of this responsibility the Agency ensures for confirmed STP events that the requirements specified in the BW Regulations in terms of prior warning issued, sampling, management measures, etc. are followed. Adherence to these specified requirements allow local authorities to consider and make a decision on disregarding and replacement of samples specified in the monitoring calendars (as per Schedule 6 of the BW Regulations).

Disregarding and replacement of samples can **only** be considered for samples specified in the monitoring calendars.

Schedule 6 of the BW Regulations sets a limit on the number of samples that can be disregarded and replaced under STP. *For the 4 year assessment period* either *one sample per bathing season* or *no more than 15 per cent of the total number of samples specified in the monitoring calendars, whichever is greater.*

The following situations can arise after the 'potential' STP: If …

- microbiological analysis shows no significant contamination was detected then the event is not to be considered a STP and there will no disregarding or replacing of sample and will not be reported as STP to the Commission
- microbiological analysis shows significant contamination was detected and the STP requirements are adhered to then the event can be considered a STP and disregarding or replacing of sample can be considered (where within the disregarding/replacing sample limit) and will be reported as a STP to the Commission.

2.7 STP Example Scenarios

Scenario Example 1: A STP event arising at a bathing water when have a Scheduled Sample

Weather Warning issued from Met Éireann in advance of the weekend. Scheduled sample planned for Monday following the weekend as specified in monitoring calendars. Sampling is undertaken fortnightly at the bathing waters during the season. Local authority protocol uses preliminary results to initiate actions in response to incidents for early notification to the public.

1. **Thursday 4th June**
    - Weather Warning issues from Met Éireann. Heavy rain and strong winds are forecast for Sunday 7th June.
    - Local authority decides that this may have an effect on the water quality at their bathing waters (STP risk identified in profile) and decides to warn bathers using STP – prior warning.

2. **Friday 5th June**
    - Local authority erects Prior Warning notice (BN3) at the bathing waters potentially affected by STP.
    - Local authority reports a STP incident in BWIS for each bathing water potentially affected including Start Date of Incident of Monday 8th June.
3. **Monday 8th June**
    - Local authority takes scheduled sample at all bathing waters (if safe to do so).
4. **Tuesday 9th June**
    - Local Authority receives preliminary results of bathing water samples where exceedance of E coli at two of the bathing waters shows significant microbiological contamination (the water quality of the other bathing waters is fine).
    - Local authority consults HSE & HSE Action Thresholds for the two 'contaminated' bathing waters and HSE recommendations require a bathing prohibition notice at the two bathing waters.
    - The prior warning notice is replaced by a bathing prohibition notice (BN2) at the two bathing waters.
    - Blue Flag is lowered as the two bathing waters are Blue Flag beaches and bathing prohibition in place at the bathing waters.
    - Red flag is flown by lifeguard as bathing prohibition in place at the two bathing waters.
    - Local authority updates incident form on BWIS with new information and uploads new bathing restriction notices for these incidents on BWIS.
    - Measures, where appropriate, are taken to prevent, reduce, or eliminate the causes of pollution.
    - Local authority arranges an additional sample to be taken at the two bathing waters to confirm the bathing waters are no longer contaminated (End of Incident Sample). This sample will be taken, generally, within 72 hours following the bathing waters being first affected (up to and including Thurs 11th June).
5. **Wed 10th June**
    - Local authority receives definitive results of the scheduled samples (taken on Mon 8th June) which confirm exceedance at the two bathing waters and no exceedance at the other bathing waters (hence these are invalid STP events).
    - Local authority removes prior warning notices from the bathing waters where confirmed not contaminated and then updates their incident notification forms in BWIS including the End Date of the incident.
    - Local authority uploads scheduled sample results for all bathing waters in MDS on EDEN.
    - The End of Incident sample is taken at the two bathing waters.
    - Local authority updates any new information/actions taken in the Incident forms in BWIS in relation to the two contaminated bathing waters.
6. **Thurs 11th June**
    - Local authority receives preliminary results of the End of Incident samples (taken on 10th June) for the two bathing waters which show that contamination no longer detected.
    - Local authority updates incident forms in BWIS.

7. **Fri 12th June**
    - Local authority receives definitive results of End of Incident samples (taken on 10th June) for the two bathing waters which confirm that contamination no longer detected and the STP incidents have ended.
    - Local authority removes bathing prohibition notices from the two bathing waters and updates their incident notification forms in BWIS including the End Date of the incident.
    - Local authority uploads End of Incident sample results in MDS on EDEN.
8. **Mon 15th June**
    - Local authority takes a replacement sample at the two bathing waters.
9. **Weds 17th June**
    - Local authority receives definitive results of replacement samples (taken on 15th June) for the two bathing waters which show no exceedance.
    - Local authority uploads replacement sample results in MDS on EDEN.

Scenario Example 2: A STP event arising at a bathing water outside of the monitoring calendar

Weather Warning issued from Met Éireann in advance of the weekend. No scheduled sample planned for the following week. Sampling is undertaken fortnightly at the bathing waters during the season. Local authority protocol uses preliminary results to initiate actions in response to incidents for early notification to the public.

1. **Thursday 4th June**
    - Weather Warning issues from Met Éireann. Heavy rain and strong winds are forecast for Sunday 7th June.
    - Local authority decides that this may have an effect on the water quality at their bathing waters (STP risk identified in profile) and decides to warn bathers using STP – prior warning.
2. **Friday 5th June**
    - Local authority erects Prior Warning notice (BN3) at the bathing waters potentially affected by STP.
    - Local authority reports a STP incident in BWIS for each bathing water potentially affected including Start Date of Incident of Monday 8th June.

Local authority suspects the bathing waters are affected on Monday 8th June from potential STP. Local authority can decide to take a sample on Monday 8th June to check if water quality has been affected at the bathing waters or not (if safe to do so). Where contamination is detected at any of the bathing waters then HSE Action Thresholds are consulted and HSE recommendations implemented including issuing of bathing restriction notice at the bathing waters and an End of Incident sample will be needed to confirm the bathing waters are no longer contaminated prior to removal of bathing restrictions (see scenario 1 example).

Or

Local authority can decide to take a sample within 72 hours of the bathing waters being first suspected (up to and including Thurs 11th June). In this scenario 2 example local authority

decides to take a sample on Weds 10th June to confirm water quality is not affected at the bathing waters.

3. **Weds 10th June**
    - Local authority takes a sample at all the bathing waters to confirm the water quality is not affected.
4. **Thurs 11th June**
    - Local Authority receives preliminary results of sample taken on Weds 10th June showing no exceedance at the bathing waters
    - Local authority updates the incident forms on BWIS with new information/actions taken.
5. **Fri 12th June**
    - Local authority receives definitive results of the samples (taken on Mon 8th June) which confirm no exceedance at the bathing waters.
    - Local authority removes prior warning notices from the bathing waters and then updates their incident notification forms in BWIS including the End Date of the incident (Friday 12th June).
    - Local authority uploads sample results for all bathing waters in MDS on EDEN.

2.8 STP Overview

An overview of the situations when STP can arise is provided with main actions to be undertaken.

Potential STP affecting Scheduled Sample giving rise to Actual STP event	**Potential STP affecting Scheduled Sample giving rise to Invalid STP event**	**Potential STP affecting Non-Scheduled Sample** (see definition on page 14)
Predict STP Event using: *Weather Warnings, Weather forecasts & Rainfall Index, Model* ↓ Erect Prior Bathing Warning Notice BN3 at bathing water ↓ Prior Notification of potential STP to EPA & Public via BWIS ↓ Take Scheduled Sample as per Monitoring Calendar ↓ Microbiological analysis confirms have Elevated Bacterial Levels so actual STP ↓ Consult HSE & HSE Action Thresholds, Follow HSE recommendations & Replace Prior Warning Notice with Bathing Restriction Notice (where required) ↓ Take Sample to confirm Impact on Water Quality (STP) has ended (STP generally over within *72 hours)* ↓ Microbiological analysis confirms End of STP • Remove Bathing Restriction/Warning Notice at bw • Update End Date of Incident in BWIS ↓ Take New Sample within 7 days after STP event confirmed ended so can disregard & replace scheduled sample ↓ Complete Incident Notification in BWIS. At end of season LA confirms whether replacing sample or not. ***All Samples to be Reported in MDS on EDEN as soon as available***	Predict STP Event using: *Weather Warnings, Weather forecasts & Rainfall Index, Model* ↓ Erect Prior Bathing Warning Notice BN3 at bathing water ↓ Prior Notification of potential STP to EPA & Public via BWIS ↓ Take Scheduled Sample as per Monitoring Calendar ↓ Microbiological analysis confirms do not have Elevated Bacterial Levels ↓ The event is an Invalid STP: • Remove Bathing Warning Notice at bathing water • Update End Date of Incident & incident information in BWIS ↓ Invalid STP is closed off in BWIS by EPA BW team & not reported to EC. The Scheduled Sample stands & part of assessment dataset. ***All Samples to be Reported in MDS on EDEN as soon as available***	Predict STP Event using: *Weather Warnings, Weather forecasts & Rainfall Index, Model* ↓ Erect Prior Bathing Warning Notice BN3 at bathing water ↓ Prior Notification of potential STP to EPA & Public via BWIS ↓ Take Sample to confirm bathing water not contaminated (STP event generally ends within 72 hours) ↓ (1) *Where confirmed no contamination detected:* • *Remove Bathing Warning Notice at bw* • *Update End Date of Incident & info in BWIS* ***OR*** *(2) Where Elevated Bacterial Levels confirmed:* *Consult HSE & HSE Action Thresholds, Follow HSE recommendations & Replace Prior Warning Notice with Bathing Restriction Notice (where required)* ↓ Resample to confirm no contamination of bw ↓ Microbiological analysis confirms End of Incident • Remove Bathing Notice • Update End Date of Incident in BWIS & • Complete Incident Notification in BWIS. ***All Samples to be Reported in MDS on EDEN asap***

2.8.1 Checklist for a Confirmed STP event when have Scheduled Sample

A Checklist is provided of the procedures to be undertaken by local authorities for a Confirmed STP event affecting a bathing water when have a Scheduled Sample:

1. Likely cause of STP is clearly identified in the bathing water profile.	
2. There is prior knowledge of the condition(s) that are likely to trigger the STP.	
3. Prior warning notice (BN3) is issued at the bathing water **prior** to the potential STP event to prevent bather exposure.	
4. Reporting of potential STP event to the EPA via the Bathing Water Information System.	
5. Automatic tweet of start of the incident issued to followers of @EPABeaches and incident details are published on beaches.ie.	
6. Monitoring of the scheduled sample is undertaken as per monitoring calendar.	
7. Measures, where appropriate, are taken to prevent, reduce, or eliminate the causes of pollution.	
8. Microbiological analysis of scheduled sample detects elevated levels of microbiological contamination. Report monitoring results via MDS on EDEN as soon as available.	
9. The HSE and the HSE action levels are consulted for appropriate actions and bather restriction to ensure the appropriate bathing restriction is applied.	
10. 'End of Incident' sample is taken to confirm the bathing water is no longer contaminated and this sample generally taken within 72 hours following the bathing water is first affected. Report monitoring results via MDS on EDEN as soon as available.	
11. Where confirmed, from microbiological analysis, the bathing water is no longer affected the bathing warning/restriction notice is removed and the 'End of Incident' is notified via BWIS.	
12. Automatic tweet of the End of the incident is issued to followers of @EPABeaches and incident details are removed from beaches.ie.	
13. Where the local authority wishes to disregard the 'scheduled' sample (allowing for adherence to STP requirements and limit on the number of samples that can be disregarded and replaced) then a replacement sample must be taken within 7 days after the End of the STP event is confirmed. Report monitoring results via MDS on EDEN as soon as available.	
14. All outstanding required information on the STP incident to be completed in the notification form in BWIS as soon as available and before 15 October.	

3. References & Definitions

References

- Bathing Water Quality Regulations 2008 (SI No. 79 of 2008).
- *Issues paper on monitoring and assessment under the 2006 Bathing Water Directive. Bathing Water Committee meeting 28.9.2012*. ETC/ICM (European Topic Centre on Inland, Coastal, marine Water), Sept 2012.
- EPA Guidance Note for Local Authority Management and Reporting of Bathing Water Incidents Under the 2008 Bathing Water Quality Regulations (updated May 2018).
- EPA Guidance on the Management of Poor Bathing Waters (dated 19 May 2015).

- EPA Weather Prevents Safe Access for Bathing Water Sampling - Information Note of Actions to be undertaken (dated May 2015).

Some Definitions in terms of STP

***Scheduled sample*:** This is a sample that is specified in the monitoring calendar of the bathing water for the current bathing season. Where a confirmed STP event affects the bathing water when a scheduled sample is taken and where STP requirements are followed, then disregarding and replacement of the scheduled sample is allowed adhering to 2008 Bathing Water Quality Regulations limit on the number of samples that can be disregarded/replaced.

***Non-Scheduled sample*:** This is a sample that is not specified in the monitoring calendar of the bathing water for the current bathing season.

***End of Incident Sample (or End of Event Sample)*:** In response to a potential STP event an additional sample is required to be taken to confirm that the STP event either did not occur (contamination was not detected) or that the STP event is now over (the bathing water is no longer affected by contamination). The End of Incident sample is generally taken within 72 hours after the bathing water is first affected. Once microbiological analysis of the End of Incident sample confirms bathing water quality is not affected then local authorities are required to remove the bathing restriction/warning from the bathing water and notify the EPA via the incident notification form on the BWIS. The End of Incident sample is not included for assessment.

***Replacement Sample*:** Where have a confirmed STP event affecting a bathing water when a scheduled sample was taken and where STP requirements are adhered to, then the scheduled sample can be disregarded and be replaced by taking an additional sample. The replacement sample must be taken within 7 days after the end of the STP event is confirmed. The 2008 Bathing Water Quality Regulations set a limit on the number of samples that can be disregarded and replaced under STP. *For the 4 year assessment period* either *one sample per bathing season* or *no more than 15 per cent of the total number of samples specified in the monitoring calendars whichever is greater.*

***Start Date of the incident*:** This is the Date the local authority expects the potential STP event to commence. The Start Date of Incident is reported to the EPA as part of the initial submission of information on the incident in the notification form in BWIS.

End Date of the incident: This is the Date when the local authority has confirmation, following microbiological analysis, that no contamination is present in the bathing water (either STP event ended or STP did not occur) and the bathing warning/restriction notice is removed from the bathing water. The End Date of Incident is reported to the EPA as part of the submission of information on the incident in the notification form in the BWIS.

Appendix 1 Standard Bathing Warning Notice to give prior warning of STP event

This notice in A3 size, provided by the EPA, is to be completed & used during the bathing season. The notice template is available to download from the Help Page of the Bathing Water Information System in both English & Irish.

<ENTER B WATER NAME HERE>

<ENTER LOCAL AUTHORITY LOGO HERE>

BN3 Bathing Prior Warning Notice

<ENTER NOTICE DATE HERE>

PRIOR WARNING

Bathers are advised of the possibility of an increase in the levels of bacteria in the bathing water over the coming days due to <enter reason here>.

To reduce the risk of illness, beach users should take the following precautions:

- **Avoid swallowing or splashing water**
- **Wash your hands before handling food**
- **Avoid swimming with an open cut or wound**
- **Avoid swimming if you are pregnant or have a weakened immune system.**

Higher levels of bacteria are usually short-lived and most bathers are unlikely to experience any illness.

LIKELY CAUSE:

EXPECTED DURATION:

ACTIONS TAKEN/PROPOSED:

For further information please contact: <enter LA contact details here> Tel: <enter tel no>
Visit: https://www.beaches.ie/ or <enter the LA website details here>