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**Ongoing  
Monitoring,  
Mitigation and  
Evolution**



## 9.1 Introduction

While the National Water Resources Plan (NWRP) is a 25-year plan, it will be formally reviewed every five years. Baseline forecasts and data feeding into the NWRP will be reviewed annually.

Irish Water will prepare a regionally-specific:

- Monitoring and Mitigation Plan for the Regional Water Resources Plan- Eastern and Midlands (RWRP-EM), which will be based on the plan set out at Chapter 4 of the Strategic Environmental Assessment (SEA) Statement prepared in relation to the NWRP Framework Plan. The Monitoring Plan has been designed to provide a basis for the identification and continuous review of the positive, negative and cumulative impacts of the RWRP-EM, and it will form part of the SEA statement published with the final Regional Water Resources Plan for the Eastern and Midlands Region. The draft Monitoring Plan is provided in two (2) parts to cover both Plan Level monitoring and Project Level monitoring. Indicators and targets to measure performance are set out in Chapter 4 of the Framework Plan SEA Statement.
- The Environmental Action Plan (EAP) is set out at Section 10 of the SEA Environmental Report for the RWRP-EM. This EAP will set out the recommendations of the SEA in relation to the RWRP-EM, and mitigation measures to take forward. Irish Water's commitment to implement this monitoring and mitigation is set out in section 8.3.8 of the NWRP Framework Plan.

The approach to monitoring takes account of the Environmental Protection Agency (EPA) guidance document 'The Tiering of Environmental Assessment – The influence of Strategic Environmental Assessment on Project-level Environmental Impact Assessment'<sup>1</sup>.

## 9.2 Monitoring and Mitigation

The monitoring and mitigation process is presented in Figure 9.1 and in summary involves:

- Identifying the **internal and external factors** that may impact the NWRP and mapping the areas of the NWRP that they will influence;
- Updating **Needs identification** by updating the Supply Demand Balance (SDB), Drinking Water Safety Plans (DWSP) and Barrier Scores to reflect these changes; and
- Incorporating **feedback** from **SEA mitigation actions and Monitoring Plan** set out in the SEA Statement prepared in relation to the NWRP Framework Plan.

The SEA assessment assumes the implementation of standard mitigation measures, such as operation of water sources in line with regulatory requirements and the use of good construction practice; and recommends further mitigation. Examples of standard measures expected to be embedded in the design and development of infrastructure options are listed in Appendix D of the SEA Environmental Report for the RWRP-EM. Appendix D identifies the mitigation measures that specifically respond to the significant environmental effects identified for each SEA topic in the seven (7) Study Areas of the Eastern and Midlands Region. Standard and specific mitigation measures identified include recommendations for further environmental assessment work to be undertaken at project stage (to further inform the development of suitable project specific mitigation measures), as well as mitigation to be implemented directly at project stage.

With respect to the NIS assessment, standard and option specific mitigation measures (see Sections 6.3.1 – 6.3.5 of the NIS) will be applied, unless Project-Level Appropriate Assessments (AAs) or project-specific environmental assessments demonstrate that they are: not required (i.e., the predicted effect will not occur), are not appropriate, or that alternative or additional measures are necessary or are more appropriate.

The EAP provided in Section 10 of the SEA Environmental Report for the RWRP-EM, summarises the actions and areas of further study identified in the SEA. The EAP provides a basis for tracking recommendations from the SEA during the NWRP implementation. The EAP considers the Options and Approach appraisal process as well as the integration of environmental considerations.

The Monitoring Plan is a requirement under the SEA regulations to provide a basis of identifying significant environmental effects during the implementation of the Plan. This is required to review the predicted impacts of the RWRP-EM, and the adequacy of the recommended mitigation measures so that additional mitigation can be applied, if required. Performance against the Monitoring Plan targets will also inform the next cycle NWRP and SEA process.

The proposed Monitoring Plan indicates a range of recommendations for the RWRP-EM including (but not limited to) the following topics:

- **Climate change:** mitigation through decarbonisation could include benchmarked reduced carbon emissions from construction, increased contribution of renewable/low carbon energy sources for existing and new schemes and improved energy efficiency of water services.
- **Catchment Management schemes** can be used for carbon offsetting, supporting biodiversity, and recreational objectives for population wellbeing.
- **Biodiversity, flora and fauna:** ensuring no adverse effects on the integrity of any European site and, where feasible, to seek to maintain and/or contribute to the site achieving Favourable Conservation Status. Further, ensuring protection of nationally designated sites are wider biodiversity.

In certain circumstances, monitoring and feedback will identify the need for a variation of the NWRP - Framework Plan or a Regional Water Resources Plan. Where a variation is required, as noted above, Irish Water will screen the change for SEA and AA in accordance with its legal obligations.

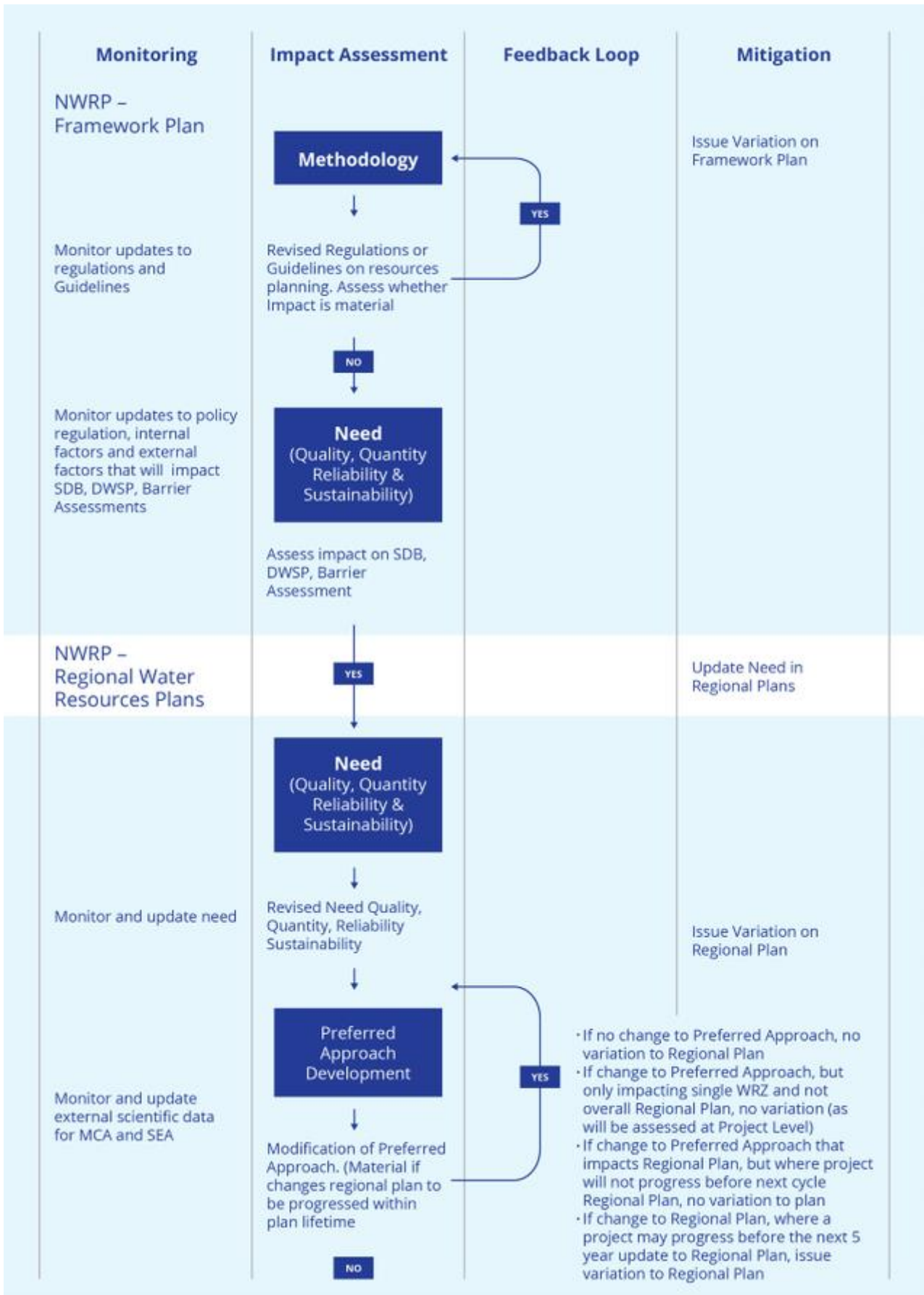


Figure 9.1 Continuous Monitoring and Mitigation Feedback Loop

## 9.2.1 Identifying Internal and External Factors that may Impact the NWRP

The NWRP may be influenced by a number of internal and external factors. Irish Water is committed to a programme of continuous monitoring to ensure both internal and external factors which may influence the NWRP are identified.

### External factors

External factors which can influence the performance of our water supplies include:

- Changes in legislation and policy that impact the way we operate our asset base or our interface with the natural environment
- Reductions in water supply availability due to climate disruption and environmental impacts
- Growth in demand for water for domestic and non-domestic use
- Funding availability and requirements to improve Levels of Service (LoS) to water users

Irish Water is committed to reviewing the RWRP-EM following the publication of any relevant new legislation, regulations and policies. Key policy instruments and publications which will be monitored, include:

- The Drinking Water Directive which concerns the quality of water intended for human consumption, which may impact our treatment requirements. Preferred Approaches (PAs) will be reviewed in the event of any changes to the Drinking Water Directive and Irish Drinking Water Regulations to ensure that any additional or revised obligations such as further treatment requirements are accounted for.
- Irish Water's Water Services Strategic Plan (WSSP) which sets out our 25-year objectives under the Water Services (No. 2) Act 2013.
- The pending abstraction legislation reform, which has the potential to increase the Deficits by reducing the amount of water which we can abstract from our sources (both existing and future identified sources);
- The 3<sup>rd</sup> Cycle of the River Basin Management Plan (2018-2021) which has identified significant pressures in water bodies in relation to hydromorphology, land use planning, agriculture, siltation and hazardous chemicals. All of these pressures have the potential to reduce the amount of water we can abstract, reduce water quality and or change suitable abstraction point infrastructure or locations. Any data that becomes available from the upcoming River Basin Management Plans which will cover 2022-2025 will be incorporated into the RWRP-EM as appropriate. This will enable the early incorporation of changes to the SDB and the revision, if necessary, of PAs;
- Policies such as Enterprise 2025, Manufacturing 4.0, and sector specific publications such as BioPharma and Distilling.
- The Status of Ireland's Climate Report for Ireland which provides datasets and analyses of climate observations from which climate scenarios can be built into the SDB.

The above is a non-exhaustive list. Irish Water will review policies routinely and update the Framework Plan as necessary.

In order to address reductions in water supply availability due to climate disruption and environmental impacts, Irish Water has ensured that conservative estimates have been used within our SDB but will continue to assess supply availability and modify the SDB appropriately.

In order to address domestic demand growth the Irish Water Spatial Planning team continues to interface directly with the Regional Assemblies and the Local Authority Planning departments, through a ten-year capacity register as well as during the preparation of the regional growth strategies and the County Development Plans. This approach allows Irish Water to understand domestic growth trends and allow for such growth in the SDB.

To gain insight into growth in the non-domestic demand, Irish Water also engages with key stakeholders including the Department of Enterprise, Trade and Employment, Enterprise Ireland, Industrial Development Agency (IDA), Údarás na Gaeltachta and Local Authority Planners. It is recognised however, that it can be difficult to predict growth in high water use sectors.

Irish Water will also utilise the knowledge that we gain regarding demand through our Connection Developer Services function which is a Pre-connection Enquiry process allowing forward planning for new connections. All Irish Water developments will be subject to budgetary and regulatory constraints, including oversight by the Commission for Regulation of Utilities.

## Internal Factors

Internal factors which can influence the performance of our water supplies include:

- Leakage and Network Performance;
- Data Quality, Quantity and Availability

The public water supply in Ireland is a live asset base and is subject to continuous change. New assets such as WTPs, storage reservoirs, and trunk and distribution mains are continuously developed and upgraded. Knowledge and data relating to our assets is improving and will be fed into the SDB.

Leakage reduction and network improvements are core to the NWRP. Whilst leakage commitments have been built into the SDB, leakage is dynamic and naturally increases over time as assets deteriorate. For this reason, leakage is a function of continuous leakage reduction and maintaining established leakage savings across aging assets. Therefore across a large distribution network there will always be uncertainty in leakage values.

It is now Government policy, under the Water Services Act 2017, to charge for excess usage of domestic water, recognising that water is a precious natural resource and that we all need to conserve water to enable a sustainable future. Irish Water is currently at the early stages of implementing the excess usage charge. Once the excessive usage charge has been in place for a period of time, we will be able to assess the benefits and include any potential water savings within the SDB forecasts.

Irish Water recognises that currently there are gaps within our data sets. While Irish Water is confident that uncertainties associated with assumptions/limited data sets have been addressed appropriately, we recognise that further improvements can be gained by improving the data that is available to us for our baseline supply assessments and forecasts. Irish Water is committed to the development and delivery of a 5 to 10-year data and intelligence improvement strategy on data related to the SDB, water quality, asset registers, outage allowances, headroom and performance of asset base (including network models). As actual data becomes available, this data will be updated in accordance with the feedback and monitoring process. As part of the roll out of the DWSP, we will also progress site specific Source Risk Assessments and incorporate knowledge gained from this into our Preferred Approaches. Similarly, through catchment initiatives, the completion of Source Risk Assessments and increased monitoring of our WTPs and distribution networks (as part of the roll out of the DWSPs), our data quality, quantity and availability continue to increase. These improvements will be used to modify our SDB as appropriate and feed into Preferred Approaches.

## 9.2.2 Needs Identification

In relation to needs identification, the feedback and monitoring process involves:

- Updating needs identification by updating the SDB, DWSPs and Barrier Scores to reflect these changes; and
- Incorporating feedback from SEA mitigation actions and the Monitoring Plan set out in the SEA Statement that is prepared for the NWRP Framework Plan.

Irish Water is committed to continuously updating changes to the Need in order to update the SDB. The SDB is therefore continuously evolving as more data becomes available to us. DWSPs can both inform and be informed by the SDB. Similarly, Barrier Scores both inform and are informed by the SDB.

Growth and economic development are key parameters influencing the identified Need. Growth and economic development will be used to prioritise the roll out of the Preferred Approaches identified for the RWRP-EM. The implementation of Preferred Approaches will be prioritised to ensure that there is no further deterioration in the Level of Service (LoS) to our customers, recognising that current LoS are in most cases already below the target LoS.

Figure 9.1 above summarises the monitoring and feedback loop that will be implemented in relation to the NWRP.

## 9.2.3 Feedback

Upon identification of a change through the monitoring process, Irish Water will assess the impact of these changes on the Framework Plan and the Regional Water Resources Plans:

- When changes are deemed to be material and a variation to the NWRP Framework Plan and/or RWRP(s) is required, Irish Water will screen the change for SEA and Appropriate Assessment (AA) in accordance with its legal obligations, and where required it will carry out an SEA and/or AA before adopting the variation (including public and/or statutory consultation, as appropriate).
- Non-material changes will be fed into the next cycle of the NWRP.
- If an update or change in circumstances is not considered to result in a material change to the position as set out in either the Framework Plan or relevant RWRP, then an assessment will be completed to determine the impact on the Need i.e., impact on the SDB, DWSP or Barrier Assessment. An assessment will then be completed to determine whether the change to the Need affects the relevant Preferred Approach.
- If there is no change to the Preferred Approach, then there is no variation to the Regional Plan;
- If there is a change to the Preferred Approach, but this impacts a single WRZ, then there is no variation to the RWRP-EM; however, the change will be assessed at Project Level. This envisages a situation where refinements to a single project or closely related project within a WRZ will be considered within their own environmental assessments. The change would not have any systemic impacts on the wider RWRP.
- If there is a change to the Preferred Approach that impacts the Regional Option, but the project will not progress before the next 5-year review cycle, then no variation is made to the Regional Plan. Instead, the relevant change is incorporated and assessed through the next review cycle.
- If the project may progress before the next 5-year review cycle then a variation to the Regional Plan is issued, with associated Screening for SEA and AA as required.

## 9.3 Future Actions

Additional opportunities were identified following consideration of stakeholder feedback from the Framework Plan consultations and a list of commitments (subject to funding) were identified by Irish Water to support the implementation of the NWRP:

- Development of a representative raw water sampling strategy within five years.
- Development of a live water quality reporting mechanism within an appropriate timeframe.
- Development of a strategy to improve understanding of supply risk including Source Risk Assessment studies, supply assessments, source surveys, source monitoring, and source models to facilitate greater understanding of supplies and roll-out of appropriate studies.
- Integration of Geological Survey of Ireland, Regional Groundwater Availability Assessments into the NWRP desktop studies as the information becomes available (currently under development).
- Development of a 5 to 10-year data and intelligence improvement strategy, on data related to the SDB, water quality, asset register and performance of asset base (including network models).
- Commitment to recalculate sustainable economic level of leakage (SELL) within the timeframe of the NWRP, and to commit to further review WRZ specific appropriate levels of leakage.
- Commitment to review the programme and funding for network renewal and high burst frequency mains.
- Commitment to undertake a pilot study on rainwater harvesting through innovation fund (Irish Water is a stakeholder in wider water conservation measures).
- Commitment to promote, develop and expand on research and innovation within the organisation.
- Commitment to continually review the NWRP based on emerging policy data.
- Development of a household water conservation application to encourage water conservation in the home under the “Use Less” heading.
- Publication of report on per capita consumption (PCC) on [www.water.ie](http://www.water.ie).

## 9.4 References

1. Environmental Protection Agency. 2021. *The Tiering of Environmental Assessment – The influence of Strategic Environmental Assessment on Project-level Environmental Impact Assessment*.