



National Environmental Monitoring Standards

# Long-term Strategy

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## Funding

The primary funders of the National Environmental Monitoring Standards project are Ministry for the Environment and New Zealand regional councils and unitary authorities.

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# Introduction to the NEMS Strategy

## Purpose of this strategy

The purpose of the strategy is to help those involved in the NEMS programme work more collaboratively towards defined and agreed outcomes. It aims to guide the NEMS Steering Group in their funding applications, their engagement and communications with current and potential end-users and funders, and their internal prioritisation of resources over the next five years.

The strategy was written by MfE and the NEMS Steering Group on behalf of NEMS end-users and is published on [nems.org.nz](https://nems.org.nz).

## Role of NEMS

The National Environmental Monitoring Standards programme (better known as NEMS) is a regional council initiative that develops and maintains standardised and agreed methods to produce consistent, robust and high-quality environmental monitoring data (standards). The development process is collaborative and builds consensus, drawing from end-user expertise.

Over the last 10 years NEMS has published 21 standards for parameters including dissolved oxygen, stream flow and periphyton. All councils are at least partially using some standards in their environmental monitoring, with some councils entirely using all available standards.

## Value of NEMS

Environmental data that is collected and shared consistently becomes easy to use and re-use. This increases the value of the existing data by better enabling its analysis, and the generation of insights to inform national and regional decision making. Without this standardisation, analysis and interpretation is slower and more difficult and can also be pointless or misleading.

The value of this initiative means the NEMS programme has received over \$3 million in financial and in-kind support from the Ministry for the Environment (MfE), regional councils, NIWA, GNS, Stats NZ, and private industry since its launch in 2011. These voluntary investments from across sectors demonstrate the need for, and value of, NEMS for Aotearoa New Zealand's environmental monitoring and reporting system.

### CASE STUDY: NATIONAL ENVIRONMENTAL STANDARDS FOR AIR QUALITY 2014

The National environmental standards for air quality regulations (NES) required regional councils and unitary authorities to monitor areas where air quality is likely or known to exceed the standards. The regulations did not set out standard monitoring methodology and Councils took different approaches to meet data collection requirements. As a result, 17 years later, inconsistent data collection prevents a national overview and constrains the value of the data. NEMS is currently working on Air Quality standards.

## How NEMS fits

NEMS underpins the wider Environmental Monitoring and Reporting (EMAR) framework to improve the collection, accessibility and presentation of environmental data collected by regional councils and unitary authorities. There are three major initiatives:

- NEMS drives consistency in best practise collection of environmental data
- Environmental Data Management System (EDMS), a more recent initiative, focuses on improving access to high quality data through addressing inconsistencies in the management and storage of council environmental data; and
- Land Air Water Aotearoa (LAWA) is a platform for sharing environmental data and information.

The collective benefits of these projects are far reaching, and support the accessibility of quality data and information to be used for regional and national reporting purposes, policy, research and more.

## Strategy themes

The NEMS vision is for consistent, high quality and robust environmental data. This strategy focuses on three main themes that are critical for NEMS contributing to this vision:

1. **Nesting NEMS in the future system.** NEMS will only impact on environmental data quality if the standards are used, so they need to be relevant and necessary to the environmental management and reporting systems.
2. **Securing and spending NEMS funds.** Funds need to be secured and spend prioritised to ensure the NEMS programme is stable and contributes to high quality, robust, future focused environmental data.
3. **Measuring NEMS success.** This is crucial to demonstrating the contribution of NEMS and to future prioritisation within the NEMS strategy.

## Future proofing this strategy

Environmental data in the future will no doubt change with changing technologies and public values; for example, there is an increased focus on modelled data, mātauranga, and changes in data handling and storage. The themes in this strategy aim to set NEMS up to continually reflect and respond to these changes. Regardless NEMS will refresh this strategy by 2025, to ensure its continued relevance.

# Theme 1. Nesting NEMS in the system

## NEMS within the current system

Currently regional councils and other agencies collect and report environmental data to meet central government requirements, as well as for their own operational needs. Others, including central government, Crown Research Institutes (CRIs) and the private sector also collect environmental data. Although NEMS are not currently required by any legislation, many agencies use them in their data collection, and some in their internal planning documents and consenting processes.

## NEMS within the future system

While this strategy focuses on NEMS, a range of initiatives in the wider environmental monitoring and reporting system will impact on NEMS. For example, changes to central government requirements or funding mechanisms. The initiatives in progress include:

- resource management system reform
- amendments to the Environmental Reporting Act (2015)
- the Department of Internal Affairs' review of the future of local government
- Statistics NZ's work on Indicators Aotearoa New Zealand, the Data Investment Plan and the proposed Data and Statistics Bill
- Te Mana o te Taiao/ Aotearoa New Zealand Biodiversity Strategy [goals 4.1 and 4.2]
- the Ministry of Business, Innovation and Employment's Te Ara Paerangi Future Pathways programme, which aims to reform the Research, Science and Innovation system, and
- alignment with other environmental data initiatives at a regional and national scale.

These reforms create a unique opportunity to embed NEMS standards as legislative requirements. Meaningful environmental reporting at a regional and national scale requires standardised measurement methodologies. NEMS is the best tool for providing this standardisation.

Additionally, this highlights the need for NEMS to be able to be agile and responsive to ongoing changes in the environmental monitoring and reporting system. For example, NEMS needs to be ready to prioritise updating or developing standards to align with new requirements arising from reforms and a growing appreciation of the benefits of standardised data.

NEMS standards have not traditionally recognised or referenced mātauranga or a te ao Māori perspective. MfE is prepared to support NEMS in planning how a te ao Māori perspective could be reflected in NEMS as a whole and in new NEMS standards as relevant.

## Theme 1 goals and actions for 2023/25

| Goals                                                                                                            | Actions for 2023                                                                                                                                                                                                                                                                                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NEMS standards referenced as a tool in central and regional government planning and policy                       | <p>Develop a NEMS <b>communications and engagement plan</b> with policy practitioners as a stakeholder group (<i>led by NEMS Steering Group, agreed by MfE</i>)</p> <p>Engage with policy practitioners to increase awareness of NEMS relevance for policy (<i>led by NEMS Steering Group</i>)</p>                                                                                                                                      |
| NEMS programme has a position and principles for embodying a Te Tiriti o te Waitangi and te ao Māori perspective | <p>Principles for embodying a Te Tiriti o te Waitangi and te ao Māori perspective developed (led by NEMS Steering Group, supported by MfE)</p> <p>MfE to share principles for embodying te ao Māori and mātauranga Māori in monitoring and reporting in MfE's programmes/policy to help alignment (e.g., Environmental Reporting Act amendments, lessons from Environment Aotearoa 2022 and guidance in limits and targets policy).</p> |

## Theme 2. Securing and spending funds

### Current funding situation

NEMS has suffered periods of uncertain funding, which has made it difficult to plan and give policy practitioners and end-users confidence in NEMS' endurance. The funding has focused on the development of individual standards rather than standards implementation or maintenance. Another challenge for the programme is that the considerable in-kind support (by regional councils, and staff from other agencies) contributed often impacts timelines when it is de-prioritised by operational managers. Currently NEMS has no guaranteed future funding beyond the end of this financial year (June 2022).

### New NEMS funding model

NEMS funds will be split into core and development components, balancing stability with flexibility to allow NEMS to be responsive to changing system or end-user needs.

The **core component** needs long-term stable investment, and includes governance, project management, maintenance, review and implementation of existing standards, website upkeep, and communications and engagement. NEMS will seek 3 to 5-year core funding commitments.

The **development component** needs to be agile and responsive to changing system and end-user needs. Essentially this is a user pays model where technical working group costs are tied to specific standards. NEMS will seek annual or one-off development funding from multiple agencies for specific standards.

The NEMS programme will focus on the core component first. This will include securing more stable funding and promoting NEMS to policy practitioners and end-users. Development work underway will continue, and development of future standards will be guided by end-user motivation, existing or anticipated national legislation and reporting needs, and areas of inconsistencies. In the longer-term, NEMS will regularly re-evaluate system and end-user needs, incorporating input from collaboration with other relevant agencies, and reconsider this prioritisation.

### Theme goals and actions for 2023/25

| Goals                                                                              | Actions for 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 3 - 5-year financial security<br><br>Increased use of standards in data collection | <p>Develop a <b>communications and engagement plan</b> with funders, end-users and policy practitioners as stakeholder groups (<i>led by NEMS Steering Group and agreed by MfE</i>)</p> <p>Write and submit <b>3-5 year core funding proposals</b>, including to MfE (<i>led by NEMS Steering Group; MfE will consider proposal as part of wider system funding</i>)</p> <p>Engage with end-users to increase use of standards, including holding implementation workshops (<i>led by NEMS Steering Group</i>)</p> |

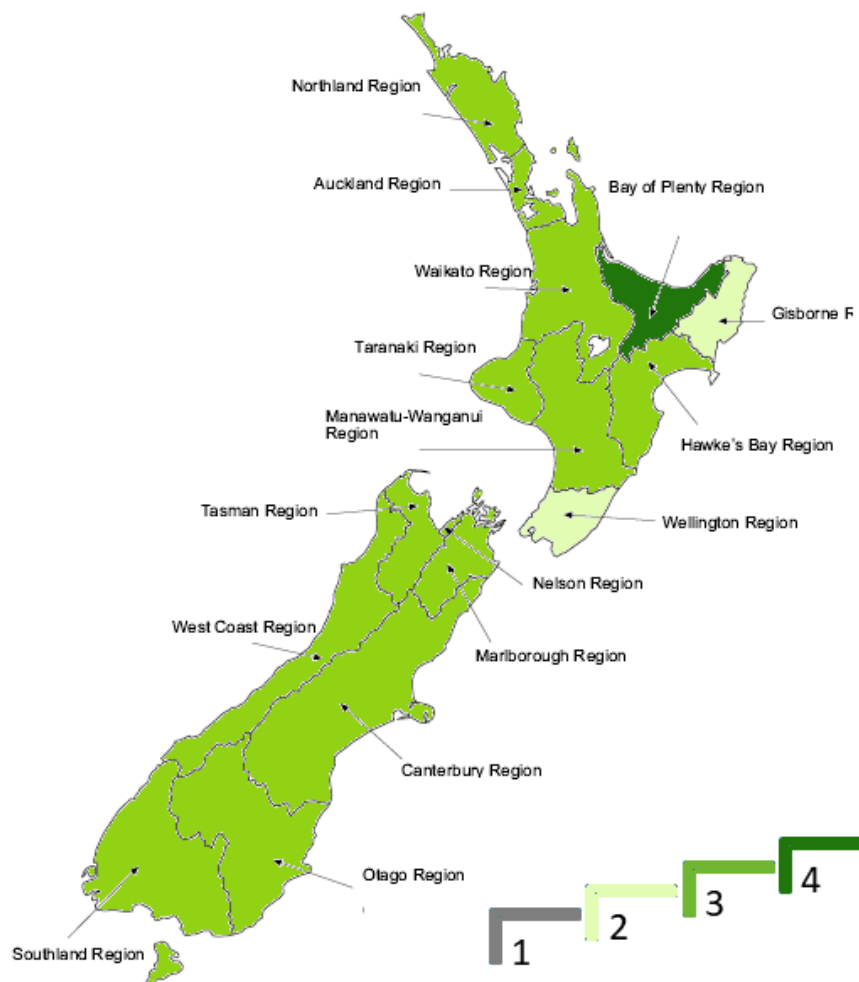
## Theme 3. Measuring NEMS success

### Current measures of success

Currently NEMS measures success with intermittent surveys of regional councils' use of standards, tracking of financial and in-kind contributions to NEMS, and tracking development of new standards. But these are only proxy measures of success - the actual impact of NEMS in relation to their vision of consistent, high quality and robust environmental data is more difficult to measure.

A general assessment of by regional councils in 2021 showed general acceptance and partial uptake of NEMS standards.

Uptake of NEMS by CRIs or private sector is not surveyed. However, there is some use, for example NIWA uses NEMS standards for their monitoring operations and in training, but for commercial contracting, clients set requirements.



**Figure 1: Update of relevant NEMS standards by Regional Councils/Unitary authorities** (Gray - No acceptance of NEMS; Pale green - Acceptance of NEMS but limited implementation; Bright green - Acceptance of NEMS and partial

## Future measures of success

NEMS will create an evaluation plan to measure and share its successes on [nems.org.nz](https://nems.org.nz). Initially this will focus on using case studies to explore the impact of NEMS, with other potential content including regional council uptake and total funding contributions. NEMS will also support Councils to transition from existing standards to NEMS standards to increase uptake of NEMS. This may result in step changes in data records as data collection agencies transition to NEMS and data collection agencies should implement procedures that minimise the impact of changes in methodology. Monitoring improvements in data quality (the NEMS vision) may become feasible in the future depending on data management and storage.

## Theme 3 goals and actions for 2023/25

| Goals                                                                   | Actions for 2023                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Have examples of NEMS impact                                            | <p>Create an <b>evaluation plan</b> for the NEMS website (<i>led by NEMS Steering Group, agreed by MfE</i>)</p> <p>Publish three <b>case studies</b> on <a href="https://nems.org.nz">nems.org.nz</a> that show NEMS' impact (<i>led by NEMS Steering Group</i>)</p> <p>Overall uptake of NEMS is tracked, including transitions to NEMS from other standards</p> |
| All environmental data reported on is acquired using the NEMS framework | Explore opportunities to achieve this by engaging and participating in legislation changes, e.g. RMA reform and Environmental Reporting Act review.                                                                                                                                                                                                               |

## Next steps

### Implementing the strategy

This strategy sets out the direction of travel for NEMS and will guide the work programme of the NEMS Steering Group. It will be tabled at the NEMS Steering Group meetings twice a year to track progress on goals and the current years' actions, and to identify new actions for the year ahead (see Appendix 1). The strategy will be refreshed in 2025, to ensure its continued relevance.

### Summary of NEMS goals and actions for 2023/25

| Theme                            | Goals                                                                                               | Actions for 2023                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------|-----------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Nesting NEMS into future system  | Have NEMS standards referenced as a tool in central and regional government planning and policy     | <p>Develop a NEMS <b>communications and engagement plan</b> with policy practitioners as a stakeholder group <i>(led by NEMS Steering Group, agreed by MfE)</i></p> <p>Engage with policy practitioners to increase awareness of NEMS relevance for policy <i>(led by NEMS Steering Group)</i></p>                                                                                                                                                                                                                 |
| Securing and spending NEMS funds | <p>Have 3 - 5 year financial security</p> <p>Have increased use of standards in data collection</p> | <p>Develop a <b>communications and engagement plan</b> with funders, end-users and policy practitioners as stakeholder groups <i>(led by NEMS Steering Group and agreed by MfE)</i></p> <p>Write and submit <b>3-5 year core funding proposals</b>, including to MfE <i>(led by NEMS Steering Group; MfE will consider proposal as part of wider system funding)</i></p> <p>Engage with end-users to increase use of standards, including holding implementation workshops <i>(led by NEMS Steering Group)</i></p> |
| Measuring NEMS success           | Have examples of NEMS impact                                                                        | <p>Create an <b>evaluation plan</b> for the NEMS website <i>(led by NEMS Steering Group, agreed by MfE)</i></p> <p>Publish three <b>case studies</b> on <a href="https://nems.org.nz">nems.org.nz</a> that show NEMS' impact <i>(led by NEMS Steering Group)</i></p>                                                                                                                                                                                                                                               |

## Appendix 1: Ongoing actions table

| Theme                            | Goals                                                                                               | Actions for 2023/25                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Actions for 2023/24 | Actions for 2024/25 | Actions for 2025/26 |
|----------------------------------|-----------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|---------------------|---------------------|
| Nesting NEMS into future system  | Have NEMS standards referenced as a tool in central and regional government planning and policy     | <p>Develop a NEMS <b>communications and engagement plan</b> with policy practitioners as a stakeholder group <i>(led by NEMS Steering Group, agreed by MfE)</i></p> <p>Engage with policy practitioners to increase awareness of NEMS relevance for policy <i>(led by NEMS Steering Group)</i></p>                                                                                                                                                                              |                     |                     |                     |
| Securing and spending NEMS funds | <p>Have 3 – 5 year financial security</p> <p>Have increased use of standards in data collection</p> | <p>Develop a communications and engagement plan with funders, end-users and policy practitioners as stakeholder groups (led by NEMS Steering Group and agreed by MfE)</p> <p>Write and submit 3-5 year core funding proposals, including to MfE (led by NEMS Steering Group; MfE will consider proposal as part of wider system funding)</p> <p>Engage with end-users to increase use of standards, including holding implementation workshops (led by NEMS Steering Group)</p> |                     |                     |                     |
| Measuring NEMS success           | Have examples of NEMS' impact                                                                       | <p>Create an <b>evaluation plan</b> for the NEMS website <i>(led by NEMS Steering Group, agreed by MfE)</i></p> <p>Publish three <b>case studies</b> on <a href="https://nems.org.nz">nems.org.nz</a> that show NEMS' impact <i>(led by NEMS Steering Group)</i></p>                                                                                                                                                                                                            |                     |                     |                     |

To be filled in by NEMS Steering Group annually