

Title	Interpret data to determine the effect of effluent discharge on the environment		
Level	5	Credits	10

Purpose	People credited with this unit standard are able to: describe the effects of effluent discharge on the environment; and interpret data to determine the impact of effluent discharge on surface receiving water, groundwater, and on soils and vegetation.
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Classification	Water Industry > Wastewater Treatment
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Available grade	Achieved
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Guidance Information

- Evidence presented for assessment against this unit standard must be consistent with safe working practices and be in accordance with applicable legislative and industry requirements.
- Legislation and references relevant to this unit standard include:
Health and Safety at Work Act 2015, Water Services Act 2021, Hazardous Substances and New Organisms (HSNO) Act 1996, and subsequent amendments.
- Definitions
Biota – a total collection of biological organisms including macroinvertebrates, algae, aquatic plants.
Effluent – treated wastewater which is the used water from domestic, commercial, and industrial activities, which contains contaminants such as nutrients, organic matter, and micro-organisms; and excludes stormwater.
Industry requirements include manufacturers' specifications; and enterprise requirements which may include documented workplace policies, procedures, specifications, business, and quality management requirements relevant to the workplace in which assessment is carried out.
Surface receiving waters – rivers, streams, lakes, marine environment.
The environment – surface water, groundwater, soils, and vegetation.
Wastewater may include stormwater and sewage systems.
- Learning and assessment activities for this unit standard must be informed by Te Mana o te Wai (refer to [Taumata Arowai](#)) and the *National Policy Statement for Freshwater Management 2020* available from <https://environment.govt.nz/>.

Outcomes and performance criteria

Outcome 1

Describe the effects of effluent discharge on the environment.

Performance criteria

1.1 Effects of effluent discharge on surface receiving water are described in terms of potential consequences to ecosystems.

Range dissolved oxygen deficit, algal productivity and aquatic plant growth, micro-organism reduction.

1.2 Effects of effluent discharge on groundwater are described in terms of potential consequences to ecosystems.

Range nutrient levels, microbiological quality, organic matter.

1.3 Effects of effluent discharge on soils and vegetation are described in terms of potential consequences to ecosystems.

Outcome 2

Interpret data to determine the impact of effluent discharge on surface receiving water.

Performance criteria

2.1 Data related to dissolved oxygen deficit in surface receiving waters is interpreted to determine the impact of effluent discharge.

Range dissolved oxygen levels, dilution and flow rates, oxygen sensitivity.

2.2 Data related to algal productivity and aquatic plant growth in receiving surface waters is interpreted to determine the impact of effluent discharge.

Range species – diversity, abundance.

2.3 Data related to biota population change in surface receiving waters is interpreted to determine the impact of effluent discharge.

Range indicator organism levels.

Outcome 3

Interpret data to determine the impact of effluent discharge on groundwater.

Performance criteria

3.1 Data related to groundwater is interpreted to determine the impact of effluent discharge.

Range changes in nutrient levels, microbiological quality, flow rate and distance;
evidence of one type of data is required.

Outcome 4

Interpret data to determine the impact of effluent discharge on soils and vegetation.

Performance criteria

4.1 Data related to soils is interpreted to determine the impact of effluent discharge.

Range data related to – contaminant accumulation, microbiological clogging, physical clogging, chemical clogging.

4.2 Data related to growth rate and type of vegetation is interpreted to determine the impact of effluent discharge.

Range contaminant accumulation, growth rate, species diversity and abundance.

Replacement information	This unit standard replaced unit standard 24932 and unit standard 24940.
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Planned review date	31 December 2026
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Status information and last date for assessment for superseded versions

Process	Version	Date	Last Date for Assessment
Registration	1	16 March 2017	31 December 2023
Review	2	28 April 2022	N/A

Consent and Moderation Requirements (CMR) reference	0101
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This CMR can be accessed at <http://www.nzqa.govt.nz/framework/search/index.do>.

Comments on this unit standard

Please contact Waihangā Ara Rau Construction and Infrastructure Workforce Development Council at qualifications@waihanga.nz if you wish to suggest changes to the content of this unit standard.