

THE EFFLUENCER

VOL.7

Wastewater Systems Effluent Regulations



Acute Lethality

Under the [Wastewater Systems Effluent Regulations](#), effluent is considered **acutely lethal** when at 100% concentration (undiluted) it kills more than 50% of the rainbow trout subjected to it during a 96-hour period.

For all wastewater systems that are subject to the Regulations, the owner or operator is responsible of ensuring that effluent deposited from its final discharge point:

- **Is not acutely lethal;** and
- Meets established limits on the concentrations of certain pollutants (carbonaceous biochemical oxygen demand, suspended solids, total residual chlorine and un-ionized ammonia) ([subsection 6\(1\)](#)).

Small Systems that Deposit an Average Daily Effluent Volume Less Than or Equal to 2,500 m³

Acute lethality testing is not required for wastewater systems with an average daily volume of less than or equal to 2,500 m³ ([subsection 11\(1\)](#)). However, you may decide to test for acute lethality on occasion to determine if the effluent is acutely lethal.

If you test for acute lethality, you must include all test results in your monitoring report for that period ([subparagrah19\(1\)\(b\)\(viii\)](#)).

If any sample is found to be acutely lethal, the effluent is considered an unauthorized deposit under the *Fisheries Act* and you must consider your responsibilities under the Act without delay. You must take all reasonable measures to prevent, counteract, mitigate or remedy any damages that result or that might reasonably be expected to result from such a deposit ([subsection 38\(6\) of the Act](#)). For more information on reporting an unauthorized deposit, please consult the [Effluencer for Unauthorized Wastewater Deposits](#).



Sampling schedule for systems that deposit an average daily effluent volume greater than 2,500 m³

Normal Sampling Frequency

Acute lethality testing is required for wastewater systems depositing more than 2,500 m³ per day. The minimum sampling frequency, outlined in the chart below, is based on the average daily volume of effluent for the previous calendar year ([subsection 11\(1\)](#)).

Average Daily Volume Deposited Annually (m ³)	Minimum Sampling Frequency	Minimum Time Between Samples
> 2,500 and ≤ 50,000	Quarterly	At least 60 days after any other samples
> 50,000	Monthly	At least 21 days after any other sample

Reducing Sampling Frequency

The minimum sampling frequency can be reduced if samples were determined to be not acutely lethal for a specified period of time, as outlined in the chart below ([subsection 11\(6\)](#)).

Average Daily Volume Deposited Annually (m ³)	Number of consecutive samples not acutely lethal	Reduced frequency for sampling
> 2,500 and ≤ 50,000	4 consecutive quarters where a discharge occurs	Yearly, but at least 6 months after any other sample
> 50,000	12 consecutive months where a discharge occurs	Quarterly, but at least 60 days after any other sample

Procedure for an Acutely Lethal Sample


If any sample is found to be acutely lethal, the effluent is considered an unauthorized deposit under the *Fisheries Act* and you must consider your responsibilities under the Act without delay deposit ([subsection 38\(6\) of the Act](#)).

If you have a sample that is acutely lethal, your sampling frequency increases to one sample every two weeks, with at least seven days between samples ([subsection 11\(3\)](#)). If **three consecutive samples** are found to be not acutely lethal, then the sampling frequency **returns to normal sampling frequency** ([subsection 11\(4\)](#)). If the effluent continues to be acutely lethal, increased sampling frequency continues.

The last of your three consecutive samples can also be used to fulfill your requirements for normal sampling frequency (illustrative example on the next page). The Regulations allow you to fulfill both requirements with only one sample.

March 2022						
S	M	T	W	T	F	S
27	28	1	2	3	4	5
5	6	8	9	10	11	12
12	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31	1	2

April 2022						
S	M	T	W	T	F	S
27	28	29	30	31	1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30

 Additional testing required when effluent becomes acutely lethal

 Regular sampling frequency

Testing Methods

The test must be done by an accredited laboratory ([section 16](#)) in accordance with:

- The procedure set out in Section 5 or 6 (Single or Multi-Concentration Test) of the [Biological Test Method: Reference Method for Determining Acute Lethality of Effluents to Rainbow Trout](#) (EPS 1/RM/13, Second Edition); or
- The above Method in conjunction with the [Procedure for pH Stabilization During the Testing of Acute Lethality of Wastewater Effluent to Rainbow Trout](#) (EPS 1/RM/50) ([section 15](#)).

Reporting

All laboratory test results for acute lethality samples must be included in the monitoring report for the period in which the sample(s) were taken ([subparagraph 19\(1\)\(b\)\(viii\)](#)).

The following information is required through the [Effluent Regulatory Reporting Information System \(ERRIS\)](#):

- the date on which the sample(s) were taken;
- the type of test used (Single or Multi-Concentration Test) when performing the EPS 1/RM/13 procedure for rainbow trout testing
- whether the EPS 1/RM/50 procedure for pH stabilization was used or not; and
- whether the sample(s) were acutely lethal or not.

You may request paper reporting forms if electronic reporting is unavailable ([subsection 19\(5\)](#)).

FOR ADDITIONAL INFORMATION

Visit the Wastewater website at Canada.ca/wastewater.

If the information you need is unavailable on our website, please contact Environment and Climate Change Canada at eu-ww@ec.gc.ca.

DISCLAIMER

This information does not in any way supersede or modify the *Wastewater Systems Effluent Regulations* or the *Fisheries Act*, or offer any legal interpretation of those Regulations or Act. Where there are any inconsistencies between this information and the Regulations or Act, the Regulations or Act take precedence, respectively. A copy of the Regulations is available at the following website: <https://laws-lois.justice.gc.ca/eng/Regulations/SOR-2012-139/FullText.html>

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