WASTEWATER SYSTEMS EFFLUENT REGULATIONS

HOW CHANGES TO THE REGULATIONS COULD BENEFIT YOUR COMMUNITY

INFORMATION SESSION
NOVEMBER 7, 2024

PURPOSE

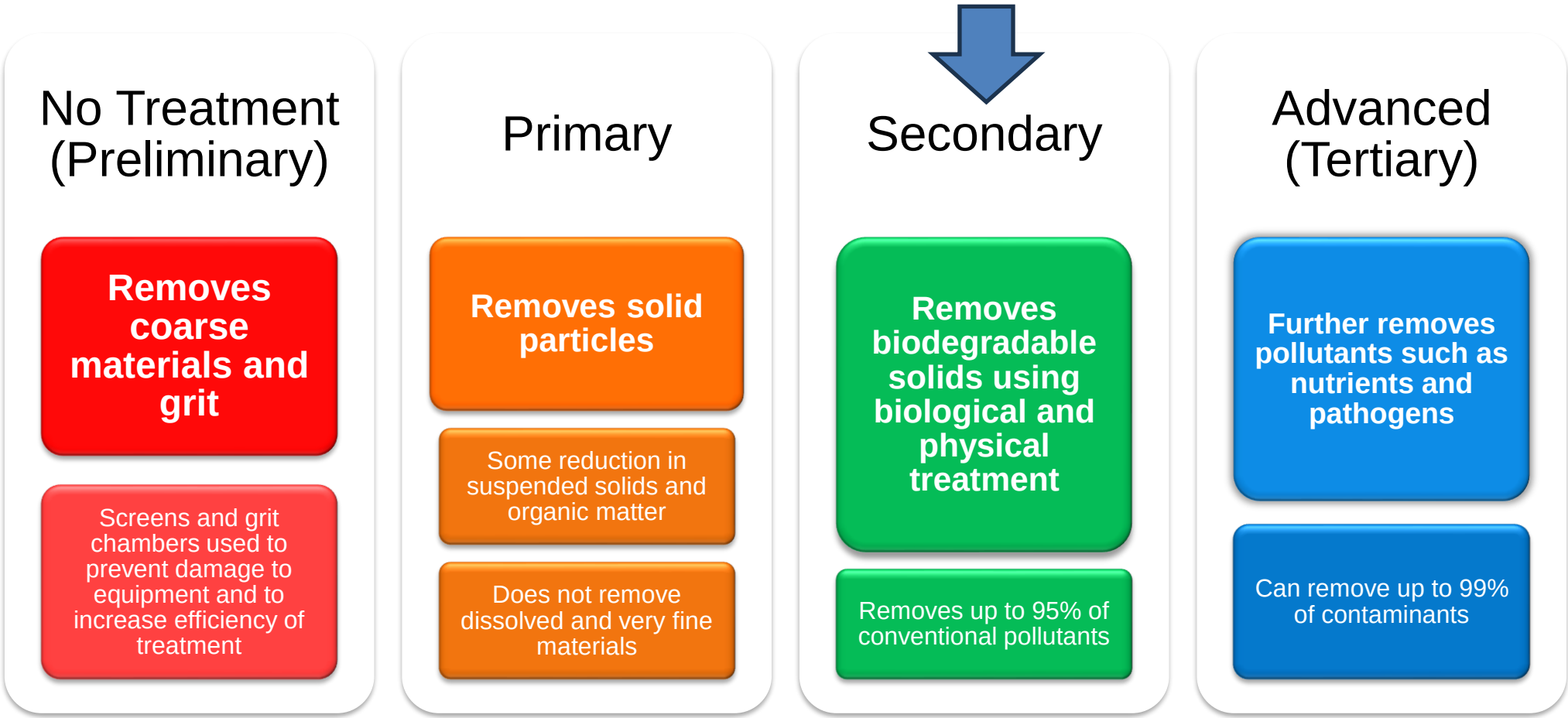
- Overview and evolution of the Regulations
- Deep-dive on Transitional Authorizations
- Additional Resources

FEDERAL ROLE IN WASTEWATER

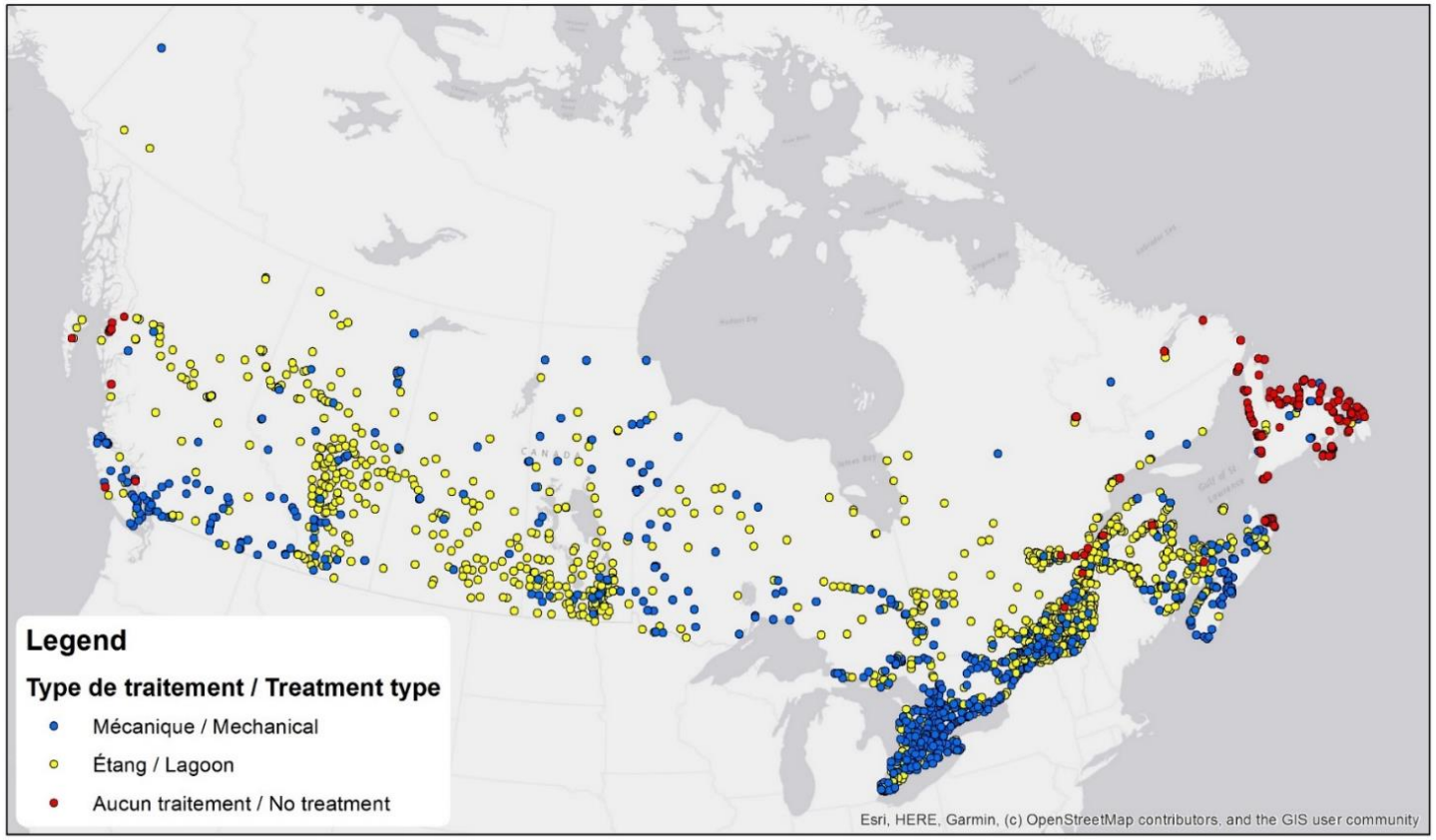
- All levels of government share responsibility for managing wastewater
- ECCC is responsible for administering the pollution prevention provisions of the *Fisheries Act*
- The *Wastewater Systems Effluent Regulations*, *made* under the *Fisheries Act*, manage risks associated with wastewater effluent releases
- The Regulations set national effluent quality standards that are achievable through secondary level treatment

LEVELS OF WASTEWATER TREATMENT

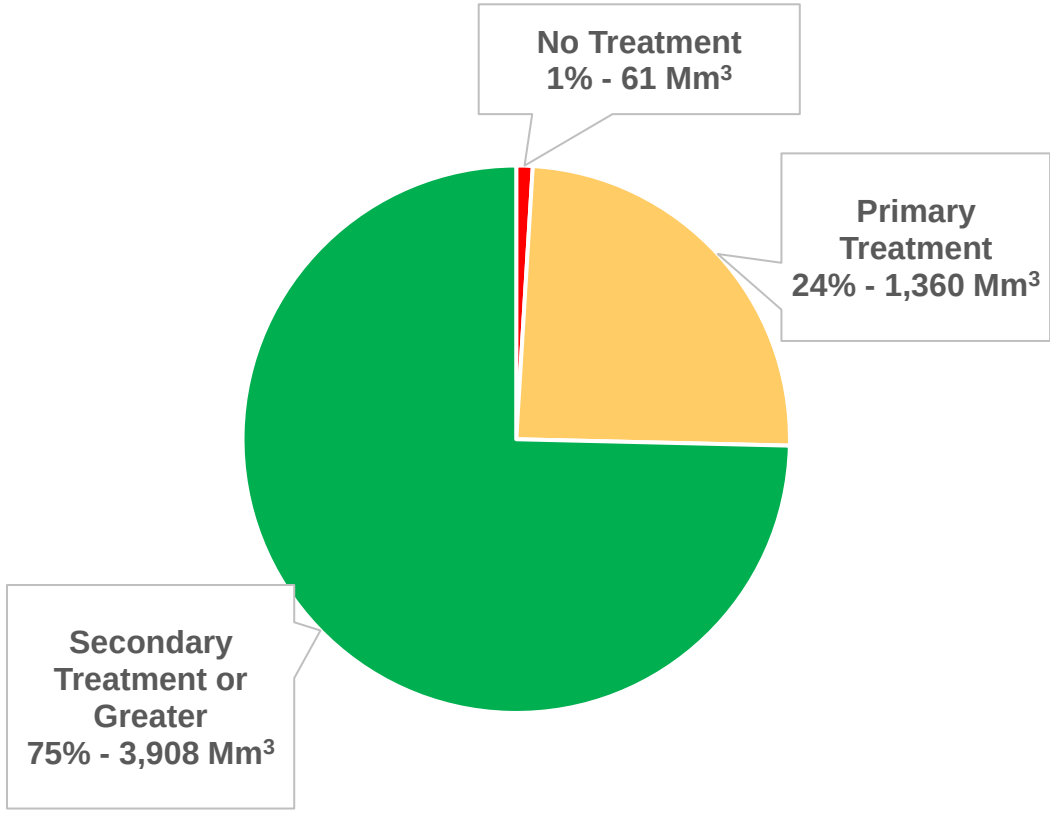
- Wastewater treatment plants traditionally designed to remove conventional pollutants through physical, chemical, and biological treatment processes



CANADA'S WASTEWATER: CURRENT STATE



Wastewater Systems by Treatment Type
(~ 1,600 systems subject – 201 NL systems)



Volume of Wastewater by Treatment Category
(~ 6 billion m³)

Map includes wastewater systems covered under the QC and YK equivalency agreements

Source: *Wastewater Systems Effluent Regulations* data and Quebec provincial data for 2022
Volumes with no treatment does not include systems in Quebec as data is not reported to ECCC

FEDERAL FRAMEWORK
WASTEWATER SYSTEMS EFFLUENT REGULATIONS

Came into force in 2012

- National effluent quality standards came into effect in 2015
- 78% of systems are meeting standards

~1,600 wastewater systems regulated under the Regulations

- Collect an average daily wastewater volume of 100 m^3/day or more (≈ 250 people)
- Release into water frequented by fish or a place that could reach such waters

The Regulations do not apply to:

- Very small systems
- NWT, NU, and north of the 54th parallel in QC and NL due to Arctic climatic conditions
- Municipal and provincial systems in Yukon and Quebec – under equivalency agreement

MAIN REQUIREMENTS UNDER WSER

1) Meet national effluent quality standards
2) Monitor the effluent NL reporting rate 92%
3) Complete and submit reports
4) Keep records on-site
5) Apply for an authorization if effluent may exceed limits
   - **Transitional authorization**
     - Extension to upgrade system to secondary level of treatment
   - **Temporary bypass authorization**
     - Maintenance/construction work
   - **Transitional authorization to deposit un-ionized ammonia**
     - Effluent that exceeds ammonia but otherwise compliant

Deleterious Substances	**Limits**	
Carbonaceous Biochemical Oxygen Demand (CBOD)	(avg)	≤ 25 mg/L
Suspended Solids (SS)	(avg)	≤ 25 mg/L
Total Residual Chlorine	(avg)	≤ 0.02 mg/L
Un-ionized Ammonia	(max)	< 1.25 mg/L
Effluent must not be acutely lethal		

EVOLUTION OF THE REGULATIONS

2012
- Coming into force of the *Wastewater Systems Effluent Regulations*

2014
- Deadline to apply for a Transitional Authorization

2015
- Effluent quality standards of the Regulations came into effect

2019
- Concerns raised at the emergency meeting lead by MNL in St. John's

2020
- Notice of Intent to amend the Regulations
- Launch of preliminary engagements and pre-consultations

2023
- Publication of proposed amendments to the *Wastewater Systems Effluent Regulations* on May 27, 2023
- 60-day consultation period

2024
- Publication of the Amended *Wastewater Systems Effluent Regulations* on June 5, 2024

AMENDMENTS TO THE REGULATIONS

- Transitional Authorization Provisions
  - Provide a new opportunity to apply for a transitional authorization to upgrade or build wastewater treatment facilities to meet effluent quality standards
- Temporary Bypass Authorization Provisions 
  - Expand the temporary bypass provisions to include planned releases of wastewater throughout wastewater infrastructure
  - Introduce a risk-based approach to set clear conditions to improve transparency and reduce environmental impacts
- Administrative Improvements 
  - To provide greater clarity and resolve implementation issues

TRANSITIONAL AUTHORIZATIONS (TA)

- Amendments provide a new opportunity for eligible communities to apply for a transitional authorization to upgrade treatment facilities or construct new ones
  - Objective:
    - to meet the effluent quality standards of the WSER through a secondary level of treatment
    - to give enough time to plan, finance and implement upgrades

- Will provide communities an extension to upgrade their system by the end of:
  - 2030, for a medium risk system
  - 2040, for a low-risk system

- Higher risk systems that would have qualified for a TA by the end of 2020 are no longer eligible for a transitional authorization

- Those that already have a transitional authorization are also not eligible

- New feature: there is no longer a deadline to apply

ELIGIBILITY CRITERIA

A wastewater system is eligible for a TA if it:

- Did not meet effluent standards in the earliest years of reporting
  - First two years of monitoring reports submitted to ECCC
- Is still not meeting effluent standards in recent years
  - Failed limit(s) in half or more monitoring reports submitted two years prior to the application
- Is not designed to meet a secondary level treatment, and
- Was impossible to upgrade before applying for the TA due to costs or technical constraints

APPLICATION PROCESS

Applicants must fill one application per wastewater system

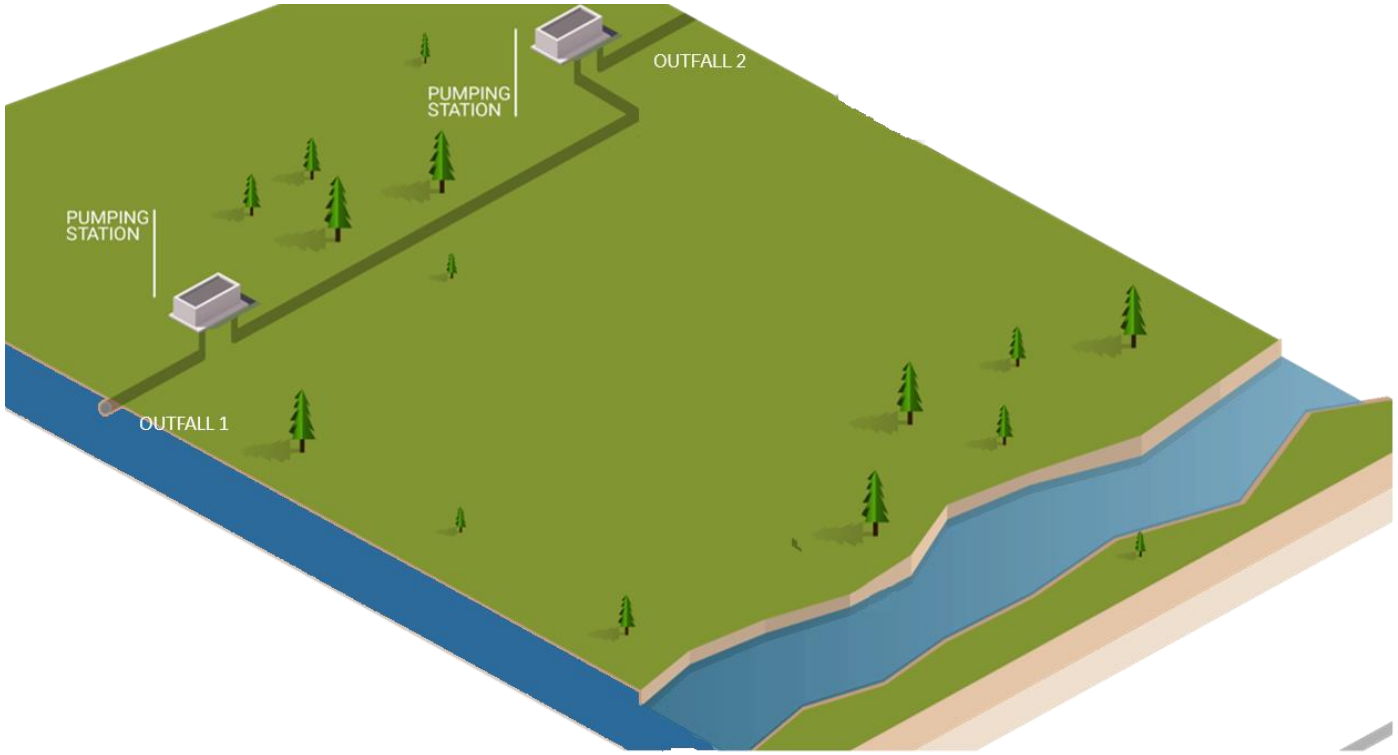
An exception applies if a regulatee:

- has 2 or more wastewater systems eligible for a transitional authorization and plans to consolidate them into one future treatment system
  - Ex: Town has multiple sewage outfalls and plans to build a single treatment plant

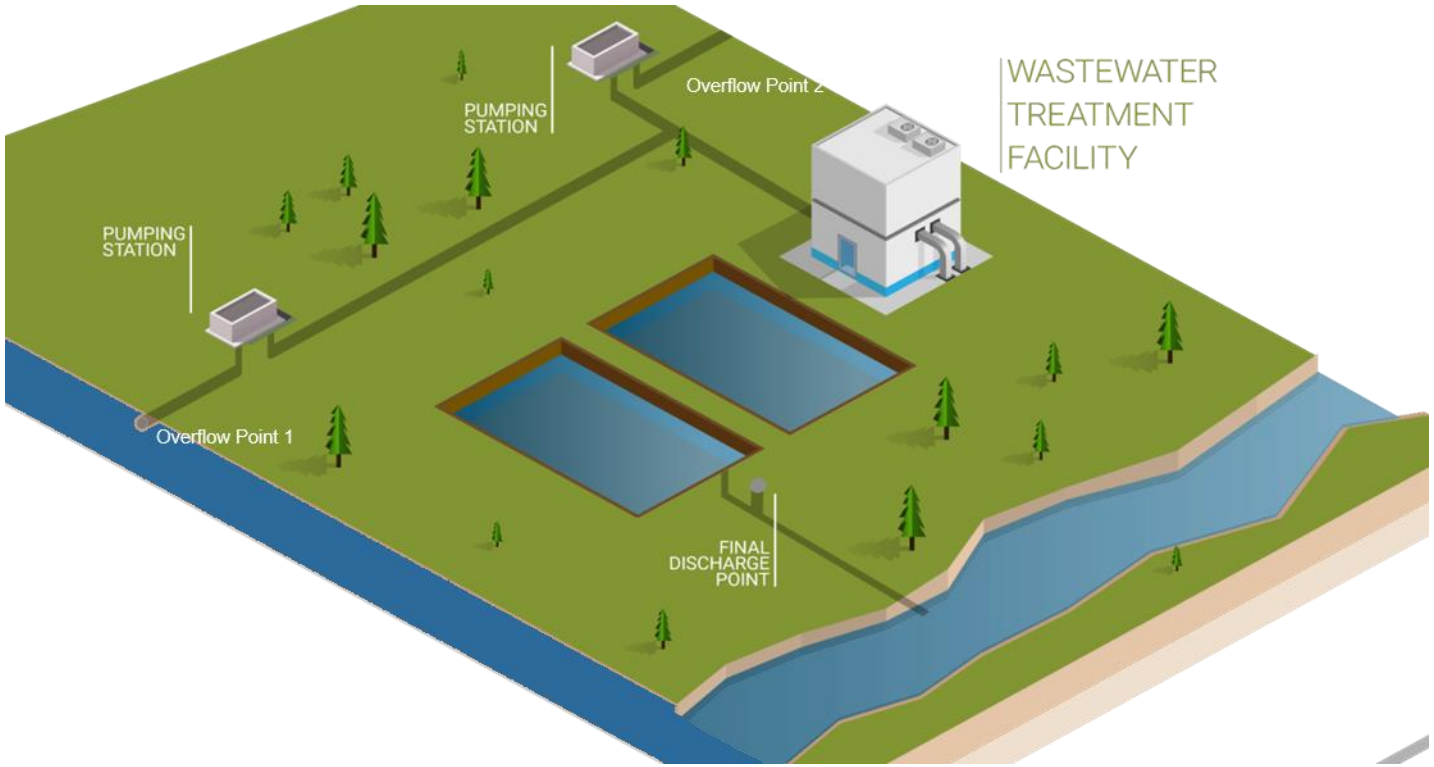
Regulatees can “combine” all their systems under one application:

- simplifies the application process
- allow regulatees to only monitor and report on the outfalls with the highest risk to the environment

CURRENT SITUATION



ONCE UPGRADED



HOW TO DETERMINE LEVEL OF RISK

- Must apply using the system of points under Schedule 2 of WSER :
  - measures the level of risk at the final discharge point (FDP)
- May also apply under Schedule 3 of WSER
  - measures the impacts of a CSO point, against those at the FDP
- The points will automatically be calculated in ERRIS once you complete the application

Level of Risk	Extension period	Points
High Risk	N/A	≥ 70
Medium Risk	End of 2030	50 to < 70
Low Risk	End of 2040	< 50

INFORMATION REQUIRED TO APPLY

- CBOD and SS averages determined over a 12-month period
- Volume deposited during the same 12-month period
- Maximum concentration of un-ionized ammonia over a 12-month period using the earliest data collected
- A confirmation whether the effluent is dechlorinated and doesn't exceed chlorine limit
- Type of receiving environment
- Information on CSO points (if applicable)
- Proof the system meets eligibility criteria
- A plan for the modifications needed

ELIGIBILITY CRITERIA AND MODIFICATION PLAN

Proof that the system meets the eligibility criteria	Information that it was not technically or economically feasible before submitting the application to have modified the wastewater system Information that establishes that the averages were not met because of the design characteristics of the wastewater system
A plan for the modifications needed	Must include a description of the modifications to be made to the wastewater system so that the effluent can meet standards by the end of the extension period Must include a schedule The level of details expected will vary depending on the TA extension

REQUIREMENTS ONCE A TA IS ISSUED

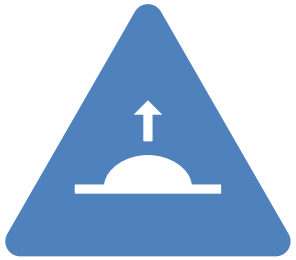
Meet the conditions of the authorization

- Limits set at 1.25x the concentrations for CBOD, SS and un-ionized ammonia used in the application
- Limit for total residual chlorine set out in the Regulations if chlorine, or one of its compounds, is used in the treatment of wastewater

Monitor the effluent

- Monitoring and sampling frequency depends on type and size of system (same as before)
  - No acute lethality testing required
- Exception for continuous systems discharging ≤ 2,500 m^3/day
  - Sampling frequency reduced to quarterly (instead of monthly)
  - Can use monitoring equipment or a method of estimation to determine volumes
    - Based on generally accepted engineering practices with a margin of error of ±15%
    - Consult this factsheet for examples of how to estimate

REQUIREMENTS ONCE A TA IS ISSUED (CONT'D)



Submit monitoring reports

Reporting frequency depends on type and size of system (same as before)

Exception for continuous systems discharging ≤ 2,500 m^3/day

- Reporting frequency reduced to annually (instead of quarterly)

Submit progress reports

Describe the progress made to upgrade the wastewater system and meet the national effluent standards

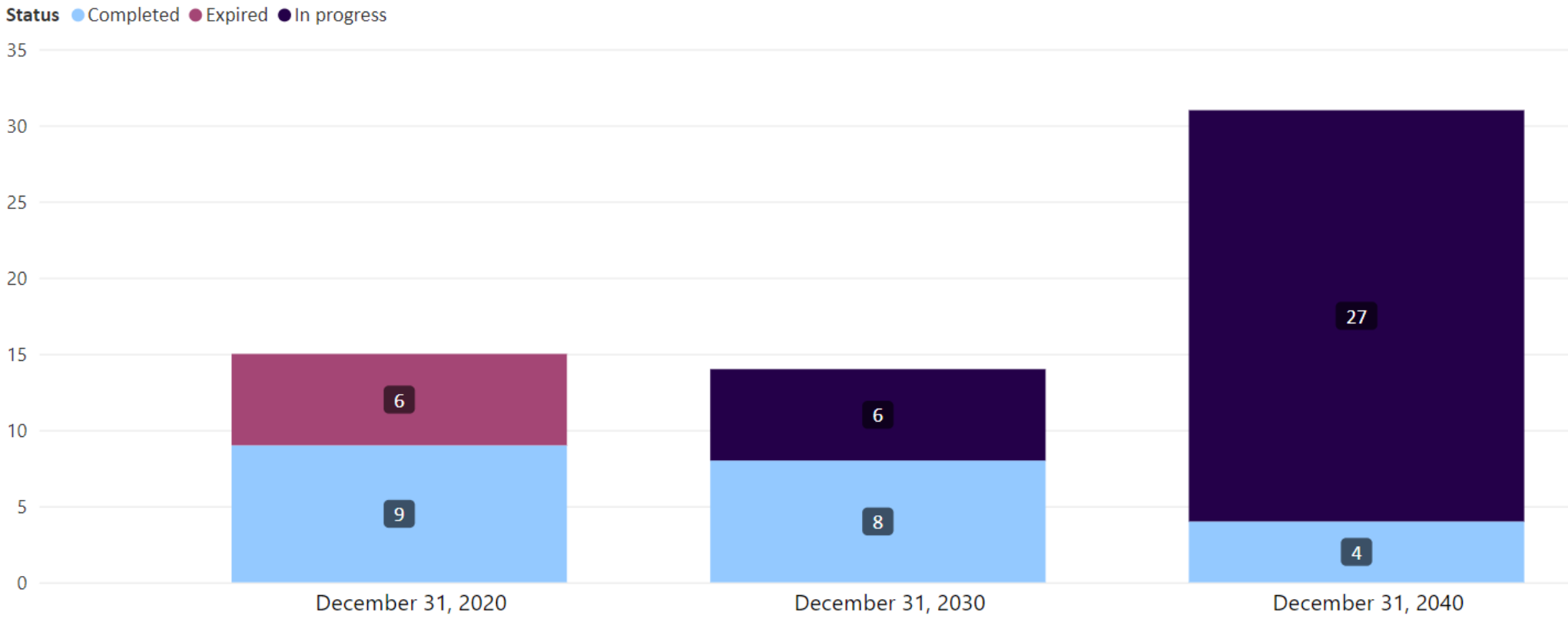
Submit every 2 years (previously every 5 years)

- Every July 1 of every even-numbered year, starting in 2026

ADDITIONAL FLEXIBILITY IN TA PROVISIONS

- Amendments made on how to:
  - Update a transitional authorization
    - Application contains an error, or the TA issued contains incorrect information
    - ex. The consultant in charge of operation changed
  - Update a plan of modifications and/or schedule regularly
    - Now required through progress report
  - Transfer ownership of a transitional authorization
    - A notice must be sent to the authorization officer no later than 30 days after the day on which the ownership of the wastewater system is transferred
  - Terminate a TA early once upgrades are completed
    - The authorization officer may terminate the TA if the system met CBOD/SS limits for 12 consecutive months

TRANSITIONAL AUTHORIZATIONS



65 TAs issued in 2014, 12 systems have upgraded

Since the amendments came into force in 2024, 2 TAs have been issued

Several other TA applications are already in progress

WHY APPLY FOR A TRANSITIONAL AUTHORIZATION?

- A transitional authorization will allow your system to come into compliance with the Regulations while you work towards wastewater upgrades

- Access to reduced monitoring and reporting requirements
  - Consolidated system (report on only one outfall)
  - Sample your wastewater quarterly
  - Submit monitoring report once per year
  - Estimate your effluent volumes rather than having to use a flowmeter

APPLYING FOR A TRANSITIONAL AUTHORIZATION

- **You do not need to be an expert to apply**
  - You can use a third party or apply yourself
- Application form on ERRIS
- Need help applying ?
  - Guidance document under development
  - Contact ECCC at eu-ww@ec.gc.ca for support
    - We can schedule a Teams meeting to walk you through the application
  - Other resources/programs being considered
  - We will do outreach to communities that may be eligible
- Contact federal and provincial infrastructure programs for questions related to funding

ADDITIONAL RESOURCES

Look up the registry of authorizations issued under the Regulations

Online reporting system (ERRIS) is ready for transitional authorization applications

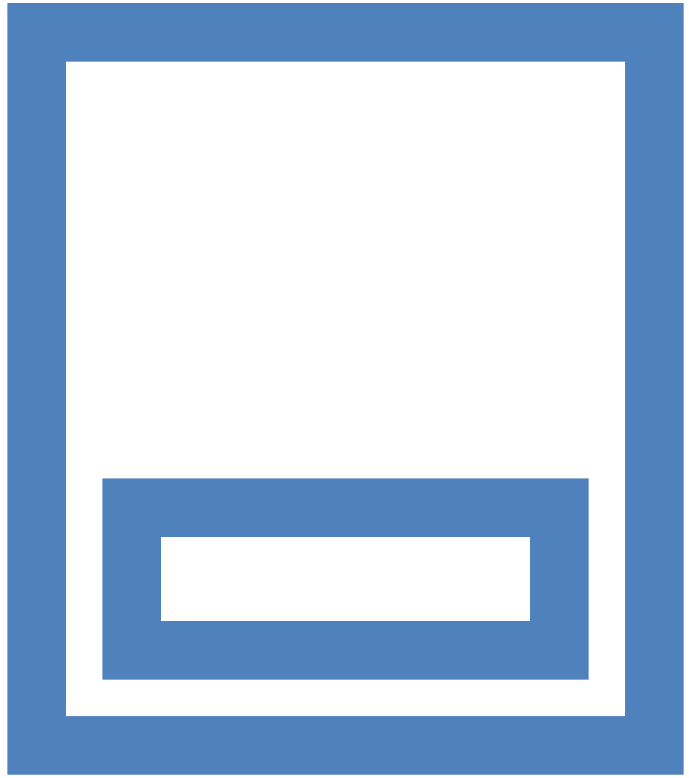
Learn more about wastewater and WSER: www.canada.ca/wastewater

Review the amended Regulations

Get familiarized with amendments

Questions ? Contact eu-ww@ec.gc.ca

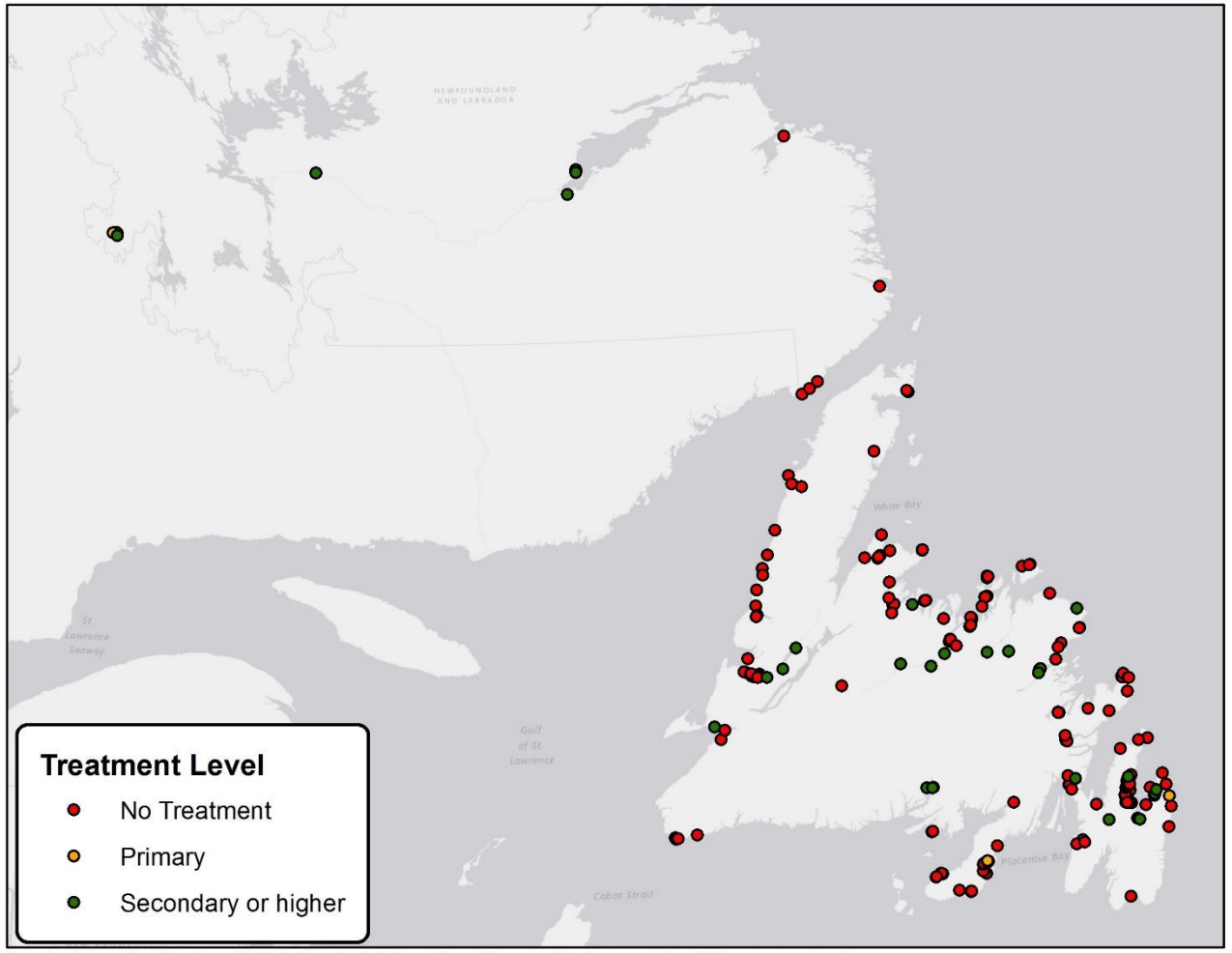
QUESTIONS?



ANNEX

WASTEWATER IN NEWFOUNDLAND AND LABRADOR

- 201 wastewater discharge points
  - 196 points are owned by 111 municipalities
  - 5 points owned by federal, aboriginal or other types of owners
- Of those, it is believed:
  - 173 have no or partial/primary treatment
  - 28 have secondary treatment or greater



TEMPORARY BYPASS AUTHORIZATIONS (TBAs)

Challenges under the Original Regulations

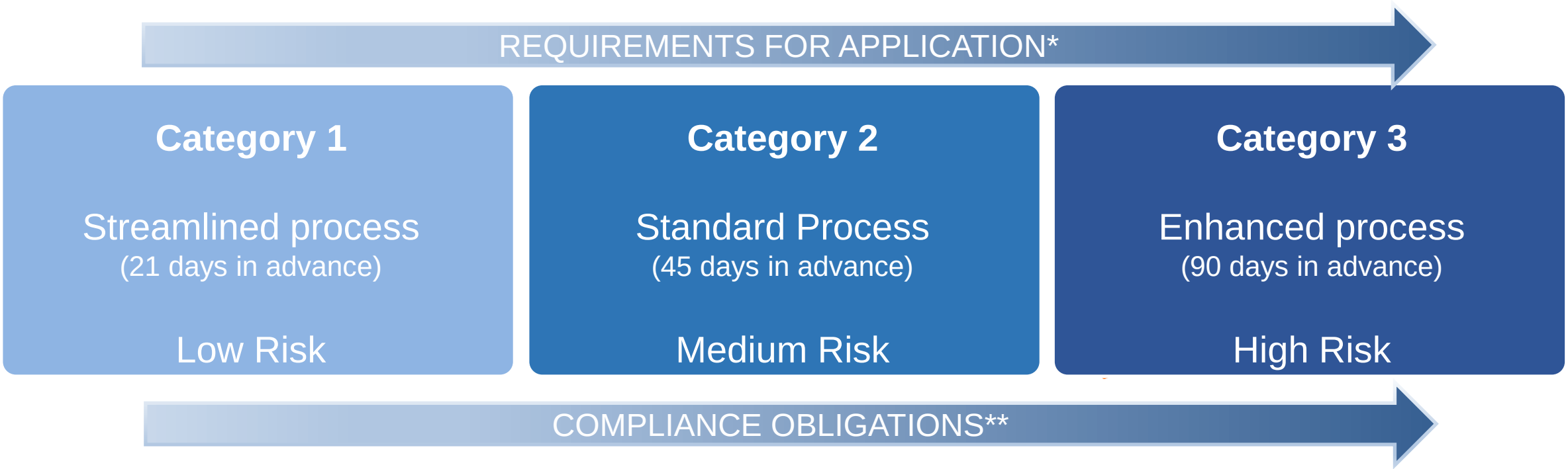
- Authorizations allowed communities to complete planned maintenance, construction and repairs at the treatment plant
  - Work was only authorized at the final discharge point
  - Application process was one-size fits all, regardless of release's impact on the receiving environment
- Planned releases from sewers are also necessary but were not authorized under WSER
  - Bypasses took place but ECCC was notified after the fact

Improvements made under the Amended Regulations

- Expanded TBA authorizations for planned work throughout wastewater infrastructure
- Created a tiered approach to evaluate applications based on level of risk to the environment
- Set clear requirements to improve transparency, accountability and reduce the environmental impacts of planned releases

TEMPORARY BYPASS AUTHORIZATIONS
TIERED APPROACH

Level of risk of a planned release (category) is based on volumes, duration, level of treatment and receiving environment



*** e.g. mitigation measures, notifications, assessments, etc.**
**** e.g. final report, sampling, plume delineation, long term prevention plan, etc.**

ADMINISTRATIVE AMENDMENTS

Additional improvements were made under the Amended Regulations to simplify regulatory requirements and provide better clarity and flexibility:

- New definitions: composite sample, licensed professional, authorized representative etc.
- Suspended solids exemption – any four months between May and November (declared in monitoring report)
- Frequency of calibration of monitoring equipment based on recommendation of a manufacturer or licensed professional
- Allowing sampling in lagoons and sampling before effluent is discharged
- Acute lethality testing required once per discharge (instead of every quarter) for large intermittent systems
- Setting clear requirements on when to notify of an unauthorized release under the Regulations
- Clarification of total residual chlorine requirements if chlorine is used in the treatment of wastewater – including addition of a maximum grab sample concentration