



# **Code of Practice for the Environmental Management of Road Salts**

**Overview of 2013–2014 Reported Data  
in the Context of National Targets**

**Overview Road Salts Report 2013–2014**

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# Code of Practice for the Environmental Management of Road Salts

## Overview of 2013–2014 Reported Data in the Context of National Targets

### Overview Report 2013–2014

#### Highlights

In December 2014, Environment and Climate Change Canada set seven Performance Indicators and National Targets for the Code of Practice for the Environmental Management of Road Salts.

A review and analysis of the 2013–2014 data from road salts annual reports received by Environment and Climate Change Canada from road organizations under the Code of Practice for the Environmental Management of Road Salts was undertaken to prepare this overview report.

The following results for 2013–2014 (Figure A) have been reported by federal, provincial, municipal and private road organizations that adopted the Code of Practice and are compared with the new National Targets set for 2019 (the last one is set for 2024):

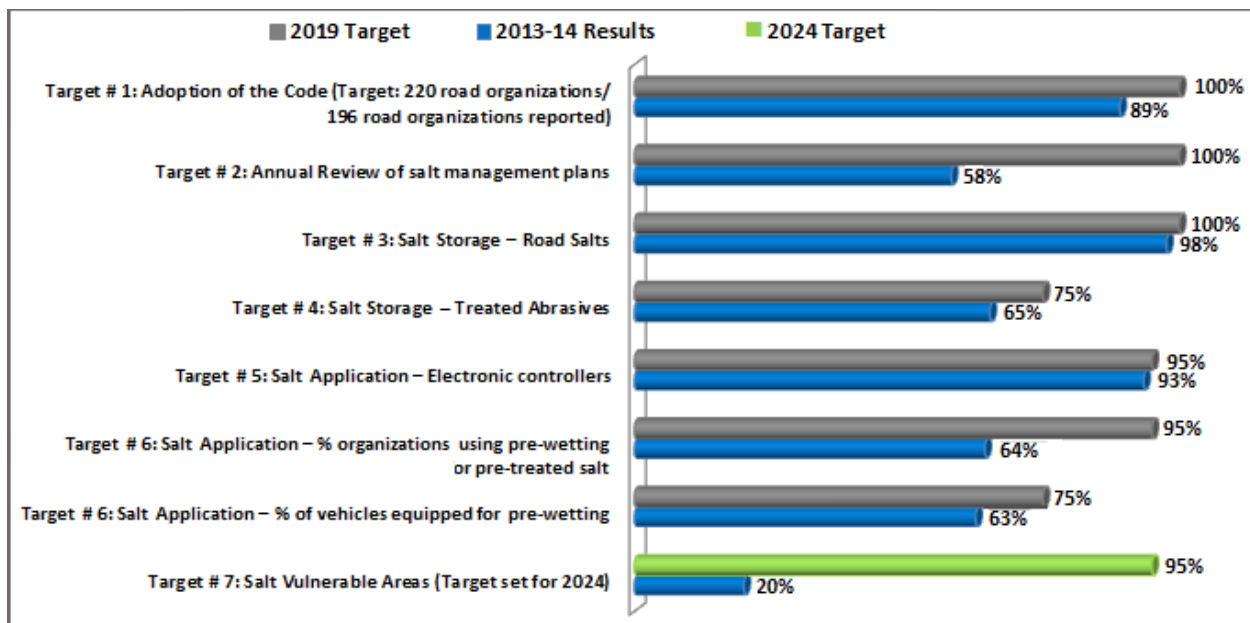
- 196 road organizations including 8 provinces, 178 municipalities, 3 private roadways organizations and 7 national parks reported under the Code of Practice (target is 220).
- 58% annually reviewed their road salt management plan (target is 100%).
- 98% of their road salts are under a permanent roof and on impermeable pads (target is 100%).
- 65% of their treated abrasives are covered (target is 75%).
- 93% of their vehicles are equipped with groundspeed electronic controllers (target is 95%).
- 64% are using pre-wetting or pre-treated salts (target is 95%).
- 63% of their vehicles are equipped for pre-wetting (target is 75%).
- 20% of road organizations have identified their salt-vulnerable areas and have prepared an action plan (target is 95%). This target is set for later, in 2024.



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Figure A: 2013–2014 summary results for performance indicators and comparison to national targets



## Road Salts Annual Reporting Under the Code

The [Code of Practice for the Environmental Management of Road Salts](#) was developed in 2004 to assist municipal and provincial road organizations to better manage their use of road salts in a way that reduces the harm to the environment while maintaining roadway safety. The Code of Practice recommends that road organizations **that use over 500 t/year of salt** or who have salt-vulnerable areas in their territory review their existing winter maintenance operations to improve practices and reduce adverse impacts of salt releases in the environment. This includes the development and implementation of salt management plans identifying actions they will take to improve practices in salt storage, use of salts on roads, snow disposal and protection of salt-vulnerable areas. In addition, the Code of Practice requires road organizations to provide an annual report<sup>1</sup> on the progress achieved.

## Performance Indicators and National Targets

The [Five-year Review of Progress](#) (2005–2009) to measure the effectiveness of the Code was published in April 2012 and is available online.<sup>2</sup> Based on the review, Environment and Climate Change Canada recommended maintaining the Code and encouraged road organizations to continue improving their salt management. However, at the time of the first review, the lack of targets created challenges in determining whether the objective of the Code had been achieved. It was recommended that the list of performance indicators for future evaluations be examined to ensure that they reflect key components of the Code and current techniques in winter maintenance.

In 2014, Environment and Climate Change Canada published [Performance Indicators and National Targets for the Code of Practice for the Environmental Management of Road Salts](#) for the implementation of best practices against which achievement of the road organizations and the success of the Code of Practice can be evaluated. The main objective for setting national targets is to increase environmental protection. All road organizations are expected to reach a minimum level of progress in the implementation of best practices to prevent and reduce negative impacts from road salts. National targets help to monitor progress in specific areas of the Code and form the basis for the next evaluation of the Code.

There are 7 performance indicators (with targets set for 2019 and another for 2024) that fall under 4 main activities of the Code (adoption of the Code, salt storage, salt application and salt-vulnerable areas) as summarized and illustrated above (Figure A). The following results are based on the analysis of 196 road organizations (including 8 provinces, 178 municipalities, 3 private roadways organizations and 7 national parks) that report under the Code. Previous data from 2009<sup>3</sup> reporting are referenced below, where available, only to illustrate progress over time.

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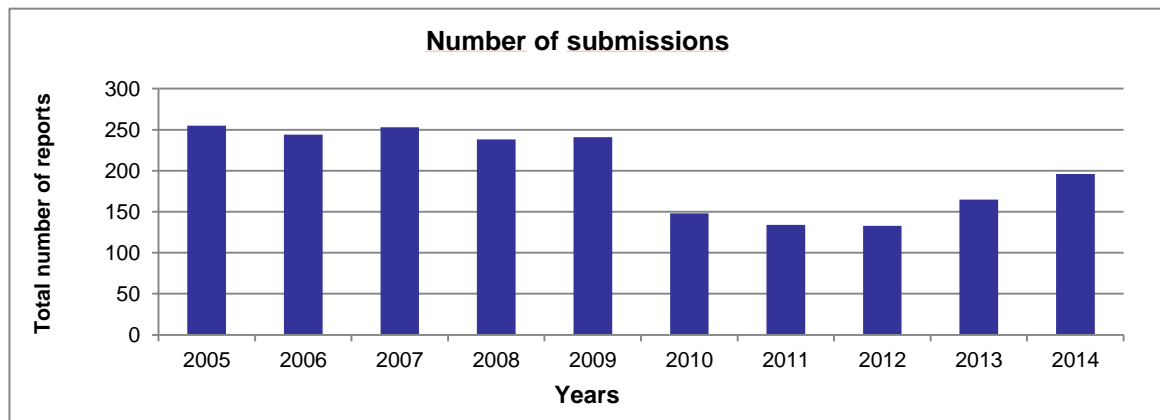
<sup>1</sup> The information is submitted directly to Environment and Climate Change Canada through its [Single Window Information Manager System](#) (ECCC's SWIM) by June 30 of each year.

<sup>2</sup> See report: *Five Year Review of Progress: Code of Practice for the Environmental Management of Road Salts* (Environment Canada, 2012).

<sup>3</sup> [Canadian Environmental Protection Act, 1999. Notice of Issuance of the Performance Indicators and National Targets for the Code of Practice for the Environmental Management of Road Salts in Canada \(Table 1\) – Acts and Regulations – Environment Canada. December 23, 2014.](#)

- **Performance indicator 1: “Submission of annual reports”** represents the number of road organizations reporting regularly. The purpose of this indicator is to increase the level of implementation of the Code as achieved before 2009, and to inform on best practices in road salt management. A total of 196 road organizations reported for 2013–2014 compared with the target of 220 organizations (Figure B). The variation in number of submissions is attributed to the voluntary nature of the Code.

**Figure B: Number of reports submitted by road organizations to Environment and Climate Change Canada since the Adoption of the Code of Practice**



- **Performance indicator 2: “Annual review of salt management plan”** represents the percentage of road organizations that annually review their salt management plan. The objective of this indicator is to ensure that planning is current and allows for continuous improvement. For 2013–2014, 58% of organizations have reviewed their salt management plan compared with the target of 100%. This is a new performance indicator. Road organizations should revisit their salt management plan at the end of each winter in order to identify shortcomings, issues and areas where improvements are needed prior to the start of the next winter season.
- **Performance indicator 3: “Storage of road salts”** represents the percentage in tonnes of road salts stored under a permanent roof and on impermeable pads. The objective of this indicator is to ensure that road organizations have committed to managing their material storage facilities and that best practices are applied at point sources. For 2013–2014, 98% was scored for that performance indicator compared with the target of 100%. In 2009, road organizations reported that nearly 95% of the salts were stored under cover and on impermeable pads.
- **Performance indicator 4: “Storage of treated abrasives”** represents the percentage in tonnes of treated abrasives (blended sand and salt) that are stored under cover. The objective of this indicator is to ensure that road organizations properly cover their treated abrasives in storage facilities and that best practices are applied at point sources. For 2013–2014, 65% of treated abrasives were covered compared to the target of 75%. In 2009, approximately 57% of treated abrasives were covered.
- **Performance indicator 5: “Groundspeed electronic controllers”** represents the percentage of vehicles equipped with groundspeed electronic controllers. The objective of this indicator is to ensure that salt is applied at a proper rate regardless of the speed of the truck being used to spread the salt and that salt stops discharging when the truck is stopped. Use of this technology is expected to become a core practice for all organizations. For 2013–2014, 93% of vehicles were equipped with groundspeed electronic controllers compared with a target of 95%. In 2009, 85% of vehicles were equipped with groundspeed electronic controllers.
- **Performance indicator 6: “Optimization of salt application”** indicates if organizations are adopting practices that enhance their salt application techniques either by increasing their pre-wetting capacity or by using pre-treated salts. The objective of this indicator is to ensure that organizations are using advanced technologies such as pre-wetting to reduce the use of salts and pre-treated materials proven to be a cost-effective alternative to road salts with similar results. For 2013–2014, 64% of road organizations were using pre-wetting or pre-treated salts compared to the 95% target and 63% of vehicles were equipped for pre-wetting compared to the target of 75%. In comparison to 2009, 62% of the vehicles were equipped for pre-wetting. No historical data is available on the use of pre-treated salts.

**Performance indicator 7: “Salt-vulnerable areas”** indicates if organizations have identified salt-vulnerable areas and if an action plan has been prepared with the purpose of protecting those areas that are particularly sensitive to road salts. For 2013–2014, 20% of organizations have identified salt-vulnerable areas and have prepared an action plan. To help achieve this target, Environment and Climate Change Canada is in the process of developing additional guidance to establish common standards for identification of salt-vulnerable areas. As such, it should be noted that the target for this indicator is set for 2024. A similar result was reported in 2009.

Of note, in Quebec, a Strategy for the Environmental Management of Road Salts was launched in 2010. Every administration that manages and maintains roads is invited to participate in the Strategy on a voluntary basis. As a result, the federal Code of Practice is not implemented in Quebec. However, the general objectives of the Code of Practice and of the Strategy are similar. For the 2013–2014 reporting year, 12 municipalities have joined the Quebec Department of Transport in this initiative. Various statistics on winter maintenance practices used in Quebec are available on the Strategy website ([www.selsdevoirie.gouv.qc.ca](http://www.selsdevoirie.gouv.qc.ca); [French only](#)). According to Quebec’s 2013–2014 report on the reporting organizations, 97% of road salt storage sites have a permanent roof, 92% have an impermeable surface and 85% of vehicles are equipped with electronic spreader controls.

Setting national targets offers transparency in the expected performance level from road organizations and provides a basis for conducting a second review of the effectiveness of the Code. National targets will assist road organizations in prioritizing their ongoing efforts in the management of road salts. Environment and Climate Change Canada will continue to promote the implementation of the Code with the stakeholders, consisting of provincial and municipal road authorities, federal and provincial governments, related associations, industry, environmental non-governmental organizations, and academics, in order to help reaching the national targets. In addition, Environment and Climate Change Canada, in collaboration with stakeholders, will attempt to quantify the environmental benefits as a result of implementing the Code.

## Contact Us

For questions about the Code of Practice or for more information about salt management, please [contact us](#).

Additional information can be obtained at:

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