



Christmas in July

It's an MS4 Life

A feature presentation by the WAS Channel

Starring

Deb **LOISELLE**

Tom **SWENSON**

Chris **AVERY**

Special Guest Appearances by:

Barb **McMillan**

Patrick **SANTOSO**

All Things Winter Maintenance

- Only going to cover Appendix H Road Salt Reduction Plan Template today
- Will cover MCM #1, MCM #6 Winter Road Maintenance Plan and Appendix F TDML during the August coalition meetings

NH MS4 Salt Reduction Plan Outreach Resources

For Outreach your plan must include:

- **Public education regarding impacts of salt use,**
 - [Environmental Health and Economic Impacts of Road Salt](#) – Information Sheet and Webpages
 - [Road Salt and Water Quality](#) - NHDES Fact Sheet
 - [Sodium and Chloride in Drinking Water](#) – NHDES Fact Sheet -
- **methods to reduce salt use on private property,**
 - [Green SnowPro Business Flyer](#) –
 - [Green SnowPro Rack-Card - ..\..\..\Salt Cert\Outreach and Branding\Fact Sheets\2019 Rack Card Business Word FINAL.docx](#)
 - [Snow and Ice Removal for the Business Owner](#) -
 - [Best Management Practices and Salt Minimization Efforts in Chloride Impaired Watersheds in New Hampshire: A Guidance Document for Private Developers and Contractors](#)
- **modifications to driving behavior in winter weather, etc.:**
 - [Tips for Driving in Snow – ..\..\..\Outreach\salt\Salt related outreach\Tips for Driving in the Snow.docx](#)

Templates

There are two templates:

- Appendix H

Road Salt Reduction Plan

- MCM #6

Winter Road Maintenance Plan

Towns Required for Appendix H Chloride Impaired Waterbodies Salt Reduction Plan

- BEDFORD
- DERRY
- DOVER
- DURHAM
- EXETER
- GOFFSTOWN
- GREENLAND
- HOOKSETT
- LONDONDERRY
- MANCHESTER
- NASHUA
- PORTSMOUTH
- RYE
- SALEM
- SEABROOK
- STRATHAM

Appendix H

Chloride Impaired Waterbodies

Salt Reduction Plan Template

- The template has more requirements and more depth than the MCM #6 template.
- Background
 - Green SnowPro Manual
 - Dinsmore Brooke Chloride TMDL Plan
- Two different parts to the template
 - Municipally owned roads and parking lots
 - Privately owned roads and parking lots

Questions or comments?



Now what?

- Send feedback to:
- Tom Swenson Thomas.Swenson@des.nh.gov
- Deb Loiselle Deborah.Loiselle@des.nh.gov
- Template will be posted on the blog
- Looking for feedback by September 1st
- During the August coalition meetings, we will be going over more winter maintenance related materials.
- We can have another discussion about Appendix H in August.
- The final template and resources will be presented at the October coalition meetings

Green SnowPro , BMP's, and Salt Reporting

Christopher Avery
Salt Reduction Program Coordinator
for
NHDES

Municipal Legislation

- Currently on hold due to Covid (Postponed to 2021)
- It has passed the senate and is moving to the house.
- Will incorporate Municipalities
- Continue training and keep track of it as these courses will count to certification once the bill passes

QUESTIONS?

History of the Green SnowPro certification

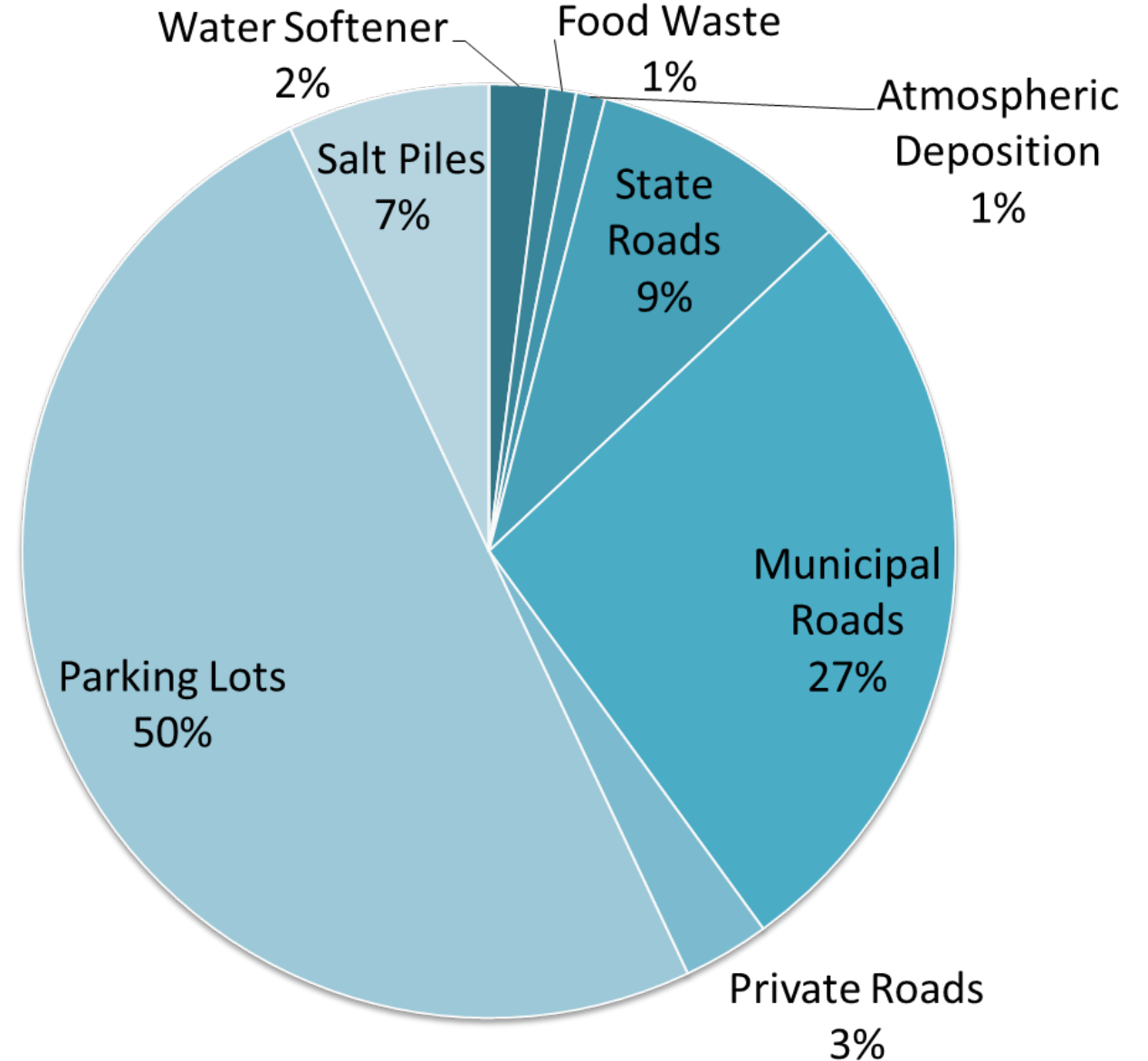
- Emerged out of chloride contamination issues in the I-93 corridor
- Large reductions are needed
- Private salt application is the largest source



SOURCE; NHDOT

Sources of salt

- In urban and suburban areas, most of the salt comes from private parking lots, sidewalks and driveways
- Reach out to Chris Avery at NHDES for specific impaired bodies of water, if interested.



QUESTIONS?

Elements of certification

- Training -
 - 4 hours initial (every 5 years) – exam
 - 2 hours refresher (every 2 years)
 - Application
- Recertification Each Year
- Track salt usage (UNH Database)
- Keep your own records for each site
- Certified over 1500 people since 2015



Training

- Appendix H, Page 10, section IV.3.a.ii offers ‘Training for municipal staff and/or contractors engaged in winter maintenance activities’ as an option for planned activities
- Appendix F, page 1, Section I.1.a.ii, bullet 3 “Training for municipal staff and/or contractors engaged in winter maintenance activities”.
- Sending staff to trainings is the most effective way to ensure they have the necessary tools to mitigate their salt usage
- They will be taught how to calibrate equipment, application rates, prewetting, plowing techniques, new innovative equipment, and much more.
- Training is within two categories, Full Course, and Refresher Course.
 - Full Course has an exam and covers all topics
 - Refresher courses usually cover basics quickly then spend time digging into a specific topic such as: Calibration, Brine, Application rates Etc..

Training Options

- UNH Technology Transfer Center (Will also receive road scholar credits):
<https://t2.unh.edu/green-snowpro-salt-applicator-certification-training>
- Axiomatic; NHDES onsite trainings
- Link to NHDES training calender (might change):
<https://www.des.nh.gov/organization/divisions/water/wmb/was/salt-reduction-initiative/workshop-calendar.htm>
- Online courses By SIMA, SASC, and new virtual trainings by UNHT2
 - SIMA Refresher trainings: <https://www.sima.org/login>
 - SASC Full Course training: <http://www.smartaboutsalt.com/event-3728029>
 - SASC Refresher: <http://www.smartaboutsalt.com/event-3567335?CalendarViewType=1&SelectedDate=6/29/2020>
- Municipal Prices are cheaper with UNH (\$60 v \$200 for full and \$35 v \$75 for refresher at UNH)
 - SASC has offered a discounted rate if multiple municipalities would like to sign up
- In person trainings are currently postponed due to COVID
- SIMA (Snow and Ice Management Association), SASC (Smart About Salt Council)

NH Salt Symposium

- The New Hampshire Salt Symposium is put on every year by NHDES
- The only annual conference in the state dedicated to snow and ice maintenance professionals
- Chance to speak with vendors, and hear presentations from experts in the industry.
- This year we are partnering with SIMA to bring outdoor participatory events, and indoor classroom sections all focused on improving professional winter practices and reducing salt usage
- Counts as a refresher for GSP
- Will count as training your employees for the MS4 permit

NHSS Safety

- Top priority this year due to Covid
- Capping amount of attendees
- All indoor spaces will require 6 feet of distancing
- Masks will be made available
- Attendees will be split in half and will switch indoor and outdoor sessions
- No more than 50-60 people inside at the same time
- Outdoor space for lunch. Lunch is boxed, no buffet or self serve

BMP Highlights

- Many ways to reduce salt usage, but a few stand out
- All information fully explained in class sessions



Calibration

- As high as a 50% reduction in salt use
- Permit requires an estimation of the amount of salt saved, calibration would be a good start
- Every system can be calibrated fairly easily, process described in manual, and in class sessions

Application Rates

Pavement Temp. (°F) and Trend (↑ ↓)	Weather Condition	Maintenance Actions	Application Rate (lbs/per lane mile)			
			Salt Prewetted/Pretreated with salt brine	Salt Prewetted/Pretreated with other blends	Dry salt	Winter sand
>30 ↑	Snow	Plow, treat intersections only	285	253	285	Not recommended
	Frz. Rain	Apply chemical	364	333	412	Not recommended
30 ↓	Snow	Plow and apply chemical	364	333	412	Not recommended
	Frz. Rain	Apply chemical	412	364	444	Not recommended
25 - 30 ↑	Snow	Plow and apply chemical	364	333	412	Not recommended
	Frz. Rain	Apply chemical	412	364	444	Not recommended
25 - 30 ↓	Snow	Plow and apply chemical	364	333	412	Not recommended
	Frz. Rain	Apply chemical	444	412	523	665
20 - 25 ↑	Snow or frz. Rain	Plow and Apply chemical	444	412	523	665 for frz. Rain
20 - 25 ↓	Snow	Plow and apply chemical	364	475	602	Not recommended
	Frz. Rain	Apply chemical	444	475	634	665
15 - 20 ↑	Snow	Plow and apply chemical	475	475	602	Not recommended
	Frz. Rain	Apply chemical	554	475	634	665
15 - 20 ↓	Snow or Frz. Rain	Plow and apply chemical	523	475	634	665 for frz. Rain
0 to 15 ↑↓	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	634	Not recommended	824 and spot-treat as needed
< 0	Snow	Plow, treat with blends, sand hazardous areas	Not recommended	1457	Not recommended	824 and spot-treat as needed

Pre Wetting

- The Process of coating a solid deicer with a liquid before spreading it
- De-icing chemicals must form a brine before they can begin melting ice. Pre wetting your chemicals can accelerate the process
- Reduces bounce and scatter of material during spreading
- Reduces the amount of product needed for application (see application rates table)
- Using a 23% sodium chloride brine solution works. As well as a 32% calcium chloride solution.
- Can either spray entire pile of salt before loading truck, or buy a truck mounted system.

Calculating Salt Reduction

BMP	Municipal Recommendations	Reduction of Salt % Per Storm	Estimated Cost	Estimated Annual Savings (Assumed usage: 4,000 ton annually @\$80/ton)
Spreader Calibration	Calibrate all spreaders minimally annually to ensure accurate	5-30% (dependent on existing usage)	2 Staff @ 1hr/spreader (\$200/ spreader) For 10 trucks \$2,000	At 5% savings \$16,000 At 30% savings \$96,000
Adapt Rates to Pavement Temperatures	Utilize Lower application rates at warmer pavement temperatures.	5-10% (dependent on existing usage)	Hand Held Temp. \$100/per \$1,000 for 10 staff Truck Mounted \$500/Per \$5,000 for 10 trucks	At 5% savings \$16,000 At 10% Savings \$32,000
Pre-Treated Salt	Utilize pre-treated salt	20% Reduction	\$10 additional cost per ton for 4,000 tons \$40,000	at 20% savings \$64,000
Ground-Speed Controls	Equip trucks with ground speed controllers	5% Reduction	\$700 per spreader For 10 Trucks \$7,000	At 5% savings \$16,000
Anti-Icing	Utilize Anti-Icing in advance of Storms	20% Reduction	\$20,000 Brine Maker \$15,000 Storage Tanks \$150,000 Tanker Truck \$185,000 Total Investment	At 20% Savings \$64,000 (breakeven in ~3 years) At 10% Savings \$32,000 (breakeven in ~6 years)

QUESTIONS?

UNH T2 Database Logging Tool

- Required for municipalities that fall under both appendix F & H
- New Updated database for 2020
- Mobile Friendly
- Increased Security
- Look up Application rates for weather events without the table
- Export files to Excel, PDF, and Word for personal use and reporting
- Can log each individual event.
- Will Log: Name ,Company/Municipality, Town, County, Square Feet, Tons
- Link: <http://www.roadsalt.unh.edu/>

Contact Info

- Christopher Avery
- Email: Christopher.avery@des.nh.gov or Salt@des.nh.gov
- Phone: (603)271 – 5329
- UNH T2 Database: <http://www.roadsalt.unh.edu/>

QUESTIONS?

Dry Weather Sampling

VACATION



ES-100



Walley World
Sampling Kit

IDDE Dry Weather Sample Collection Procedures Training Video



- ▶ see it
- ▶ report it
- ▶ stop it

▶ how to sample for it



Get the most out of your weather data
Don't let it go to waste in your toolbox

How to Dry Weather Sample

FOR DUMMIES

Plenty of
Real-world
Applied Advice

*A Reference
for the
Rest of Us!*

1000+ pages of information

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