

LONG CREEK WATERSHED MANAGEMENT DISTRICT



WINTER MAINTENANCE ROUND TABLE

July 28, 2011

Presented by



Cumberland County Soil & Water
Conservation District

Attendees:

James Nygren, CNSL, LLC DBA McDonalds
Frank Langlois, Langlois Real Estate
Bill Wells & Brian Taddeo, MTA
Bill Pakulis, Wellpoint/Anthem
Gary Verrill, Nature's Design
Ryan Hodgman & Randy Geaumont, MDOT
Richard F Collins, Scarborough Public Works
Steve Card & Andy Fraser, Maine Turf & Geenery
David Thomes & Fred Dillon, City of South Portland
Joe Lydon, Defining Lines Landscape
Larry Grondin, RJ Grondin & Sons
Peter Kelly & John P. Kelly, Seabreeze
Jeff Kinney, Coastal Lawn Care
Todd Dominski, East Brown Cow Management
Keith Stone, GGP
Artie Sewall, City of Portland (Jetport)
Emery Pelletier, C&E Earthworks
Robyn Saunders, GZA
Adam Pitcher, Sysco
Alex Anastasuff, Lawn Enforcement, Inc
Len Wallace, kd landscaping

Introduction

- Why is chloride an issue?
- Salt Loading – Where does it come from?
- What are organizations already doing to reduce use?
- What does it mean for me?

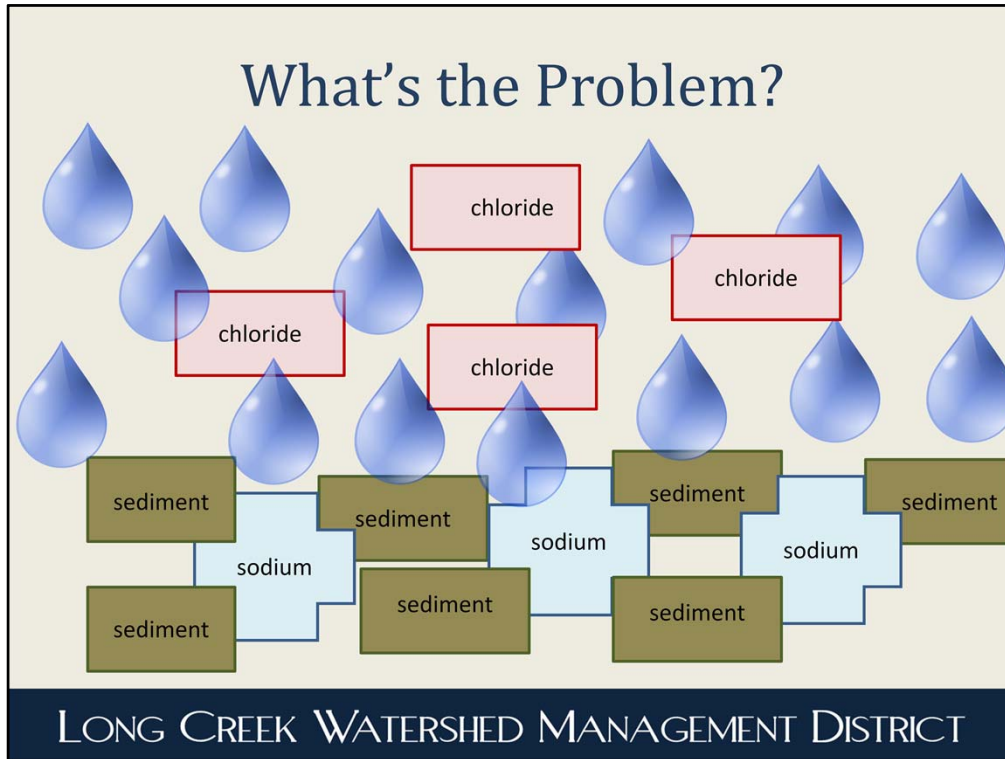


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Tamara Lee Pinard – Executive Director, Long Creek Watershed Management District
c/o Cumberland County Soil & Water Conservation District
35 Main St * Windham * tamara@cumberlanswcd.org * 892-4700

Betty Williams – Senior Project Manager
Cumberland County Soil & Water Conservation District
35 Main St * Windham * betty-williams@cumberlanswcd.org * 892-4700

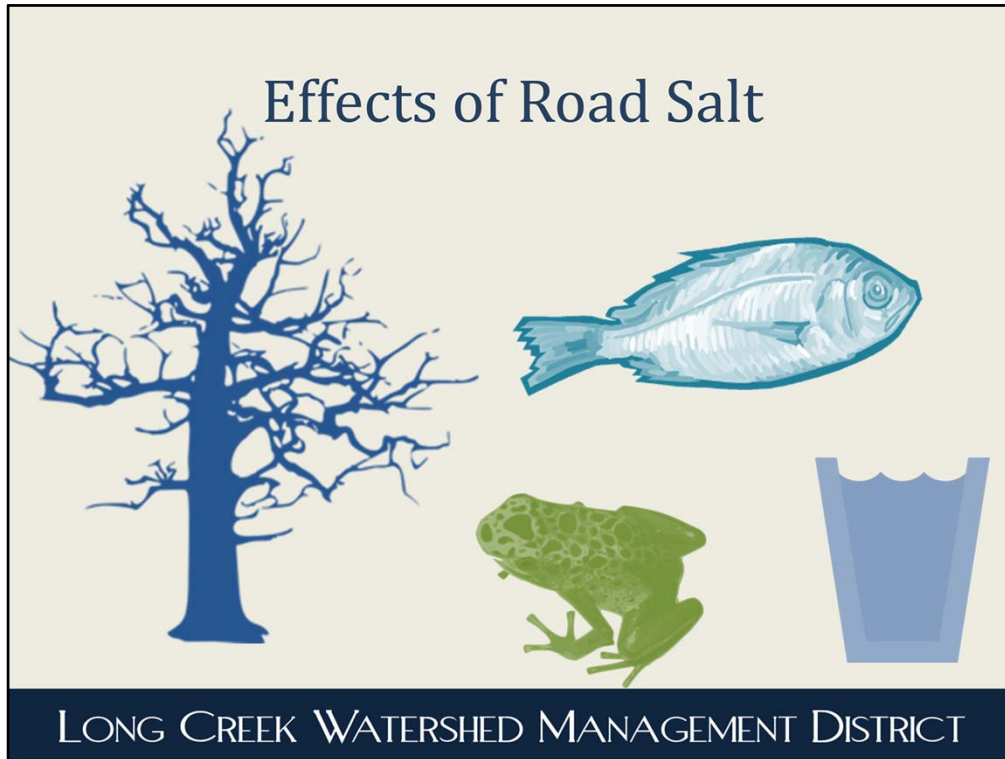
Kate McDonald – Project Scientist
Cumberland County Soil & Water Conservation District
35 Main St * Windham * kmcdonald@cumberlanswcd.org * 892-4700



Road salt (sodium chloride) enters the system by dissolving in runoff or infiltrating water. Sodium absorbs onto soil and sediment while chloride remains in the water.

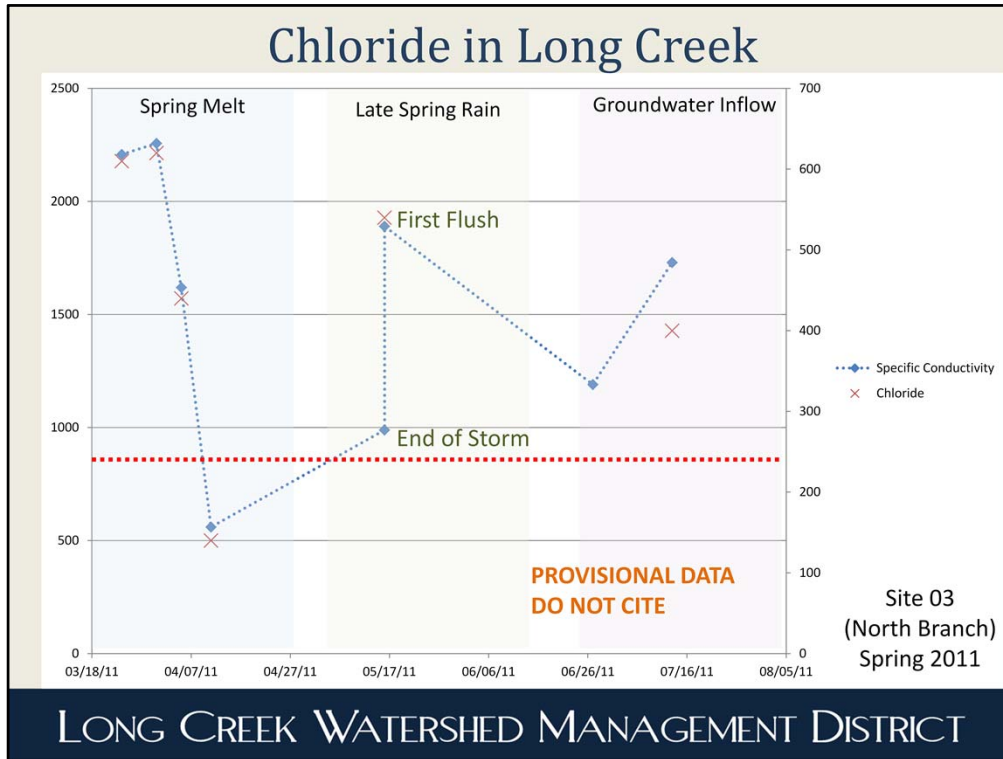
Chloride concentrations in water can be measured by direct analysis in laboratory or by using a field meter to measure the specific conductivity of the water sample. Specific conductivity measures the ability of water to conduct an electrical current (adjusted for temperature). The more negatively charged ions (such as chloride) in the water, the higher the specific conductivity.

At this time Long Creek has four water quality sondes at locations in the watershed that are continuously monitoring specific conductivity, temperature, and dissolved oxygen. We also collect periodic measurements when we collect samples for laboratory analysis.



Road salt has been blamed for affecting trees & plants up to 600 feet from roadways, killing wildlife, and degrading water quality in surface water and groundwater systems.

A year of monitoring data indicates that Long Creek has been affected by road salt as well.



This chart takes Spring 2011 data from Site 3, which is located off of Foden Road on the North Branch of Long Creek and downstream of the majority of the impervious cover in that portion of the watershed. The specific conductivity and chloride trends depicted on this chart are typical for each of the seven locations that were sampled throughout the spring and early summer period.

The red horizontal line is the Maine Chronic Concentration Criterion for chloride and specific conductance (which can be used as a surrogate for chloride). The Maine CCC is the level at which stream life is affected by the chloride, DEP considers the stream to be contaminated, and we are required to clean it up. As you can see, for all except 1 sampling event, Site 3 exceeded the CCC. This is representative of conditions across the watershed this spring.

During spring melt, large amounts of salt dissolve into meltwater and run off into the stream. Over the course of the spring melt period, the chloride works its way through the system and concentrations in the surface water decrease. During rain events salt that remains on the impervious surfaces as well as salt that is in nearby soil is dissolved and we see a secondary chloride spike. Once the spring melt and storms are completed, we see a third increase in chloride concentrations as the stream enters baseflow conditions (where it receives more water from groundwater sources and less from precipitation and runoff).

What is being done now?



Randy Geaumont
Superintendent of Highway Operations,
Maine DOT



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Pretreatment
Usage tracking

What does it mean for you?

- Long Creek Watershed Management District has been charged with addressing water quality (including chloride) in the Watershed Management Plan.
- We want to take a proactive collaborative approach and develop salt reduction techniques across the watershed.



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Landowner and Contractor Concerns



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- Tenants do not like salt on carpet/stains (Magchloride does not track)
- Liability concern is you are not being prudent if not using salt
- Contractors are hired to keep parking lots safe – contingent liability w/indemnity clauses
 - Shared liability cost needed in order to explore reduced use
- Parking lots do not have the volume of traffic needed to activate the product
- Melting comes from salt; Sand is only for traction (1.4 tons/acre)
- 0.5 ton/acre if using straight salt
- 0.25 ton/acre – magchloride
 - Good for 6" of snow
 - Only need one application
- Treated salt does not need to be re-applied
- 4-6 x less applied overall
- SIMA.ORG standards
 - CALIBER - \$10/gallon = m4000
- CMA
- Would a "Salt TMDL" reduce contractors liability if they have to follow a salt budget?
- What is the difference between private and public surfaces?
- Alternative products need to perform the same regardless of cost differential.

What LCWMD can do for you

- Tracking usage by parcel, property owner, and contractor
- Collect, evaluate, and present water quality data.
- Provide resources to help implement alternative de-icing methods (funding, technical assistance, grant writing & tracking)



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Concerns regarding tracking:

- Concern about competitive edge in regards to product usage
- Might be better to track awareness i.e., meeting attendance, notification regarding salt application

Moving the Effort Forward

- What practices do we think we might be able to implement?
- How can we demonstrate that we're making a difference?
- What do you need from LCWMD?



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Best Practices:

- Storing products
 - How you apply salt on sidewalks
 - Winter sweeping parking lots and sidewalks
 - Heated sidewalks
 - Porous pavement
 - Property owners required trained contractors
-
- Maybe classify parking lots into different levels of treatment – 1,2,3 priority
 - Concern still exists for contractor regarding liability
 - Could you post level of parking lot priority and timing of service?
 - Need to acquire “contracts” from landowners
 - Contractors would welcome Certification Program as it would level the playing field
 - Contractor costs is based on landowners expectations
 - Need for standardized contracts from landowners – all inclusive

Action Plan



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- Training in 2011
 - Full Day Training for BMP maintenance scheduled for Thursday, October 27th from 8a-3p at the South Portland Community Center. Classroom and field to include:
 - Porous Pavement Installation & Maintenance considerations
 - Gravel Wetlands (none installed up this way currently)
 - Tree Box Filters
 - Soil filters/bio-retention cells
 - Catch basin inserts
- Certification Program in 2012
- Subcommittee for the development of parking lot winter maintenance BMPs
 - Volunteers: Steve Card (Maine Turf & Greenery), John Kelly (Seabreeze), Emery Pelletier (C&E Earthworks), Robyn Saunders (GZA), Len Wallace (kd Landscaping), Larry Grondin (RJ Grondin & Sons).
 - Any other interested should contact Kate at kmcdonald@cumberlandswcd.org
 - Subcommittee to start work (initially via email) in mid-September.
- Consider/evaluate standardized all inclusive contracts
- Contractors/landowners – all working under same standards and guidelines
- Awareness documentation/outreach
- Demonstration sites

- Survey regarding identifying areas for potential demonstration projects or retrofits.