

Androscoggin Valley Stormwater Group

MS4 Stormwater BMP Adoption Plan

2013-2018

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AVSWG MS4 Stormwater BMP Adoption Plan

Coverage Area

This plan covers the Cities of Auburn and Lewiston.

Objective

As a result of the Androscoggin Valley Stormwater Group's (AVSWG) efforts, at the end of the permit cycle (June 30, 2018), at least 15% of college-educated residents, aged 35-55, who use lawn chemicals will reduce or eliminate their use of fertilizers and/or pesticides and those who already have reduced or eliminated lawn chemicals will continue those positive behavior changes. (Based on responses to a July 2013 intercept survey, approximately 50% of residents have already decreased or eliminated their use of fertilizers and/or pesticides. See Appendix A.)

BMP Adoption Plan's Nine Elements

- a) The BMP is reduced use of fertilizers and/or pesticides. The BMPs to be adopted in order to achieve the reduced use of lawn chemicals while keeping an aesthetically pleasing lawn are those of [Maine Yardscaping](#):
 1. Mow High
 2. Let the Clippings Lie
 3. Reduce/Eliminate Fertilizer Use
 4. Reduce Herbicide Use: if have weeds: aerate annually and power rake
 5. Reduce Pesticide Use: if have pests: visit [Got Pests](#) for advice on how to deal with them
 6. Water Wisely
- b) The target audience for this project is college educated, 35-55 year-old residents in the urbanized area and/or the priority watershed, who currently apply fertilizers, pesticides, and or herbicides. Thirty-five to fifty-five year-old individuals are established in their careers and likely have an income to support maintaining their lawns. In addition, those in this age range are more willing to change their behavior than other ages.
- c) As this plan's objective is a change in behavior, multiple outreach tools will be necessary. Each MS4 Stormwater Coordinator will use (at a minimum)
 - 1) The primary distribution mechanism is one-on-one message delivery through storm drain stenciling projects accompanied by direct mailings or door hangers in the targeted neighborhoods. City crews will stencil most storm drains but community volunteers will stencil a subset of storm drains in the target neighborhoods. The volunteers will be ambassadors to help spread the word about better lawn care. In addition, the media is often more likely to cover an event when invited by a community group than by municipal officials and that media coverage will help achieve greater public attention. (In surveys, the "public" often cites recent events covered by the media as being important. If something is in the news, it is real.)

In order to make the BMP lawn care practices spread more quickly through the MS4 area, materials will include mention that approximately 50% of residents already are

using these BMPs. This will take advantage of the power of the social normative message (i.e., that we want to be part of the social norm: we want to be like our neighbors, to fit in). In addition, BMP lawn care stickers showing the household is part of the BMP adoption effort will be used to make the practices more visible, thus also helping to spread the adoption of the BMPs. The stickers will be included in the mailings and left with the door hangers. The stickers will be suitable for attaching to the recycling bins that are put out weekly for collection or other suitable site that will be visible at least occasionally to show others that this household is part of the effort. Stickers will also be available for other residents that want them. (The MS4s will drive through neighborhoods after the distribution of stickers to see if they are being used.)

Auburn and Lewiston will target neighborhoods where street construction projects are taking place. After the construction, the MS4 municipal crews will freshly stencil all storm drains, which will serve as a reminder for the healthy lawn practices. Auburn will use direct mail to residents and Lewiston, depending on the neighborhood, will use door hangers generally but sometimes direct mail. The direct mail and door hangers not only will notify residents of the construction but also draw attention to the storm drains and inform about stormwater issues and encourage the reduction in lawn chemicals by using healthy lawn practices.

- 2) AVSWG will partner with school education programs. AVSWG will collaborate with the Lake Auburn Watershed Protection Commission's [LAKE](#) (Lake Auburn Kids Education) program. This is a school (5th grade through high school, target grade is 6th) outreach program, intended to be a monthly program in every school in Auburn and Lewiston each year. Most of the LAKE classroom activities are very relevant to AVSWG's message. The director of LAKE has committed to working with the AVSWG. See Appendix C. for a list of the activities and a detailed lesson plan on polluted stormwater runoff and how to keep water clean. In addition, LAKE has committed to incorporating AVSWG's messaging into any public outreach events they book.
- 3) AVSWG will seek opportunities to collaborate with other local groups to reach the public. See Appendix D. for a list of groups and activities.
- 4) AVSWG will continue the stormwater seasonal posters in the city halls, libraries, and other municipal buildings.
- 5) AVSWG will use websites to support their plan (i.e., [ThinkBlueMaine](#) and [Maine Yardscaping](#)). Materials (mailers, door hangers, posters...) will give the appropriate website for those seeking more information. In addition, the MS4s' city services outreach coordinators will put the lawn care BMP information on the municipal Facebook page, and on Twitter in the cities with a Twitter account) at least three times per year: early spring, summer and late summer.

Efforts will be made to reinforce the messages (branding) by using the same images, tag lines, and phrases in the various materials and media.

d) The message is *Protect the health and safety of your kids, pets, and water by reducing use of fertilizer and weed and bug killers on your lawn. Instead, mow high and let the clippings lie*, based on the “YardScaping; Six Easy Steps to a Safe and Healthy Lawn for Kids and Pets. This is the same message as the Interlocal Stormwater Working Group: *Do you want a lush green lawn, safe for kids and pets* and the York County Stormwater Working Group.

e) The Timeline and Implementation Schedule is as follows:

Permit Year 1

- Assess the target audience to set the baseline and inform the development of the BMP Adoption Plan. **Note:** This task was required in PY 1 but was completed in the previous permit - PY5 [2013] through an intercept survey. See Appendix A.
- Develop plan
- Conducted storm drain-stenciling (storm drains were stenciled in 2013 by city crews but without accompanying mailings or door hangers).

Permit Year 2

- Develop/tweak existing materials (letters, door hangers, posters...) to reflect new BMP Adoption Plan issue and message in user-friendly format and language.
- The MS4s' city services outreach coordinators will put the lawn care BMP information on the municipal web page and Auburn will also put it on Facebook and Twitter (Lewiston does not have a Facebook or Twitter account) and will link to ThinkBlue, Yardscaping... at least twice - late summer and early fall.
- Each MS4 Stormwater Coordinator will solicit a community group to stencil some storm drains in order to create lawn care ambassadors who will help to carry the BMP message and to encourage media coverage. In PY2, the community storm drain stenciling event can be outside the Urbanized Area to be able to take advantage of lake associations that may be interested in doing such an event in their watershed.
- Conduct one storm drain stenciling event per community using community members to heighten awareness of the BMP campaign through the accompanying media coverage of such events and to create additional ambassadors for lawn care message.
- City personnel will do the more extensive storm drain stenciling in the target neighborhoods as well as routine maintenance stenciling in additional neighborhoods.
- Each MS4 Stormwater Coordinator will arrange or have their local partner arrange media coverage of the event.
- In target neighborhoods, Auburn will send direct mail to residents and Lewiston will use door hangers. Lewiston and Auburn, each, will target approximately 100 residences per year.
- Partner with LAKE, which will deliver content on water quality, stormwater and watershed protection to students and encourage students to inform families about the importance of actions homeowners can take to protect clean water. The MS4s will supply appropriate take-home materials, which the LAKE director has agreed to incorporate into at least one activity.

- Seek partnerships with lake associations to deliver lawn care tips to shoreline residents.

Permit Year 3

- MS4 Stormwater Coordinators will find local partners to do limited storm drain stenciling in target neighborhoods. (City personnel will do the more extensive storm drain stenciling in the target neighborhoods as well as routine maintenance stenciling in additional neighborhoods.)
- Conduct one storm drain stenciling event per community using community members to heighten awareness of the BMP campaign through the accompanying media coverage of such events and to create additional ambassadors for lawn care message.
- MS4 Stormwater Coordinators will arrange or have local partner arrange media coverage of event.
- In target neighborhoods, Auburn will send direct mail to residents and Lewiston will use door hangers or direct mail. MS4s will distribute lawn care BMP stickers to target neighborhoods.
- The MS4s' city services outreach coordinators will put the lawn care BMP information on the municipal Facebook page, and on Twitter in the cities with a Twitter account at least three times per year: early spring, early summer and late summer.
- Partner with LAKE, which will deliver content on water quality, stormwater and watershed protection to students and encourage students to inform families about the importance of actions homeowners can take to protect clean water. The MS4s will supply appropriate take-home materials, which the LAKE director has agreed to incorporate into at least one activity.
- Partner with lake associations to deliver lawn care tips to shoreline residents.
- Develop an impact evaluation protocol: short (5-10 questions) in a mail survey to those who received direct mailings, intercept survey at neighborhood stores, a neighborhood door-to-door survey and/or other tool for an informal assessment of the success of outreach work to date.
- Conduct informal evaluation of BMP adoption plan activities using above tool. Including driving target neighborhoods to see if BMP lawn care stickers are being used.

Permit Year 4

- Develop/tweak existing materials (letters, door hangers, posters, lawn care stickers...) if MS4 coordinators think that changes are needed.
- MS4 Stormwater Coordinators find local partners to do limited storm drain stenciling in target neighborhoods. (City personnel will still do the more extensive storm drain stenciling of additional neighborhoods.)
- Conduct one storm drain stenciling event per community using community members to heighten awareness of the BMP campaign through the accompanying media coverage of such events and to create additional ambassadors for lawn care message.
- MS4 Stormwater Coordinators arrange or have local partner arrange media coverage of event.

- In target neighborhoods, send direct mail to residents (Auburn) and use door hangers or direct mail (Lewiston). MS4s will distribute lawn care BMP stickers if deemed effective to target neighborhoods.
- The MS4s' city services outreach coordinators will put the lawn care BMP information on the municipal Facebook page, and on Twitter in the cities with a Twitter account at least three times per year: early spring, early summer and late summer.
- Partner with LAKE, which will deliver content on water quality, stormwater and watershed protection to students and encourage students to inform families about the importance of actions homeowners can take to protect clean water.
- Partner with lake associations to deliver lawn care tips to shoreline residents.

Permit Year 5

- Find local partners to do limited storm drain stenciling in target neighborhoods. (City personnel will still do the more extensive storm drain stenciling of additional neighborhoods.)
- Arrange or have local partner arrange media coverage of event.
- Conduct one storm drain stenciling event per community using community members to heighten awareness of the BMP campaign through the accompanying media coverage of such events and to create additional ambassadors for lawn care message.
- In target neighborhoods, send direct mail to residents (Auburn) and use door hangers or direct mail (Lewiston). MS4s will distribute lawn care BMP stickers if deemed effective to target neighborhoods.
- The MS4s' city services outreach coordinators will put the lawn care BMP information on the municipal Facebook page and on Twitter in the cities with a Twitter account at least three times per year: early spring, early summer and late summer.
- Partner with LAKE, which will deliver content on water quality, stormwater and watershed protection to students and encourage students to inform families about the importance of actions homeowners can take to protect clean water.
- Partner with lake associations to deliver lawn care tips to shoreline residents.
- Conduct formal evaluation of PY1-5 behavior change plan activities using standard impact evaluation protocol developed in PY3 or other appropriate tool.

f) Each MS4 Stormwater Coordinator is responsible for the coordination and oversight of the BMP Adoption Plan, including soliciting volunteers for the community stenciling; partnering with other community groups; media coverage; seasonal posters and all other tasks for their municipality contained in this Plan. The AVSWG Stormwater Coordinators for each municipality are

☐ Auburn: Anthony Beaulieu, 207-333-6601, ABeaulieu@ci.auburn.me.us

☐ Lewiston: Justin Early, 207-513-3003, JEarly@lewistonmaine.gov

The cost of the implanting this behavior change plan will be shared among the MS4 members. Maine DEP will be notified in writing if there is any change to these lead contacts.

- g) Evaluation Protocol: Annual reports will include a review of the Plan, including process indicators (activities), which assess the execution of the Plan (e.g., numbers of storm drains stenciled by city personnel and by volunteers, number of volunteers participating in stenciling activities, number of houses having received door hangers or direct mail with behavior change messages, the numbers of students who have gone through LAKE programs...). An example of the AVSWG tracking mechanism is in Appendix B.

The Year Three report will provide a cursory evaluation and assessment of both the progress on implementing the Plan (process indicators), as well as the impact the behavior change messages are having on the target audience (i.e., what effect did the effort have on lawn care behavior). To assess the impact, mailed, intercept or neighborhood door-to-door surveys will be used to evaluate efforts.

The Year Five report will provide in-depth assessment of both the implementation and impact of the plan. The AVSWG will utilize the most cost-effective evaluation tool to assess impact. It is expected that a mailed, online and/or intercept survey will be used.

Success of the plan is not contingent on whether the MS4s reach their goal, but that they implement the behavior change plan measures with good intentions and reasonable effort.

- h) Plan Modification: This plan represents a range of activities to change lawn care behavior. Additional activities may be conducted by individual MS4s or groups of MS4s as resources permit. If program elements are found not to be working and the activity involves the full AVSWG, the full membership of the AVSWG will revise the plan. If one MS4 has a program element that they wish to drop or replace, they will revise their portion of the plan. New plans will be developed and submitted to the Maine Department of Environmental Protection, MS4 Stormwater Program staff. Unless DEP responds in writing or verbally otherwise, the plan will be considered approved within one month of submission to DEP.
- i) The goal (i.e., the targeted level of change sought as a result of the Plan's behavior change effort) is to have by the end of PY5 at least 15% of college-educated residents, 35-55, living in the urbanized area who use lawn chemicals to reduce or eliminate their use of fertilizers and/or pesticides and to encourage those who already have reduced or eliminated lawn chemicals to continue those positive behavior changes.

The demographics, based on the 2010 census include:

- city population of 35-55 year old residents,
- percentage of the population living in the urbanized area,
- extrapolated number of the target audience in the urban area,
- percent with bachelor college degrees (which slightly underestimates overall college degrees),
- percent (self-reported) already using good lawn care practices,
- number that needs to adopt new practices,
- number required to reach out to if the campaign has a 25% effectiveness of changing behavior, and

- number of residents that need to be targeted within the campaign per year to reach the required 15% behavior change by the end of PY5. For the purposes of this Plan, the number of residents shall be considered the number of residences that need to be targeted.

The demographics of each community are presented in the table below.

	Population 35-55	MS4 % Urbanized Population	Extrapolated Urban Pop. 35-55	% college degree *	% already doing BMP	Needed: Target audience (15%) adopts BMP	Campaign 25% effective	# residents/ residence s per year for 4 years
Auburn	6521	78	5112	25%	50%	191	382	96
Lewiston	9500	92	8771	15%	50%	197	395	99

*Number is slightly low as it does not factor in advanced degrees as well

Therefore, Auburn needs to target 96 residences and Lewiston 99 residences each year for the remaining four years of this permit.

Outreach Tools (Distribution System)

1) Community storm drain stenciling events with door hangers and direct mail

Each MS4 will work to stencil storm drains in targeted areas of its municipality. Starting in PY2, AVSWG MS4s will use community groups to do some stenciling in order to create more local ambassadors for the adoption program as well as to garner publicity to further outreach efforts to the communities. The MS4s will be responsible for recruiting volunteers.

Each MS4 will complete one or more neighborhoods per year, striving for the number of residences given in the Table of Demographics: Auburn – 96, Lewiston - 99 residences. Each MS4 will identify and approve the neighborhoods to be stenciled.

Stenciling will be completed by city personnel, and starting in PY2, by volunteers who will be provided background regarding stormwater issues and, specifically, the reduction in the use of lawn care products. This will increase the potential stormwater message ambassadors in the community. The MS4 coordinator or coordinator in collaboration with the point person for the community group assisting in the stenciling will write a press release prior to each stenciling event, send to local media, and post on the municipality's website, Facebook page and Twitter if available. The stencil designs will reinforce the AVSWG's message to reduce the use of lawn care products (Keep Water Clean, Drains to ... or similar message) and work to reinforce branding images and messages. Door hangers and direct mail will be revised to focus on the current BMP message in user friendly format and language. In mailings and other medium with sufficient space, the materials will have a graphic showing the path of stormwater and the general water body to which the MS4 drains as well as a mention that approximately half of the residents already follow these practices. BMP stickers for households to display will also be used to spread the message.

2) School education programs

AVSWG will partner with [LAKE](#) (Lake Auburn Kids Education) program. This is a school (5th grade through high school, target grade is 6th) outreach program, intended to be a monthly program in every school in Auburn and Lewiston each year. Most of the LAKE classroom activities are very relevant to AVSWG's message. The director of LAKE has committed to working with the AVSWG. See Appendix C. for a list of the activities and a detailed lesson plan on polluted stormwater runoff and how to keep water clean. AVSWG will specifically leverage this activity (possibly others) and supply appropriate materials for in-class work as well as for the students to take home to bring the message to their parents. In addition, LAKE has committed to incorporating AVSWG's messaging into any public outreach events they book.

3) Partnering with other local groups to reach the public

MS4 coordinators will seek partners to expand their outreach. So far, LAKE has committed to incorporating AVSWG's messaging into any public outreach events they book. MS4 coordinators or designees will contact other local groups to partner with on its lawn care message. Coordinators will contact lake associations to request their support in getting the lawn care message to their members. Coordinators will also contact other local groups to seek help with the community stenciling projects. See Appendix D for details.

4) Stormwater seasonal posters

AVSWG MS4 coordinators will continue the seasonal posters in the city halls, libraries, and other municipal buildings. Posters will be updated so they reflect the lawn care messages of the BMP Adoption Plan. AVSWG already has posters on Mow High, Let Clippings Lie. Posters will be rotated every 4 months. Coordinators will seek other venues that would be appropriate for the posters to widen the reach of the campaign. Typically, people need to hear a message seven times to begin to remember it.

5) Websites

AVSWG will use websites to support their plan (i.e., [ThinkBlueMaine](#) and [Maine Yardscaping](#)). Materials (mailers, door hangers, posters...) will give the appropriate website for those seeking more information. In addition, the MS4s' city services outreach coordinators will put the lawn care BMP information on the municipalities' web page, Facebook page, and on Twitter in the cities with a Twitter account and link back to ThinkBlue, Yardscaping....

Appendix A. Except from the *Non-Point Source Pollution Communication Survey Final Report: Cities of Auburn and Lewiston and Town of Sabattus*, July 17, 2013, by Karen Hutchins.

11. Approximately 20% of respondents reported that they have heard of local efforts to get people to reduce the use of lawn chemicals.
12. Of the respondents who said they have heard of local efforts to reduce the use of lawn chemicals, 40% indicated they have taken specific actions as a result of the local effort.
13. 58% of respondents reported that they do not use lawn chemicals at their Lewiston, Auburn, or Sabattus area residences. Several intercept survey respondents lived in apartments and, thus, skipped this question.
14. Two thirds of respondents who reported using lawn chemicals at their residences also reported that they apply such materials one or two times per year.

Appendix B. Process Indicators (Activities) Tracking Mechanism 2013 -2018, PY 2- PY 5

Event Activity	Auburn					Lewiston				Staff member	Observations/ Comments
	PY2	PY3	PY4	PY5		PY2	PY3	PY4	PY5		
Storm drain Stenciling Program											
Develop/Tweak existing materials to reflect new BMP and as needed											
Choose target neighborhoods of required size											
Where required, send direct mail to target neighborhoods											
Solicit volunteer (group) to organize subset of storm drain stenciling for community event, provide them background info on stormwater and lawn care BMPs											
Organize press coverage											
Conduct community stenciling -- with door hangers where required											
City crews stencil to cover neighborhoods of required number of residences -- with door hangers where required											
Give out lawn care BMP stickers PY3-5											
Drive neighborhoods to see if stickers are being used (PY3)											
Partner with LAKE school program											
Supply take-home materials and other support as needed											
Seek partnerships with lake associations											
Contact at least one association per year											
Ask associations if they need lawn care materials and supply as needed											
Ask associations to put article in newsletters regarding lawn care BMPs at least once yearly											
Use web and social media to spread the lawn care message											
Put BMP info on municipal page, Facebook, Twitter where available											
Update info on April 15, June 15, Aug 15 using advice from Yardscaping											
Link to other websites (ThinkBlue, Yardscaping...)											
Stormwater seasonal posters											
Update posters as needed to reflect lawn care BMP as well as stormwater generally											
Rotate every 4 months											

Appendix C. LAKE Lesson Menu and a Stormwater Lesson Plan (Lesson Plan file attached)

School Programs by
LAKE AUBURN
WATERSHED PROTECTION COMMISSION
LAKE AUBURN, MAINE 04453-0001, USA



L.A.K.E. Lessons Menu- Pick one or more!
We'll tailor these lessons to fit your grade level, goals, time constraints, etc., or we can design lessons to meet your needs.

Bottoms Up!
Students create desk-top models of Lake Auburn, to observe the effects of seasonal temperature changes.



Water 101 - The Incredible Journey/ Drop in the Bucket/Blue Planet Where in the world is water? How much water is there in the world? How does water move through time and space? Expand student understanding of the role of water in Earth's surface processes.

Watersheds- A Great Place to Store Your Water Cycle! What is a watershed? What's in our watershed? How can we find the boundaries of Lake Auburn's watershed?

Stormwater Stew - The rain in Maine flows mainly to the-- Lake? River? How does precipitation travel through your community, how is it managed, and what can each of us do to reduce the impact of stormwater runoff?

What Happens When Water Gets Grounded? How does water move underground? How do wells work?

Vernal Pools -Learn the special adaptations of Maine's vernal pool species. Become a VPP- Vernal Pool Protector!



Water Treatment/Wastewater Treatment model- Demonstrate to classes how their water is treated, delivered, and then cleaned.



FishKids: Raise trout or salmon in the classroom! With IF&W permits, fish eggs are raised in classroom habitats for springtime release into approved waters. LAWPC handles permitting, tech support, and assistance on the day of release.



Bug Me! Learn which aquatic insects are clean-water indicators. Sort and identify live insects! (spring and fall)

Invasives!
How do invasive species impact native populations and natural habitats?



For more info or to schedule a visit, contact Lynne Richard at lrichard@awsd.org or call 784-6469.

Appendix D. List of Potential Partners: Local Groups

Lake Associations

AVSWG MS4 Coordinators will contact all lake associations in their municipalities to seek their support in carrying the lawn care message to their members and other lakeshore residents. Most lake associations already prioritize lakeshore practices so this should be an easy sell. AVSWG will do this in PY3.

Local lake associations (all are outside the urbanized area)

Lake Auburn Watershed Protection Commission (has already committed to support)

No Name Pond (has been involved in the past)

Taylor Pond (has been very actively involved in the past)

Local Groups

AVSWG will also contact other local groups to help specifically with supporting and coordinating the community stenciling events (including media coverage) in target neighborhoods. AVSWG will contact at least one local group per year as well as encourage any existing collaborators to stay involved. They will continue to seek additional partners, though AVSWG a few years ago sought out local groups for another but related purpose and found few such groups.

Known local groups

Androscoggin Land Protection Trust

Cooperative Extension Master Gardeners Program

Local garden clubs

LAKE Classrooms

Scouts