

# Clean Lawn Care for Clean Water: A Collaborative Approach

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## Abstract

Through the Clean Lawn Care program development, WSA worked with both lawn care companies and Certified Master Watershed Stewards to collaboratively create a Clean Lawn Care regime aiming to reduce fertilizer and pesticide use on lawns that are maintained by contractors. We also developed a number of tools to assist both target audiences: Lawn Care Companies and Homeowners who use lawn care companies to maintain their yards for services beyond mowing. Once the regime and tools were developed, we conducted additional research with both of our target audiences, revised tools and recruited companies to offer clean lawn care services. In preparation for the mini-pilot, we trained 7 lawn care companies in the Clean Lawn Care protocols and solidified their partnership with WSA to offer Clean Lawn Care through a Company User Agreement.

## Behavior

*Behaviors: Reduce fertilizer use*

*Behavior Pattern: Continuous*

### Why was this behavior selected?

Since its inception in 2008, the Anne Arundel Watershed Stewards Academy has trained almost 130 Master Watershed Stewards to help reduce pollution coming from communities through the implementation of RainScaping projects and pollution reducing behavior changes. Certified Stewards across Anne Arundel County cite the excessive use of harmful chemicals coming from turf grass as a major source of pollution in their communities. Stewards frequently ask for recommendations for lawn care companies who practice bay friendly lawn care such as integrated pest management, cultural controls and low or no fertilizer regimes. Stewards and their communities must individually negotiate turf maintenance programs, as there is no standard designation for lower input lawn care. Although the Fertilizer Use Act of 2011 has changed the composition of fertilizer applied and may affect the total amount applied, Stewards are concerned that excess pesticides will be used in place of fertilizers as lawn care companies search for an alternate method for maintaining revenue. Often community members trust lawn care companies for the best advice on turf maintenance and look to their local Watershed Steward for watershed protection guidance. This proposal combines the best advice from both sets of experts and creates a set of recommendations and marketing materials that can be adapted and implemented throughout the County to reduce the amount of toxins and nutrients applied to turf grass.

## Target Audiences

*Audiences: Businesses, Detached single family homeowners/renters*

*Primary Audience: Businesses*

*Secondary Audience: Detached single family homeowners/renters*

*Demographics: Asia/pacificislander, Black or african american, Hispanic or latino, Other, White*

*Ages: N/A*

### Description of Target Audience

This project will work with a group of Master Watershed Stewards, volunteer community leaders who engage their communities in reducing pollution and infiltrating stormwater, to create social marketing tools for use by the entire body of Stewards throughout Anne Arundel County. Since 2008, Anne Arundel Watershed Stewards Academy (WSA) has trained almost 130 Master Watershed Stewards from communities ranging from Brooklyn Park to Herring Bay. To become certified, Stewards complete a 64 hour hands-on training and a capstone project in their community. Once certified, they work with their communities to reduce pollution entering our waterways through fostering and supporting Behavior Change and RainScaping projects. Stewards are supported by the WSA staff, a Board of Directors, fellow Stewards and over 80 members of the Consortium of Support Professionals, who provide technical expertise to the Stewards during training and project implementation. WSA Consortium Members and partners will serve a strong role in technical assistance on this project. WSA's goal is to support 1 or more Master Watershed Stewards in every community across Anne Arundel County. Over the last several years, WSA has targeted recruitment of Master Watershed Stewards toward underrepresented communities. Approximately 20% of the Certified Master Watershed Stewards live and work in underrepresented communities. We feel that they are uniquely qualified to deliver outreach and to facilitate behavior change because of their unique understanding of and credibility within their communities.

Phase 1 of this project will work with 5 Master Watershed Steward Candidates who are currently in the Behavior Change track and receiving specialized training on community based social marketing for environmental behavior change. This project will serve as their capstone project and will center on the community of Southgate of the Highlands in Glen Burnie, Maryland. Southgate of the Highlands is a very large community adjacent to the Baltimore Washington Medical Center and is comprised of mixed ethnic, age and income demographics. It is representative of a target population that is less engaged in environmental issues than many other communities in Anne Arundel County. Phase 2 (not part of this proposal) will work with a wider subsection of Watershed Stewards to test the transferability of this tool kit for use by Watershed Stewards in other parts of the County. Once pilot tested, this tool kit will be revised, improved and made available for use by the growing number of Master Watershed Stewards

Professionals: This program specifically targets conventional lawn care companies who are NOT offering all organic lawn care. Many conventional companies claim to offer "bay friendly" services, but there is no standardization of protocols or way to compare one practice to another. Further, the science of turf management is complicated and not commonly understood by the general public, so it is difficult for most consumers to decipher the differences in services offered.

Homeowners: WSA maintains our recommendation that residents should reduce and eliminate fertilizers and pesticides from residential turf, but has expanded our suite of behaviors in this area to various audiences in our County to achieve reductions based on their own site conditions and current use levels. WSA recognizes that not all homeowners will be able to or want to completely reduce or eliminate all chemical inputs. *The Clean Lawn Care program specifically targets those homeowners who are currently applying pesticides and fertilizers through a lawn care contractor and is not intended for the "do it yourself" lawn care homeowner or one who is currently NOT using pesticides or fertilizers.*

## Research

*How did you research your audiences: A combination of in-person interviews or focus groups and then broader surveys*

## Barriers

May be perceived as a "mandate" or restrictive to the lawn care professionals. "What are you going to make us do?" and "Who is checking up to be sure our competition is really doing what is required in the regime?"

**Mowing high:** N/A, Everyone is already doing this.

**Leave Clippings:** Will clump in spring, most are already doing this

**Apply products only if significant rain (more than 1/2 inch) is not forecast within 24 hours:** Inconvenient- hard to get all applications in

**Do not apply products within 15 feet of waterway or on hard surfaces:** Inconvenient, takes time

**50% slow release N:** Cost

**0.5# N or less applied after the first flush of growth (May) only if turf is thin. Could be spread with the second pre-emergent application:** Customers want early green lawn, assessing turf density

**Pre-emergent application twice per spring with 6-8 weeks between applications (ie early March and May):** This is NOT a popular part of the regime with the Stewards and many environmental advocates

**Spot spraying only for emergent weeds, as needed:** Old school- spray just in case

**Hand Pick weeds:** Takes a lot of time, can increase weeds as fresh soil is exposed

**Biosimulant/humic acid spray:** Costly

**2 applications of (0.9# N) fertilizer in the fall:** Some turf folks don't know how to measure or apply the right amount (may not know how to estimate how large a 1000 sq ft area or how much of their product it would take to equal 0.9 N. Most are already doing this. This is also unpopular with the Stewards and Environmental advocates since we commonly preach eliminating fertilizers. turf management experts, including those from University of Maryland insist that a modest amount of fertilizer is necessary for dense growth. Dense growth is necessary to reduce runoff.

**Overseed and aerate once in fall:** No time?

**Use certified seed:** Costly

**Using improved varieties:** Hard to find

**Soil test every 3 years and follow recommendations for fertilizer and pH:** Inconvenient

## Benefits

**Mowing high:** Status quo for most people, healthy for grass, reduces weed problems

**Leave Clippings:** Reduces waste, easier, saves labor and time, returns some nitrogen to the spring, less need for fertilizer

**Apply products only if significant rain (more than 1/2 inch) is not forecast within 24 hours:** Reduces runoff

**Do not apply products within 15 feet of waterway or on hard surfaces:** It's the law (mostly), reduces runoff into waterways

**50% slow release N:** Longer more consistent feeding without a spike of growth, less likely to leach

**0.5# N or less applied after the first flush of growth (May) only if turf is thin. Could be spread with the second pre-emergent application:** Preparing grass for summer

**Pre-emergent application twice per spring with 6-8 weeks between applications (ie early March and May):** Reduce annual weeds-customers don't want them. Status quo, Lawn Care companies view pre-emergents as "less risky" because they tend to stay in the soil rather than travel/run off

**Spot spraying only for emergent weeds, as needed:** Status quo, easy, less equipment and set up

**Hand Pick weeds:** No pesticides

**Biosimulant/humic acid spray:** Green in summer, promotes root growth, increased turf health in summer or during times of stress

**2 applications of (0.9# N) fertilizer in the fall:** Status quo

**Overseed and aerate once in fall:** Easy money maker, status quo for many, promotes good root growth and drainage, relieves compaction

**Use certified seed:** Reduces weeds and need for pesticides

**Using improved varieties:** More vigorous grass

**Soil test every 3 years and follow recommendations for fertilizer and pH:** It's the law, easy, instructive

## Gaining insight into your target audience

**Step 1: Background Research with the Lawn Care Industry.** WSA contracted Geoff Rinehart, curator of the GrassRoots exhibit of the National Arboretum and long-time turf management specialist, to design and conduct 15 interviews with Lawn Care Professionals to determine their current adoption of and openness to the protocols that would likely go into a Clean Lawn Care Regime. A barrier and benefit analysis of these interviews informed the creation of a regime and the identification of a suite of tools that WSA could develop to increase the adoption of our target behavior. Attachment A to this narrative

outlines the results of the interviews (note there was not space on the online platform to add this as an extra attachment).

**Step 2: Regime and Tool Creation** To refine our regime and list of tools, we held two work group meetings: (1) with a small group of turf grass professionals including for-profit and University of Maryland representatives and (2) Watershed Stewards. With each group, we discussed and debated the controversial aspects of the regime and gained feedback on tools to be created. The most significant source of conflict was in the use of fertilizers and pre-emergent pesticides.

**Fertilizers:** Stewards contend that they do not want to advocate for the use of ANY fertilizers. Professionals note that the use of fertilizer has been drastically reduced in the last 5 years from 5-6 pounds nitrogen per 1000 sf to 2-3 pounds of nitrogen annually and phosphorous has been eliminated. Further, turf experts contend that some fertilizer is necessary to maintain dense cover needed to crowd out weeds, protect against drought and reduce runoff. Most professionals were not fertilizing heavily in the spring, but those who did, did so simply because of customer demand for early greening. Lastly, the use of "weed and feed" products was identified as a convenient and cost effective way to address customer weed concerns and spring greening at the same time. As a point of compromise, our regime includes adding nutrients through grass cycling and mulch mowing some fall leaves and calls for .5-1 pound nitrogen/1000 square feet LESS than the current recommendation. We also severely limited spring fertilizer to only those lawns with diminished turf density.

**Pesticides:** Most professionals agreed to spot spraying of emerged weeds using low risk products (Organic Materials Review Institute, or other), but expressed skepticism at the efficacy of these products. They vehemently opposed the elimination of pre-emergent herbicides, stating that it would be impossible to maintain dense turf cover without pre-emergents. They stated that their customers would strongly object to weedy lawns and would then make them follow up with spraying weeds that emerged. Some stated that they feared this would increase the cost of the program if larger amounts of expensive organic sprays were needed. Stewards, on the other hand, did NOT want to advocate for a regime that includes any pesticides. Given this impasse, we identified some alternative strategies for spring weed suppression through interviews with several "organic" lawn care professionals, including spring overseeding to take the place of pre-emergents. As an alternative point of compromise, we determined that if pre-emergents were allowed, we would severely restrict their use (only when turf density is low and only for certain periods of time), and would mandate that companies provide the product label (to include the human and environmental health warnings) to any customer where pre-emergents were a component of clean lawn care regime.

**Tools:** The following tools were determined by our two work groups as the most likely to improve adoption of the Clean Lawn Care program by homeowners and professionals:

- 1. Flyer or newsletter that the company can distribute with each visit that tells what is being done and why it is important for the turf and the environment.
- 2. Logo
- 3. Post card about clean lawn care for promotion
- 4. Yard flag, alternative to skull and crossbones after pesticide applications
- 5. Instructive Clean Lawn Care guidelines for companies
- 6. Photo lawn density "cards" to determine if spring fertilization is necessary
- 7. Tool to help professionals measure lawn size (a trundle wheel with easy calculation instructions) or a picture that depicts what 1000 ft looks like.
- 8. Visual image of what .9 lbs of N looks like for a common size lawn.

- 9. Weed ID and IPM Solution Cards

**Step 3: Tool Testing and Revision:** During the next phase several tool iterations were developed and the regime was refined. Two focus groups were held in July 2015 to test the regime and tools with our two target audiences. A moderator guide is uploaded, and an analysis of the focus groups is found under “evaluation”. Several tools were clear winners: Post Card, one page description of regime, educational newsletter and, to our great surprise, a request for training from the lawn care professionals. The regime was likewise changed further as a result of the focus group feedback. The tension over the use of pre-emergent herbicides was strongly confirmed during the focus group (professionals group), as was a strong aversion to weeds in the lawn (homeowners). This was especially surprising given that these individuals were recruited because of their openness to a “diverse” stand of plants in the turf landscape. Given these preferences, and the earlier feedback of Stewards and other environmental colleagues, we determined to offer two levels of Clean Lawn Care, one that included pre-emergent herbicides under restricted conditions and one that did not. Over the next several months, the tools were developed and revised. We also worked with our WSA Board of Directors to determine the conditions upon which Companies offering clean lawn care services could use the Clean Lawn Care logo and materials and considered how the WSA name may be effected by the connection to companies which also use pesticides or may engage in other practices that we would not espouse.

**Step 4: Recruitment of Companies for the Pilot, and taking Clean Lawn Care LIVE!** Recruitment of Lawn Care Companies for the pilot included email dissemination of the program information, mini-interest meetings, a presentation at WSA’s annual conference and a presentation to the Maryland Turfgrass Council’s Nutrient Management and Pesticide re-certification class. Seven companies are now authorized to offer Clean Lawn Care services having attended a 3 hour class on the program and signed the detailed user agreement, pledging to follow the protocols as laid out in the handbook and use marketing materials only as instructed (see Clean Lawn Care Handbook for details). Additionally, the 7 pilot companies will provide two feedback reports later this year on the results of their use of the program.

Companies who complete the Clean Lawn Care training and sign the Company User Agreement are listed on the WSA Clean Lawn Care web page. <http://aawsa.org/clean-lawn-care>. WSA sent a press release and a direct email to the 2500 contacts in our database introducing the Clean Lawn Care program, directing media and individuals to our web page. Key in the promotional success of this program is the word of mouth promotion of Master Watershed Stewards, many of whom requested that WSA produce this program. Master Watershed Stewards are trusted authority figures in their communities who provide direct one on one education to almost 15,000 people in Anne Arundel County annually. Many Watershed Stewards will choose to promote this program in their communities. They will be armed with the Clean Lawn Care post card directing neighbors to visit our website for a list of qualified companies offering Clean Lawn Care services.

Promoting Clean Lawn Care through Watershed Stewards has been nuanced as the program is not appropriate for all homeowner audiences. WSA maintains our recommendation that residents should reduce and eliminate fertilizers and pesticides from residential turf, but has expanded our suite of opportunities to various audiences in our County to achieve reductions based on their own site conditions and current use levels. WSA recognizes that not all homeowners will be able to or want to completely reduce or eliminate all chemical inputs. The Clean Lawn Care program specifically targets those homeowners who are currently applying pesticides and fertilizers through a lawn care contractor and is not intended for the “do it yourself” lawn care homeowner or one who is currently NOT using pesticides or fertilizers.

# Strategy

*Outreach Tactics: Social diffusion, Social norms*

*What media/communication channels did you use? Face to face, Small group or public meetings, Events*

## Products and services

The project team conducted two focus groups with lawn care professionals and county residents who use lawn care services. The focus groups discussed and provided feedback on the proposed Clean Lawn Care program, and how they would use it.

In addition to the regime, the groups reviewed a series of tools to identify what would be most effective in marketing and educating customers about the program. Tested tools included a promotional postcard, a newsletter, a summary of the regime, turf density guide cards, weed identification cards, and a yard flag. The groups also reviewed potential logos for the program.

Both groups showed a strong preference for the postcard depicting baby feet in grass, with the tagline "A clean lawn is a safer lawn." Residents in particular said that they do not want their yard to stand out in a negative way, and they want to have a quality lawn that reflects the money they are spending; however they cited several potential impacts from children's exposure to harmful chemicals and an interest in having grass that even a baby could step on immediately after treatment.

When it came to the specific image in the demonstration postcard, participants suggested that the child's skin tone be more race-neutral. They also pointed out that the grass did not match the reality of the CLC regime—it needs to be cut higher and perhaps include one or two weeds like clover. (The demonstration postcard used stock photography.)

Messaging related to a clean Chesapeake Bay prompted participants to recall controversy about science and restoration; the design was also confusing. Lawn care professionals did not like copy that insinuated that current lawn care programs were dangerous to clients or the environment. Messaging pertaining to pollinators did not resonate; professionals did not feel the regime pertained to pollinator protection.

The newsletter was popular with both groups; contractors use documents like this to communicate with clients, and customers like having the detailed information about the treatment. Contractors suggested minor edits to copy related to terminology and the regime; they also suggested that the newsletter more explicitly connect the regime to better results for children and the environment.

Contractors cited the following benefits of healthy turf, and wanted to see them highlighted in the newsletter:

- - provides green space
- - cushioning is safer for play
- - cools the environment
- - provides a micro-environment for earthworms, which helps the soil
- - increases property value
- - looks pleasing
- - helps pollinators (if there is clover)
- - cleans the air



Reducing pesticide use reduces exposure to chemicals by the homeowner, pets, and the Bay. Professionals felt their clients didn't need language to be dumbed down. Professionals prefer to email the newsletter, but there are a few clients who require a hard copy. The summary of the regime was also popular, in that it laid out the steps and schedule for treatments.

The professionals gave the postcard scores of 6 to 8 and considered it a priority promotional tool. The newsletter received 8s and 9s as a communications tool, valuable for conveying information and establishing a relationship with the client. The one-page summary of the regime received similar scores for the same reasons.

Lawn care professionals said that a training session with Watershed Stewards Academy would be useful, and that training tools like the turf density cue cards could help. However, these cards only lead residents to focus on weed density and derailed the conversation. These cards may be superfluous for lawn care employees with sufficient training, and should not be shared with customers. Contractors indicated that they will overseed lawns regardless of density and treat any weeds they see with pre-emergents, and overall density of turf or weeds will not affect the way they go about doing treatments.

Likewise, the weed identification cards are not necessary; contractors already have access to tools like this. The response to yard flags was mixed; some contractors use them already.

### Primary Messages

We want lawn care companies to view Clean Lawn Care regime as an effective way to create revenue and offer a service of value to their customers.

We want homeowners who make decisions about the use of lawn care companies for turf management to view Clean Lawn Care regime as an effective and valuable service to maintain a beautiful lawn.

## Lessons

*How did you measure impact? N/A*

### What worked?

Because this grant funded primarily project development, there is not a great amount of data yet on the number of individuals changing their behavior, although feedback reports in May and December of this year will provide an idea of how adoption of this program. We were surprised by the number of companies who have chosen to adopt this program.

Our greatest success is the engagement of the lawn care industry. Our early efforts to get professionals to answer our survey was pretty unsuccessful. In spite of reaching out to them during a slow period of time (winter) for the initial interviews, we received extremely low response rate on our initial survey. Because of that response, our contractor chose to conduct interviews rather than relying on the survey response. During the interviews there was a lot of negativity toward "environmental" efforts and a pervasive perspective of feeling that their industry was scape-goated for the problems in the Bay. Over the course of the 2 year project, as we continually engaged companies and incorporated their feedback into the regime, we have gained their trust and now have a true partnership with those companies who have signed on. This relationship was evidenced when WSA was invited by the Maryland Turfgrass council to be a featured presentation in their nutrient management and pesticide re-certification program. Clean Lawn Care was introduced as a "partnership" program.



### What were the most significant limiting factors to greater success?

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### Attached Files

1. [Clean\\_Lawn\\_Care\\_Project\\_Summary.pdf](#)
2. [The\\_Clean\\_Lawn\\_Care\\_Handbook\\_-\\_final\\_formatted\\_3\\_10\\_16.pdf](#)