

Marin County Parks

Dog Waste Campaign Strategy

Research and Messaging Framework

Public Outreach Best Practices

Cliff Notes



1. Identify what you want changed. Stakeholder group crafts vision, SMART goals (specific, measurable, achievable, relevant, and time-based goals), and objectives that will help meet the mission.



2. Define target audiences. Target audience as narrowly as possible to the individuals or groups whose action or behavior change will be the most important to helping you achieve your goal. A well-chosen influencer could provide more leverage than a large group.



3. Listen to and understand what motivates behavior for each of these audiences. Frame it in a way that doesn't feel like a sacrifice, attack a current behavior, or threaten how an audience sees itself and its values. Look at any research on your target audience behavior that helps point to successful strategies and outcomes.



4. Create an outreach strategy. Use compelling messages for EACH audience that define a clear, actionable, and achievable call to action. Define how message will be delivered and who will deliver it.



5. Test the message. Conduct a focus group to determine if the message and strategy is something that will motivate your particular audience before you roll out.



6. Implement.



7. Monitor and evaluate effectiveness. Are you on track to achieve overarching goals and objectives? If not, what are things that need to change to enhance effectiveness?

Why Focus on Dog Waste?



Dogs Poop Alot

- According to some estimates, the average dog creates approximately $\frac{1}{2}$ to $\frac{3}{4}$ pound of poo each day, 274 pounds of per year. 100 dogs can produce more than 500 pounds of waste per week.
- With 90% of trails open to dogs, Boulder, CO Open Space and Mountain Parks estimates 30 tons (75% of the allowable freight weight of one semi-truck) of dog waste left behind on their 45,000 acres of land (150 miles of trails).
- WAG for MCOSD's 16,000 acres (250 miles of trail, maybe 95% of trails open to dogs) would be 11 tons of dog waste left behind.

Bad for Environment, Waterways

- One pile of poop can take 3-months to up to a year to fully decompose depending on conditions.
- Not native to the environment
- Some studies have traced 20 to 30 percent of the bacteria in water samples from urban watersheds to dog waste.
- Excess nutrients, such as nitrogen and phosphorous, create environmental conditions that can produce algal blooms in waterways which, in turn, can cause oxygen depletion & fish mortality (EPA 2005).

- Just 2-3 days of waste from 100 dogs can contribute enough bacteria, nitrogen and phosphorous to close 20 miles of a bay-watershed to swimming and shellfishing, according to EPA.
- Excess nitrogen from dog poo can spread nitrogen-loving weeds at expense of native plants.
- USA Today article (2002) states that some studies put dogs third or fourth on the list of contributors to bacteria in contaminated waters.

Health Impacts to Humans and Wildlife

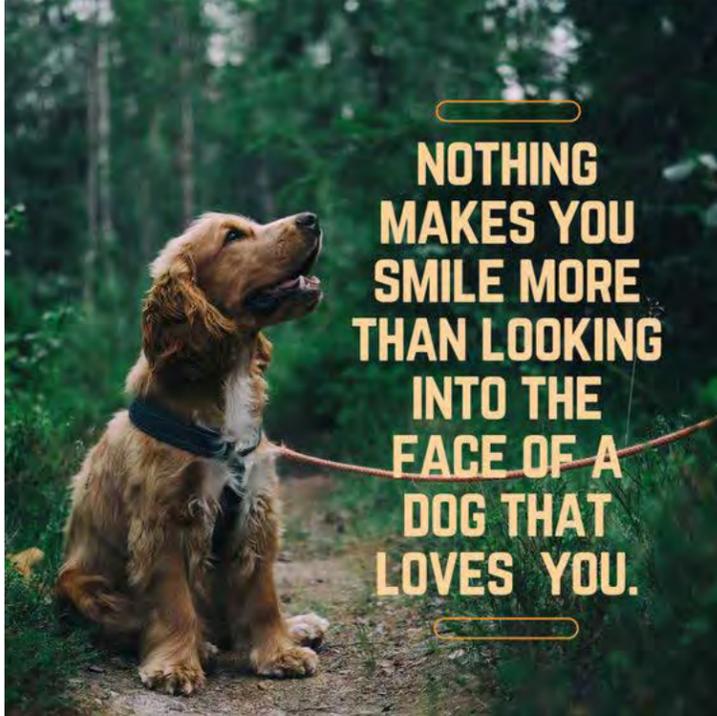
- Regulated by EPA as raw sewage.
- Dog poo can harbor lots of viruses, bacteria and parasites — including harmful pathogens like E. coli, giardia, and salmonella.
- The EPA estimates that a single gram contains an estimated 23 million fecal coliform bacteria.
- DNA testing indicates dog waste is a significant source of bacteria (such as e. coli) contamination in streams.

Visitor Experience Impacts

- Visual impacts from poop and bags
- Stepping in poop!

Who walks their dog in the preserves?

In the United States, 63% of pet owners consider their pets to be family members. People who walk or run their dog in preserves as opposed to neighborhood streets are motivated by love for his/her dog paired with desire to be outdoors (without traffic) and/or a desire for increased fitness/reduced stress. Commercial dog walkers do it as part of their jobs.



How many people walk dogs in parks and preserves?

MCP Visitor Use Study Excerpts

- Survey respondents suggested facility and service improvements that could reduce some of the most frequently mentioned issues.
 - Suggestions that might fit into this realm of low level change include improvements in trail surface conditions, better enforcement of existing policies on dogs and bicycles, better maintenance of restrooms, control of dogs on trails, and more off-lease dog areas.
- Most visitors did not have any suggestions for improvement, but of those who did the most common were: Improve trail, better enforcement or new user policies, better maintenance, control of dogs or more off-lease dog areas, new facilities, and better signs/maps.
- The majority of respondents did not have a serious issue about the park site, but for those who did the most commonly mentioned serious issues at that park site were: Dogs off leash (15%), speeding bikes (14%), dog waste (12%) and lack of information about fragile plant and animal habitats (9%)
- Focus group and survey results indicated there are some conflicts across four different user groups: Equestrians, mountain bikers, dog owners and hikers. Additional management strategies, policies or staff/volunteers dedicated to reducing these conflicts seems warranted.
- As a way to reduce trail conflicts, many focus group members suggested MCP should better educate park users on trail etiquette, sharing the trail, and positive communication with other visitors.
- Offer more off-leash dog walking opportunities, where appropriate, because there is strong year-round demand for this. An example of this demand is over half of winter visitors to McInnis Park where there for dog walking.

Table 12: Participation in land-based activities, all parks/preserves/paths

Land Based Activity	Phase I Percent	Phase II Percent	Total Percent	Phase I Count	Phase II Count	Total Count
Walk dog or pet	20.2%	17.1%	16.7%	49	389	3.38

Table 13: Participation in most frequent land-based activities, by all parks, all preserves and all paths; phase II (percent)

Land Based Activity	All Sites (%)	Parks (%)	Preserves (%)	Paths (%)
Walk dog or pet	17.1%	23.0	28.3	26.2

Table 20: Primary reason for visiting parks, preserve or path, phases I & II

Reason	Phase I Percent	Phase II Percent	Total Percent
Walk dog	10.7	9.8	10.3

How many people walk dogs in parks and preserves?

MCP Visitor Use Study Excerpts

Table 21: Top primary reasons for visiting all parks, all paths and all preserves

Primary Reason	Phase II Percent	Phase I Percent	Total Percent
All parks			
Nature, land, views	28.6	20.4	24.5
Hike, walk	21.6	16.3	19.0
Walk dog	11.9	8.8	10.4
Bicycle, bike park	4.8	11.4	8.1
Children's playground	6.2	2.1	4.2
All Preserves			
Hike, walk	40.3	31.9	36.1
Nature, land, views	33.2	28.5	30.1
Walk dog	8.4	10.9	9.7
Exercise	9.4	6.3	7.9
Biking	3.4	9.2	6.3
All Paths			
Nature, land, views	43.7	22.0	32.9
Hike, walk	29.9	25.3	27.6
Biking	5.7	20.3	13.0
Walk dog	9.2	14.1	11.7
Exercise	4.6	6.3	5.5

Table 22: Respondent dog walking by park, path and preserve

Park/Preserve/Path	Phase I was 1 st Reason For Visit (%)	Phase II was Reason for Visit (%)
McNears Beach Park	0.0%	4.4
Stafford Lake Park	0.0	4.6
McInnis Park	35.6	50.8
Paradise Beach Park	0.0	0.0
Creekside (Hal Brown) Park	20.0	20.0
Lagoon Park	22.8	24.2
Corte Madera Path	0.0	20.6
Mill Valley/Sausalito Path	30.1	7.7
Agate Beach	33.6	5.9
Pt. Reyes Park	4.0	0.0
Pueblo Park	35.7	20.0
Indian Valley Preserve	43.0	13.4
Cascade Canyon Preserve	18.6	5.6
Bitheadale Summit	27.5	0.0
Gary Giacomini Preserve	0.0	0.0
Ring Mountain Preserve	13.6	3.7
Mount Burdell	30.9	9.6

Note: Total count for all sites = 22.9% participated in dog walking and 11.9% was primary reason.

Table 23: What caused you to feel dissatisfied with other park users (written), phase II

Reason	Count
Conflicts with dogs	2
Speeding bicyclists	1
Not enough parking	1
Playing loud music	1
Not enough swing sets at playground	1
Total	6

Note: Only 1.4% of respondents were dissatisfied or very dissatisfied with other park users.

D. Comparison of visitors to all parks, all preserves and all paths

Table 56. Comparison of 2015 and 2017 select respondent visitation and activity participation data at parks, preserves and paths, phases I and II

Description	Parks	Preserves	Paths
	2017 (2015)	2017 (2015)	2017 (2015)
Completed intercept surveys	559 (525)	711 (433)	239 (255)
Alone in travel group (percent)	31.6 (29.4)	41.6 (42.7)	59.0 (63.2)
Participation – Walk/hike (percent)	70.8 (69.2)	87.5 (78.8)	75.2 (47.4)
Participation – Relax outdoors (percent)	56.0 (56.8)	54.5 (50.6)	45.5 (36.8)
Participation – Enjoy views (percent)	36.3 (36.2)	54.0 (45.9)	46.6 (63.2)
Participation – Nature walk (percent)	32.7 (30.9)	55.6 (47.1)	25.5 (21.1)
Participation - Explore outdoors (percent)	33.1 (36.6)	47.9 (32.4)	25.5 (21.1)
Participation - Being with family and friends	39.8 (32.4)	34.3 (38.8)	26.1 (21.1)
Participation – Walk dog/pet (percent)	25.4 (15.9)	28.2 (29.4)	26.2 (10.5)

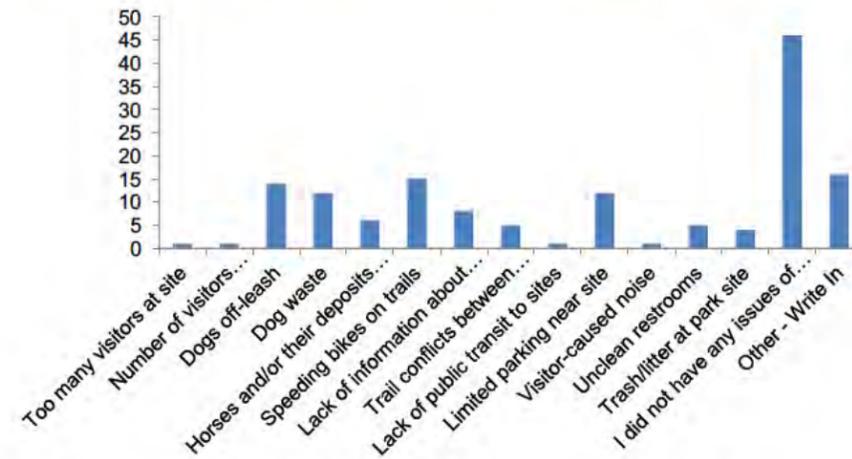
How many people walk dogs in parks and preserves?

MCP Visitor Use Study Excerpts

Table 28: Suggestions on how to improve experience at the park/preserve/path (write-in), phase II

Suggestion Topic	Phase I Percent	Phase II Percent	Total Percent
No suggestion or positive comment	38.6	29.7	34.2
Trail, path	14.9	24.2	19.6
Enforcement, policies	13.5	13.9	13.7
Maintenance	9.8	12.2	11.0
Dogs	9.2	10.0	9.6
New facilities	8.9	7.5	8.2
Signs, map, information	8.6	10.3	9.5
Restrooms	5.9	3.9	4.9
Reduce amount of animal poop	5.8	3.9	4.9

Figure 35: Issues that were a moderate or serious problem at park/preserve/path by follow-up survey respondents, phase II



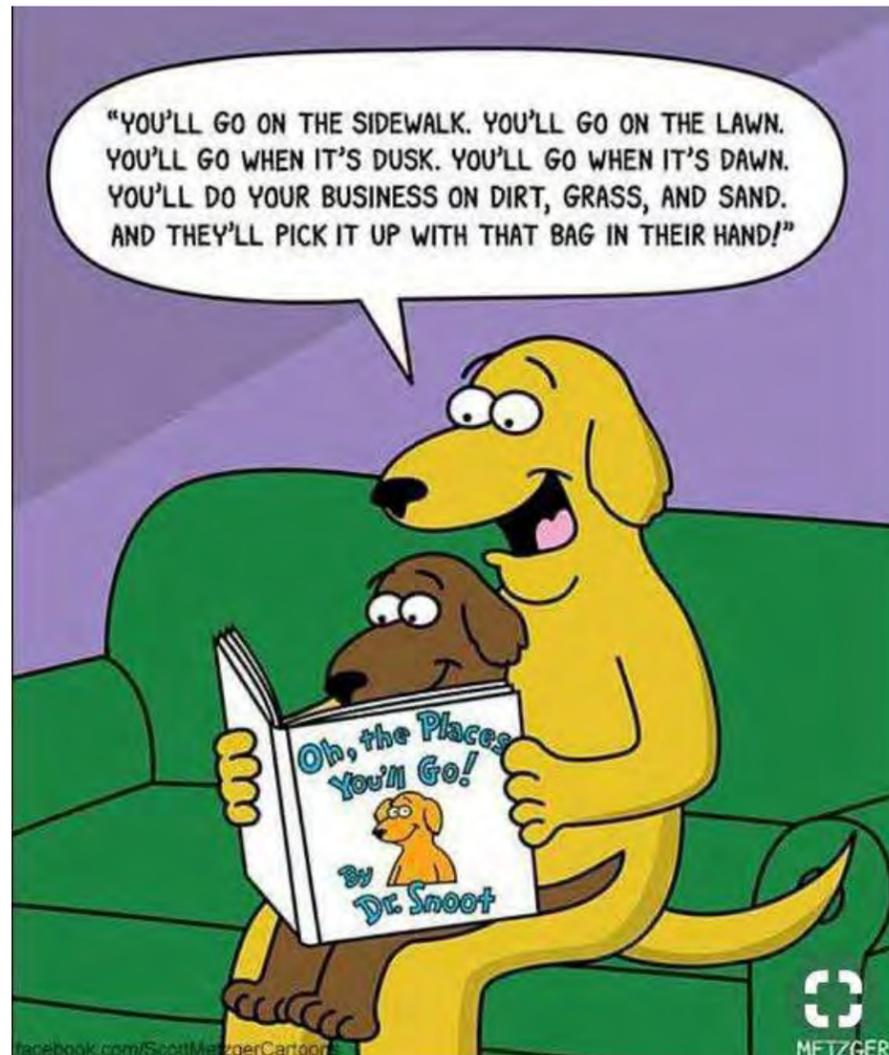
Value	Phase I Percent	Phase II Percent	Total Percent
I did not have any issues of concern	38.2%	46.5%	42.4%
Dogs off-leash	16.6%	14.1%	15.4%
Speeding bikes on trails	13.4%	14.6%	14.0%
Dog waste	15.9%	11.9%	13.9%

Visitor Use Study Take-aways:

- Surprisingly, only about 17-20% of MCP visitors list dog walking as most frequent land-based activity.
- Key recommendation of survey is to offer more off-leash dog walking opportunities.
- Most visitors didn't suggest improvements, but some did mention more enforcement on dogs, more control of dogs on trail, more off-leash dog areas, and dog waste.
- Dog poo is potentially a big problem at many parks, particularly since they are close to water bodies—McInnis (35-50% of users are dog walkers), Creekside (20%), Lagoon Park (23-24%), MVS Path (8-30%), Agate Beach (6-34%), Pueblo (20-36%).
- Dog poo may be a bigger problem at some preserves (Indian Valley at 13-43% of users) than others (Gary Giacomini 0%)

Who Does and Doesn't Pick Up Dog Poop?

Overall in the United States

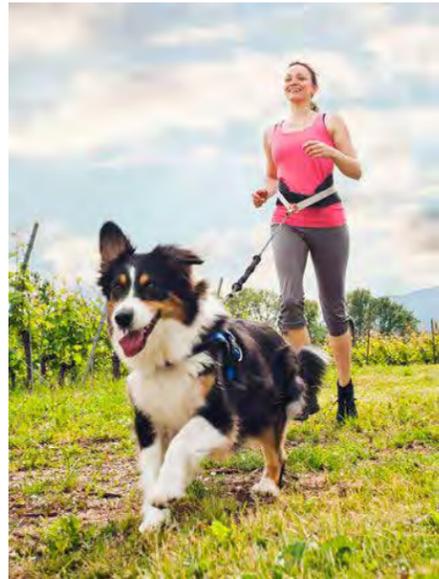


Only about 60% of dog owners pick up after their pets, according to surveys.

Among the excuses offered by the 40% who don't pick up: “Because eventually it goes away;” “too much work;” “small dog, small waste;” “it's in the woods;” or, in a reverse NIMBY: “It's in my own yard.”

Excerpted from following article by science writer Susan Freinkel (2014):
<https://www.livescience.com/44732-eliminating-pet-poop-pollution.html>

Who Does and Doesn't Pick Up Dog Poop in Boulder's Open Spaces and Mountain Parks?



- Majority (73.5%) immediately picked up their pet's waste and immediately took all bags for proper disposal.
- 13.7% did not take all of the bags with them
- 12.7% did not pick up their pet's waste at all
- Guardians with dogs on-leash 11% more likely to bag and immediately take pet waste for disposal than guardians with dogs off-leash.



- Dog guardians who did not pick up dog waste were more tolerant of dog waste left in public spaces, and viewed dog waste as "natural waste" and "biodegradable." Having such views may have allowed these dog guardians to self-justify their behavior. Webley and Siviter (2000)
- Non compliant dog guardians were more likely to believe that rules requiring dog guardians to pick up dog waste were excessively restrictive. Webley and Siviter (2000)
- Perceived behavioral control [perception of ease] had more influence on behavioral intentions than either attitudes or norms.

- Behavioral intent directly predicted self-reported behaviors, meaning whether or not a pet guardian thought that behaviors were easy or difficult had a significant impact on their self-reported intent and behavior.
- Most dog guardians believe it is relatively easy to carry an unused waste bag every time they visit OSMP lands, and to always watch their dog(s) to see if and when it defecates
- However, dog guardians find it slightly more difficult to pick up pet waste when it is off-trail and to carry pet waste with them until they reach a trash or compost receptacle than other best practices.
- 96% of the respondents who provided a response stated that additional trash/compost bins and/or bag dispensers would make them more likely to properly dispose of their dog's waste during their next visit.

Blenderman, A. Taff, B. D., PhD. Schwartz, F. PhD. Lawhon, B. MS. (2018)
Final Report: Dog Guardians' Perceptions and Behaviors Related to the Disposal
of Pet Waste in City of Boulder Open Space and Mountain Parks

Who Does and Doesn't Pick Up Dog Poop in Santa Barbara and Hillsborough County, Florida?



- Small dog owners did not pick up their dog waste as often as large dog owners.
- Clear positive correlation between how often participants pick up after their dogs and how harmful they perceive dog waste to be to human health and the environment.

UCSB Students Álvarez A. Botzong L. Burke K. Rosenberg E. (2012)
Dog Waste in Santa Barbara: Strategies and Solutions

Example of Barriers Cited (Carrollwood Focus Group, 2009)

1. Lack of effort
2. Not knowing what to do
3. Not having supplies
4. The “Ick” factor
5. Not wanting to carry waste
6. Not knowing where to dispose

Hillsborough County Pet Waste Research (2009)

Possible Examples of Target Audience and His/Her Perceptions About Dog Waste



Jogger running with unleashed dog

I'm a 29-year old runner who lives in Corte Madera. I drove to the trailhead this Sunday because I'm training for the San Francisco marathon with a 10-mile run today. My trusty dog Bailey always stays by my side—he loves to run with me! He only leaves my side to go poo. I'm lucky it's off the trail because there's no way I'd carry a poo bag banging against my hip for the next 8 miles! If it's the beginning of the run and we're right next to the garbage can when he goes, I pick it up and throw it away.



Senior walking leashed dog

I'm a 75-year old retired senior. My dog Maggie is part of my family and I'd do anything for her. I walk her twice a day in Baltimore Canyon on the level fire road, both for exercise and to give Maggie a chance to use the "facilities." I keep her on leash because she can be a little aggressive with other dogs, and I also don't want her jumping on anyone with a bad hip. It's a point of pride with me to try to do the right thing. I always bring a few poop bags with me and pick up, carry out, and dispose of waste at the garbage can at the end of the preserve. It's the right thing to do and I can't believe how many people fail to do such an easy thing! I hate seeing poo on the trail. I sometimes even pick up waste from other dogs!



Young mom with leashed dog

I'm a 36-year old mom who gets together with friends after school drop-off to walk our dogs about once per week. Dog poo is totally gross. I pick up my dog poo, especially because my friends are right there watching, but I don't want to walk with the stinky bag so I place it in a spot where I'll remember it on our way back. Occasionally I forget to pick it up because we're so busy chatting, but I'm sure the park ranger will pick it up later.



Nature-loving hiker with unleashed dog

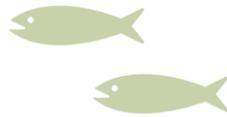
I take my dog Amarak with me everywhere. We live in my sprinter van during our vacations to wilderness areas. We love the freedom of being outside! There is no joy more intense than Amarak getting to run freely. I grew up in Montana and I know a ton about the outdoors. The rules are created by dumb government bureaucrats that don't actually spend any time outside. I would never consider using plastic bags, which is destroying our planet. Amarak goes poo au naturale as nature intended. He typically goes off trail, far from people, where it biodegrades naturally in the environment.

There are a variety of methods/theories for segmenting audiences and developing an outreach strategy.

Determine what has most relevance to your goals.

Example: 2007 USFS Environmental Intervention Handbook for Resource Managers >>

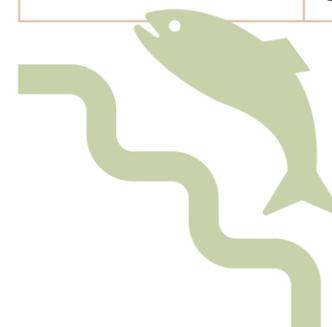
Five Common Barriers to Proenvironmental Behaviors



<p>Social Norm Barriers</p>	<p><i>Social norms may support depreciative behaviors.</i> People desire social approval and belongingness, so they are motivated to do what is “socially correct” as defined by their group. Some groups have norms at odds with environmentally responsible behavior. For instance, it may be a social norm to vandalize, litter, or modify campsites inappropriately. Also, when people do not know what to do, they will take their cues from others. Recreationists often get their ideas about what is acceptable from other recreationists. Evidence that other recreationists behave in a particular manner (however inappropriate by resource management standards) may signal to others that the degrading behavior is acceptable.</p>
<p>Competing Attitudes Barriers</p>	<p><i>Some attitudes and values may override proenvironmental attitudes and lead to depreciative behaviors.</i> Research indicates that although most people believe in preserving the natural environment, other competing attitudes and values may dominate. For instance, if an environmentally responsible behavior such as packing one’s trash out of the wilderness is too inconvenient, a pro-convenience attitude may override a proenvironmental one. Campers who gather their own firewood may do so because the cost of firewood is prohibitive. They may care about the environment, but attitudes toward saving money prevail. A motocross rider’s desire to have a challenging experience can override a desire to avoid breaking stated rules.</p>
<p>Setting Design Barriers</p>	<p><i>The design of the physical environment may discourage desirable behaviors or promote undesirable ones.</i> Recycling receptacles may be located too far from campsites. Trash receptacles may not be emptied often enough or are difficult to locate. Toilets may be scarce or locked. Designated trails may be hard to distinguish from undesigned ones.</p>

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<p>Ignorance and Misinformation Barriers</p>	<p><i>Lack of knowledge about environmental impacts or how to perform responsible behavior may increase depreciative behavior.</i> Some users may perform degrading environmental behaviors out of ignorance and do not realize that their behavior is a contributor to environmental problems. For instance, recreationists may not know that the collecting of tinder may disturb the ecological balance of some settings, may not realize the damage caused by damming streams, or may not know that cutting their own trails to the water causes erosion. Or, the individual may be inclined to behave in an environmentally responsible fashion but may not know how. For example, s/he may be unsure where to purchase firewood; unclear on how to build safe fires; or may be unfamiliar with waste disposal procedures in the absence of toilets.</p>
<p>Bad Habit Barriers</p>	<p><i>Depreciative behavior may be a routine practice that is automatically performed.</i> People may unthinkingly perform environmentally degrading behaviors out of habit or tradition. This is especially likely when the rules change regarding behavior acceptability. For instance, during fire season, fires may not be permitted for safety reasons. Campers accustomed to having fires may forget about the change of rules. Littering may be a bad habit that a person performs thoughtlessly. Riders may be used to riding where they want and have a hard time sticking to newly designated trails.</p>



Hendee's Persuasion Framework: Five Categories of Undesirable Visitor Actions

The potential effectiveness of visitor education is determined in part by the nature of the visitor's actions. Five general categories of undesirable visitor actions on public lands have been identified:

- 1. Careless.** Careless actions are nuisance or thoughtless behaviors, such as littering or picking wildflowers, that are done without full consideration for their effect on other visitors or the resource.
Example: not paying attention to the dog or forgetting dog bags
- 2. Unskilled.** Unskilled actions are inappropriate behaviors that occur when visitors know what they should do, but lack the skills to do so. Examples include the inability to build a low-impact campfire or hang a bear bag.
Example: not knowing how to pick up droppings
- 3. Uninformed.** Uninformed actions result from visitors simply not having the adequate information to select a particular behavior. Visitors that feed wildlife or cut a dead tree for firewood without knowing that these practices violate regulations or recommended practices are examples.
Example: not knowing that dog waste spreads disease
- 4. Unavoidable.** Unavoidable actions are inherent behaviors that occur to some degree regardless of a visitor's knowledge or experience, such as vegetation trampling and soil compaction along a designated trail.
Example: dog has diarrhea and it isn't able to be picked up
- 5. Illegal.** Illegal actions are deliberate violations of laws or regulations, such as the theft of archaeological artifacts.
Example: knowingly walking away from a dog waste deposit

Visitor education can only be expected to effectively address unskilled and unformed actions, and to a lesser extent, careless actions, as these are more highly related to visitor knowledge and skill level (Hendee et al. 1990; Roggenbuck 1992). There is a lower potential for effectively targeting unavoidable impacts, though one could argue that this is possible by shifting hiking and camping activities to durable surfaces such as bare sand or bedrock where trampling has little effect. **Illegal actions are generally addressed through increased enforcement**, however, communicating the rationale for laws and regulations can encourage higher compliance.

Using Hendee's typology, dog guardians not picking up after their pet are likely to fall into the careless and illegal categories in which more education would have minimal effect.

Highlighting the findings above, according to a Chesapeake Bay survey, 44% of dog walkers who do not clean up after their dogs indicated they would still refuse to pick up, even if confronted by complaints from neighbors, threatened with fines, or provided with convenient options for retrieving and disposing of waste (Swann 1999).

Hendee, J. C., 1990. General typology of undesirable visitor behaviors and the potential for persuasion to reduce each type. In J.J. Manfredi (Ed.) *Influencing Human Behavior: theory and application on recreation, Tourism and Natural resources Management*. Champaign, IL: Sagamore Publishing Inc.

Jones, M. Lowry, R. (2004) *Effectiveness of Trailhead Education on Cleaning Up Dog Litter*. City of Boulder Open Space and Mountain Parks.

Swann, C. 1999. *A Survey of Residential Nutrient Behaviors in the Chesapeake Bay*. Widener Burrows, Inc. Chesapeake Research Consortium. Center for Watershed Protection. Ellicott City, MD. 112. pp.

What have others done?

Examples

Several have “marked” poo as an awareness campaign

Poo Pins is coolest. (failed kickstarter campaign in NZ)

PooPins are smaller than a credit card and are made from waterproof and tear-proof Rockstone. Rockstone is made from leftover stone, marble, and tiles from the building industry, which is then recycled to create a biodegradable paper. It is photodegradable, which means it reverts back to a calcium carbonate dust after extended periods in the sun. HOW COOL IS THAT?



Several have “marked” poo as an awareness campaign

Orange spray paint campaign in Corvallis, OR and a “festive” display in England



Caption: Volunteer with trailhead sign for Tails on Trails.



A sign explains why dog feces on the Intensive Management trail have been spray-painted orange. Here's why: to call attention to a growing problem of dog waste along the forest trails in McDonald Forest.

Eugene Johnson, Corvallis Gazette Times



Joggers run past a number of orange spots on the Intensive Management Trail on Saturday.

Eugene Johnson, Corvallis Gazette Times



Parody Article: In a bid to bring some seasonal cheer to outdoor areas in the festive season, Natural England announced 'Christmas bauble' style dog shit bags were to go on sale this week.

A spokesman for Natural England, the governing body behind all of England's areas of outstanding national beauty, said 'We have been bothered for many years by the practice of dog walkers leaving plastic bags of shite hung up in trees and shrubs in our parks. A recent campaign to try and dissuade the habit was not at all successful so we have taken the alternative approach of embracing and improving the display instead. When these festive bags are hung up in the trees, their festive appearance will bring a real 'christmas tree' feel to our parks and woodlands.'

At one popular New forest location we asked local dog walker, Arthur Harris what he thought of the idea. 'I think it's great. The place has a lovely feel to it now' he said. After Arthur's Great Dane, Sam, had parked it's breakfast on a grass verge next to a childrens play area we asked Arthur why he wasn't using the bags himself. 'Yeah, well, it's not on a path is it? And I mean they let the horses shit everywhere don't they so why should I?' Luckily an RSPB warden was on hand to sprinkle some red and silver glitter on the "yule log" and adorn it with a two-leaved sprig of holly.

Composting Dog Waste

Countering dislike of using plastic bags while using poo as a valuable resource



That unease has helped fuel a booming market in biodegradable dog waste bags. Market leader BioBags sells more than 19 million a year. I've seen dog parks stocked with them. Unfortunately, this seemingly green solution can backfire. The bags are designed to be composted, not landfilled. But in the absence of composting programs — I'll come back to this — many will end up in landfills, where they are more likely to degrade than a conventional plastic bag.

"Anything that goes into the landfill and degrades is worse than something that goes in and doesn't," says Jack Macy, commercial zero-waste coordinator for San Francisco's Department of Environment. A compostable bag of poop that degrades in that circumstance would start producing methane, a potent greenhouse gas.

Dog poop, like many other kinds of manure, can be composted — but rarely is. Even cities with curbside programs that compost food scraps and other organic waste discourage people from putting dog waste in their compost bins, because commercial composting facilities don't want it. Toronto's program for composting pet waste (as well as dirty diapers) is a forward-looking exception.

Composting dog waste in a backyard bin can be iffy. It's hard to achieve the temperatures needed to kill off pathogens, so you should never use composted pet waste on plants you'll be eating. But commercial composting facilities are required to keep the compost at hot enough temperatures, for a long enough period of time, to get rid of harmful pathogens. If properly treated, the resulting compost is "perfectly safe," says Will Brinton, president of Woods End Laboratories, a compost research lab in Mount Vernon, Maine.

While a small-scale digestion project at a local dog park would be a useful tool in public education and engagement, other options exist for more comprehensive pet waste management.

HOW TO BUILD A DOG POOP COMPOSTER

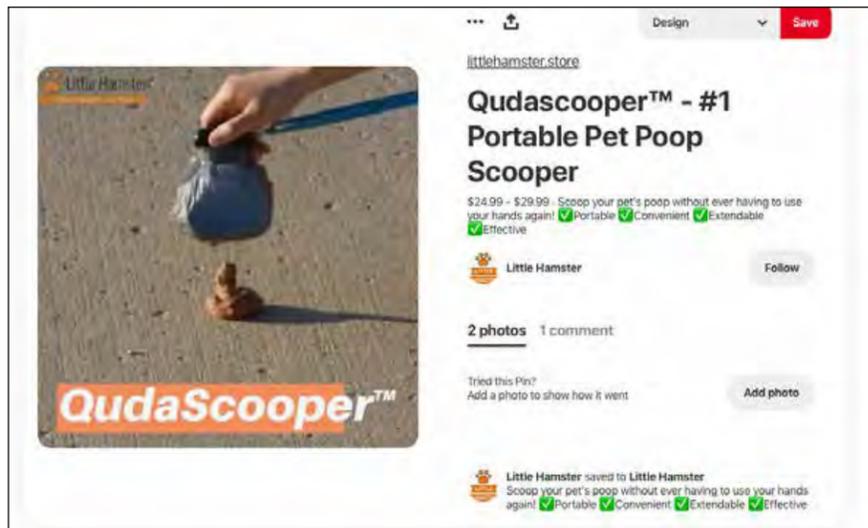
- A wooden barrel (or a plastic trash can if you don't have the wooden barrel - keep in mind the wood is far more eco-friendly)
- Drill
- Composting material

- Starting a few inches from the lid, drill a hole into the barrel. Space another hole about 3 inches from the first hole. Drill until you have rows of holes all around and down the bin.
- Fill the bin with your composting material. The best composting material consists of nitrogen rich and carbon rich matter.
- Monitor the pile to make sure the internal temperatures reach at least 145 degrees.

****Remember, this is great for your garden, but just make sure you don't use it for edible plants. Save it for those decorative gardens.**

FOUR LEAF ROVER

Different method for picking up that won't get on your hands



Excerpted from following article by science writer Susan Freinkel (2014): <https://www.livescience.com/44732-eliminating-pet-poop-pollution.html>

Study Effectiveness of Messages

Jones, M. Lowry, R. (2004) Effectiveness of Trailhead Education on Cleaning Up Dog Litter. City of Boulder Open Space and Mountain Parks.



Goal: Measure the effectiveness of trailhead education at reducing the amount of dog litter left by dog guardians.

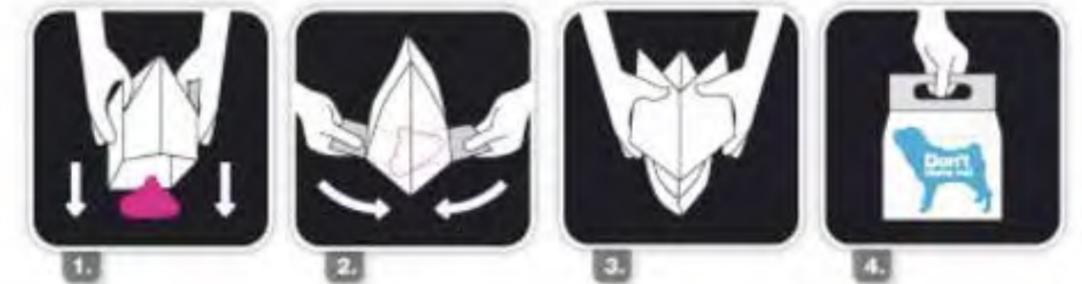
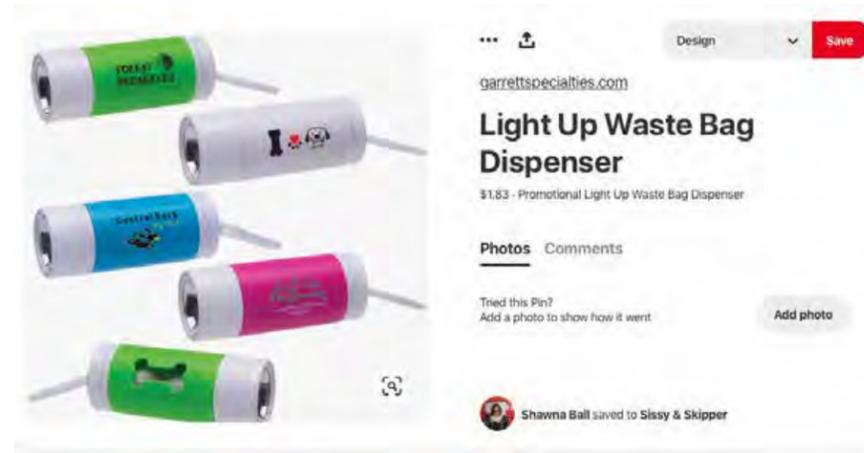
Objectives and hypotheses:

- Measure the change in dog litter before, after, three weeks after and six months after trailhead education activities. We hypothesize that litter levels will decrease during the intervention, but will gradually return to previous levels over time.
- Determine the number of contacts, second contact and refusals there are per hour for a dog guardian education program. We believe that almost all visitors will be receptive to the information and there will be a significant number of second or third contacts.
- Determine which of three signs was thought to be the most effective at changing behavior.

Conclusion:

- Personalized contacts at the trailhead encouraging visitors to pick-up after their pet and to pick up an extra "1 + 1" along with a sign placed at trailhead worked. There was about a two-thirds drop in dog litter piles during the three week educational treatment, carry over, and the long term effect period. Litter levels gradually returning to previous levels did not prove true over a six month time frame. Litter levels remained at reduced levels.
- Most dog walkers were receptive to listening about the program. Of the 441 people contacted with the "1 + 1" pitch, 91% were supportive, with the remaining 9% either being unresponsive or unsupportive.
- The sign with a smiling dog putting a bag in a barrel was the clear favorite.

Hand out swag/pick up kits that makes it easier



Tampa Bay Pooches for the Planet:

“Pooches” Kits were available for neighborhood groups that want to conduct their own pet waste education program. The group can obtain these kits to distribute in their own parks. The Kits include:

1. Portable information station (tent canopy, small table, sandwich board sign)
2. Giveaways such as “Bags on Board” pet waste dispensers that clip to the dog leashes
3. Informational brochures and refrigerator magnets

Dog DNA registry

██████████ Homeowners' Association

July 30, 2018

Dear Occupant/Homeowner,

The Board of Directors is planning on instituting a new pet policy in order to ensure the health and safety of our residents, and to ensure the aesthetics of our community. Many of our dog owning residents consistently pick-up after their dog(s). Please know that your efforts are greatly appreciated!

Not all ██████████ dog owners are this responsible, however, and so the Board has found it was necessary to establish a new policy.

This new policy will require that all dogs living at ██████████ participate in a DNA registry managed by Mr Dog Poop Inc., a national dog DNA lab based in Florida. Please check their website for more information at www.mrdogpoop.com.

The cost of registering each dog will be a one-time fee of \$34.95.

██████████ residents will have 30 days in which to give your feedback to The Board regarding this change in policy. You can do so in writing, by email ██████████ or personally, by attending the next Board meeting, which is August 20th at 6 PM at the Clubhouse.

Related Resources:

Mr Dog Poop Inc, www.mrdogpoop.com
Center for Disease Control and Prevention, <http://www.cdc.gov/healthypets/pets/dogs.html>

Sincerely,

██████████
Board of Directors



Mr Dog Poop[®]
DOG POOP SOLUTIONS

Call: **1.813.885.2030**
Licensed & Insured

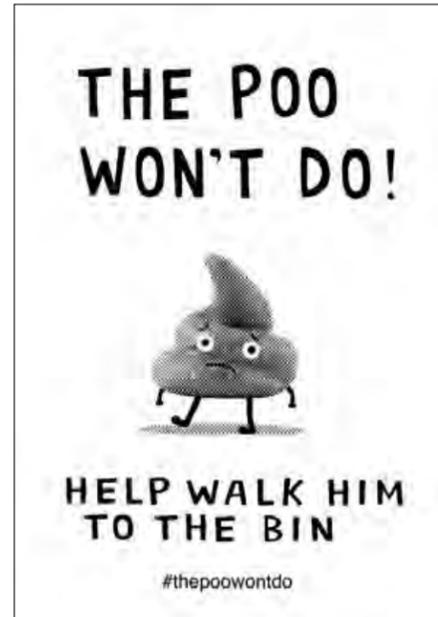
Home DNA Lab Pricing Videos DOGdex ID™ **CRIME LAB™** Buy Kits Client Login



FAQ - Get A Quote - Training & Help

CRIME LAB® & Mr Dog Poop's DNA Services are Available in All of the Continental 48 States!

Poop Posters of the World: The UK (and Australia) does anger, shock, and humor best. Spain has a nice look.



We're Watching You Posters & Signs. Poop Fairy Signs

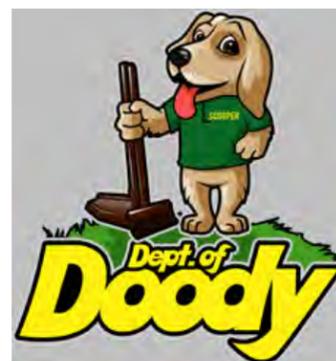
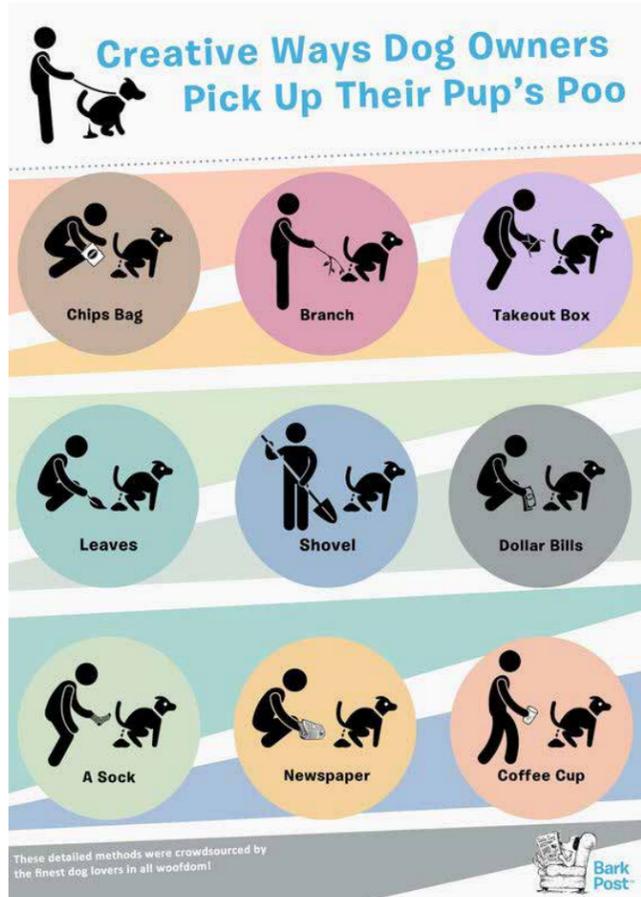
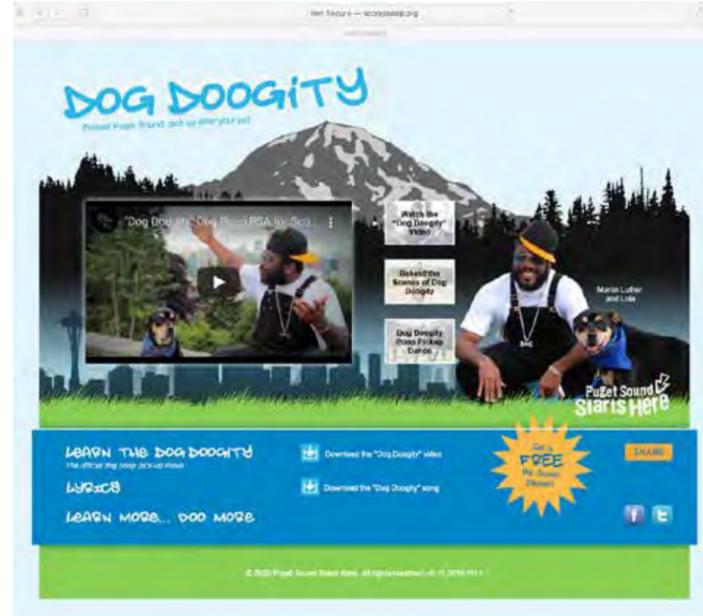


Mostly Straight-Forward Regulatory Signs

It's the law, identify as a good neighbor/responsible/doing the right thing, please pick up



Miscellaneous and/or Portlandia



Infographics about poo cycle

5 Reasons Dog Owners Must SCOOP THAT POOP

- 1. Dog poop is classified as a pollutant, not fertilizer -- it destroys grass.**
- 2. Some dog poop contains harmful organisms such as E. coli and parasitic worms.**
- 3. Rain washes dog poop into water systems, infiltrating drinking and swimming water.**
- 4. Dog poop creates a hazard for other animals as well as humans.**
- 5. It is a dog owner's responsibility to clean up after their pet.**

Join **dogster** and **dogster** in an effort to raise awareness of the importance of picking up after your dog. Use **#ScoopThatPoop** to spread the word!

#1 Dog Owner

SCOOP THAT POOP!

THE DANGERS OF DOG DOO-DOO LEFT ON YOUR LAWN

DISPERSING DISEASE

1 GRAM OF DOG POOP CONTAINS 23 MILLION FECAL BACTERIA

MODES OF TRANSPORTATION

- LAWN CARE:** YARD MAINTENANCE SERVICES FOCUS ON LANDSCAPING, NOT POOP SCOOPING. FEW FEES AND CONSUMER DISEASES ARE SPREAD THROUGHOUT THE YARD.
- INSECTS AND PETS:** 6 MILLION BACTERIA FOUND ON FEET'S FEET. MILLIONS OF DISEASES SPREAD BY NON-BIRDING FLIES.
- AIR AND WIND:** MANY PARASITES LIVE IN SOIL OR WATER LONGER THAN A YEAR.

ILLNESSES AND INFECTIONS DUE TO DOO-DOO:

- PROBLEMATIC PARASITES:** WORMS*, COCCIDIA*, GIARDIA*
- SERIOUS SCISSURES:** PARVOVIRUS*, CORONAVIRUS*
- BAD BACTERIA:** SALMONELLA*, E. COLI*, CAMPYLOBACTERIOSIS*

*CONDITIONS THAT CAN BE TRANSFERRED FROM CANINES TO HUMANS. CHILDREN, SENIORS, BABIES, AND PREGNANT WOMEN AT HIGHER RISK.

POLLUTING YOUR PROPERTY

DOG FEACES ARE TOXIC

EPA CLASSIFICATION: HARMFUL POLLUTANT

#3 CAUSE OF WATER POLLUTION 20-30% OF CONTAMINATION COUNTRYWIDE

MAKING A MESS

78.2 MILLION DOGS IN THE U.S. → 274 POUNDS AVERAGE WASTE PER DOG PER YEAR → 4.4 BILLION POUNDS OF POOP PER YEAR

THAT'S MORE THAN THE WEIGHT OF ALL THE DOGS IN AMERICA COMBINED!

RULES AND REGULATIONS

DALLAS POOP SCOOP LAWS

1. DOG OWNERS MUST PICK UP POOP IMMEDIATELY IN PUBLIC OR PRIVATE PROPERTY.
2. DOG OWNERS MUST ALWAYS BE EQUIPPED FOR EXCREMENT DISPOSAL.
3. PENALTY FOR BREAKING LAW

\$500 MINIMUM FINE FOR FIRST OFFENSE.

MINIMUM FINE SCHEDULES FOR SUBSEQUENT OFFENSES WITHIN 2 YEARS.

41% OF DOG OWNERS DON'T PICK UP POOP.

ALTERNATIVES

1. PAY FINES AND FEES.
2. HIRE A POOP SCOOPING SERVICE LIKE **PET BUTLER**.

44% WOULD REFUSE TO PICK UP POOP IF ASKED.

ONE-TIME OR REGULARLY SCHEDULED SERVICES AVAILABLE.

12,000 CLIENTS IN THE U.S.

INFOGRAPHIC PROVIDED BY: **Pet Butler** We Scoop Poop!

WWW.PETWASTEREMOVALDALLAS.COM

Ever leave poop behind?

In your yard, on the trail, out of sight?

Here's what happens

NOT PICKED UP from dog park your lawn

Decomposition Begins
Toxic bacteria seeps into the soil

Poop carries dangerous pathogens and pollutes our freshwater supply

rain/humidity
dog poop
disease, bacteria, and pathogens seeping through

Wastewater treatment systems is NOT designed to filter dog waste!

beaches, lakes, streams drinking water

Then what?
Always bag it & trash it!
Even when no one is watching!

Did You Know?
Dog poop is the #3 cause of water pollution

72.8 million dogs currently live in the United States

40% of Americans don't pick up after their dogs.
44% wouldn't pick up if asked

40% 60% are lying

Beware!
1 gram of dog feces contains 23 million fecal bacteria

Diseases & Viruses

- Campylobacteriosis:** symptoms fever, vomiting, swollen lymph nodes
- Salmonellosis:** symptoms fever, shock, lethargy, dehydration, more
- Toxocaris (roundworms):** symptoms vomiting, diarrhea, weight loss
- Coccidia:** symptoms bloody diarrhea, vomiting, dehydration, more
- Cysticercosis (tapeworms):** symptoms diarrhea, lethargy
- E.coli, Giardia, Parvo:** symptoms diarrhea, vomiting

FACT: Our natural ecosystem can handle 2 dogs per square mile. In urban areas, there are 125 dogs per square mile.

Other Methods of Transportation

- Flies & pets
- Humans especially children
- Water & moisture

According to the EPA, dog poop is as toxic to the environment as chemical and oil spills.

Never forget a bag again.
PoopBuddy aims to inspire responsibility among dog owners by introducing fun to an otherwise stinky task. Learn more at poopbuddy.com.

SOURCES: GreenvilleCounty.org, National Resources Defense Council, Alamo Area, Partners for Animal Welfare, Keep It Clean Partnership, Environmental Protection Agency, Cable News Network

THE SCOOP ON DOG POOP

Poop happens. A lot! The 200,000 pet sitters and dog walkers on Rover.com pick up literal tons of poop every day. Want more poop-by-the-numbers facts? The dog people at Rover are here give you the scoop.

GOOD AS GOLD (SORTA)
On average, a dog produces 274 pounds of poop a year. That's the equivalent of ten bars of gold—in weight, that is.

BAG IT! TRASH IT!

DO YOUR PART & SCOOP THE POOP

It might be natural, but it's not safe for the environment. Learn why below

- When it rains, pet waste is washed into storm drains which lead directly to local waterways.
- Pet waste is packed with nitrogen and bacteria, causing algae blooms and decreasing oxygen in the water.
- All this harmful runoff kills aquatic life and ruins the health of local waterways.

To learn more about how pet waste affects local waterways and take the "Scoop the Poop" Pledge, just [ask HRgreen.org](http://askHRgreen.org)

SCOOP THE POOP

40% OF PET OWNERS DON'T PICK UP THE DOO-DOO.

- IT WAS SMALL.
- I FORGOT MY GLOVES.
- IT GOES AWAY EVENTUALLY.
- THAT CUTE GUY/GIRL MIGHT SEE ME TOUCHING POO!
- IT'S FERTILIZER.

Information Campaigns

When nature calls, make sure you pick up.



Clean up after your dog every single time. Do your part to keep your neighborhood and waters clean, healthy and pollution free. For more tips, visit www.waterboards.ca.gov/education.



When nature calls, make sure you pick up.

With the number of dogs in your community, imagine how unhealthy it would become if no one picked up after their pets. Dog waste carries bacteria, and if left on the ground, can make people sick. It can also wash into storm drains, polluting your community and local waterways. Dog owners can help prevent pollution by taking these simple steps:

- ❑ Pick up after your pet every single time. Check with your pet store for products that make picking up easy.
- ❑ Throw away pet waste in the garbage; never wash it into the gutter or storm drain.
- ❑ Carry extra bags in your car, so you are prepared when you travel with your pet.
- ❑ Get involved in a pet group and remind others to pick up after their pets.

To learn more ways to keep your neighborhood and waters healthy and clean, visit www.waterboards.ca.gov/education.




Printed on recycled paper.

Free trash can sticker inside!



IT'S OKAY!

Scoop the poop, bag it, and place it in the trash



More than 157,000 dogs live in Snohomish County. That's an entire city's worth of raw sewage sitting in our backyards.

Landfills are designed to safely handle substances such as dog waste and cat litter. Yards are not.

Snohomish County Public Works
Surface Water Management
3000 Rockefeller Ave., MS 607
Everett, WA 98201-4046

PSRST STD. US POSTAGE PAID Everett, WA Permit No. 593

DID YOU KNOW?

- ❑ Dog poop can harbor viruses, bacteria, and parasites including harmful pathogens like E. coli, Giardia, and Salmonella.
- ❑ Leaving dog poop on the ground increases the risks of allowing harmful bacteria to wash into drains, and into local water bodies.
- ❑ It's the law, section 6-45a. You could be fined up to \$500 if you don't pick up.
- ❑ It's common courtesy. (Seriously, who wants to walk in your dog's poop.)
- ❑ Roundworm and neospora eggs remain active in the soil long after dog poop has weathered away.
- ❑ Flushing dog poop down the toilet (without a bag) is the best disposal methodology.

iDale, bro!

#ScoopYourPoopMiami



equipaws MIAMI DDA

PICK IT UP!



Dog Owners: Look For This Sign

Rats eat dog waste. Clean up after your dog or you are helping to feed rats and will be ticketed and fined from \$50 to \$500.

Remember . . .

- Rats Will Eat Anything.
- Dog Waste Is 70 Percent Undigested Food Products.
- If Rats Can't Feed, Rats Can't Breed.
- Be A Good Neighbor. Pick It Up!



City of Chicago
Department of Streets & Sanitation
Thomas G. Byrne, Commissioner

Is it really all that important to Scoop Poop?



Why Scoop Poop?

- ❑ Fight the spread of diseases and unsafe bacteria
- ❑ Stop SIP (step in poop) occurrences
- ❑ Increase public awareness
- ❑ Encourage proper disposal of pet medications
- ❑ Protect water quality
- ❑ Encourage proper disposal of pet "sharps"

What about kitty litter?
Kitty litter dumped outside can wash into streams. Bag it or double-bag it and pitch it in the trash.

Can I flush dog poop?
Sure you can. If you want to bring pet waste indoors and flush it un-bagged down the toilet, it will be subject to the same filtering and treatment as human wastewater.

Don't flush drugs.
Wastewater treatment facilities are not equipped to filter out drugs and personal care products. Dispose of unwanted pet medications through drug take-back programs. Check with your veterinarian, pharmacist or police department for options. greatlakescleanwater.org

Sharps pointers.
Improperly discarded sharps—including lancets and needles—can injure family members, waste and recycling workers or end up in places where they are a danger to the public. Practice safe disposal by placing them in a hard plastic or metal container with a screw-on or tightly secured lid and taking them to a household hazardous waste collection event. safeneedledeposital.org

Why is poop a problem?
There are currently 72.8 million dogs in the United States—their waste is not suitable for compost or fertilizer. It can carry diseases and bacteria, which are unsafe for humans. When it rains, bacteria from pet waste can wash directly into stormdrains and drainage ditches and eventually into our waterways...untreated.

Animal waste contains nutrients that encourage excess weed and algae growth like the algae blooms you see in Fort Lake, Belleville Lake and Lake Erie. When pet waste is washed into lakes and streams, it decays, using up oxygen and sometimes releasing ammonia. Low oxygen levels and ammonia combined with warm temperatures can kill fish and other aquatic life.

DO YOUR PART — Be an H₂O Hero

On a walk, picking up after your pet every time ensures that waste will not wash into stormdrains and eventually into nearby waterbodies. When nature calls, do the right thing. Always carry a plastic bag with you. Although some parks and beaches provide plastic bags, don't assume you will find a public dispenser. Plastic grocery and vegetable bags work well. Place you hand in the bag, pick up the waste. Turn the bag inside out, and then drop it in the trash.



Clean Water Campaign
40 Courtland Street NE
Atlanta, GA 30303
www.cleanwatercampaign.com



IF YOU THINK PICKING UP DOG POOP IS UNPLEASANT, TRY SWIMMING IN IT.



Pet Waste Pollutes Our Rivers, Lakes & Streams

WWW.CLEANWATERCAMPAIGN.COM



The Problem

- Pet waste decays, using up dissolved oxygen and releasing compounds that are harmful to fish and other animals that rely on water.
- Pet waste contains nutrients that can cause excessive algae growth in a water river or lake, upsetting the natural balance.
- Pet waste contributes to bacterial contamination of our rivers, lakes and streams. Pet waste contains harmful bacteria such as E. Coli and fecal coliform. Waters that contain a high amount of bacteria such as E. Coli are unfit for human contact. A single gram of pet waste contains an average of 23 million fecal coliform bacteria, some of which can cause disease in humans.

I want to be a responsible pet owner, but does this mean I have to pick up poop?



Why Should I Pick It Up?
Pet waste left on sidewalks, streets, yards or other open areas can be washed away and carried by rainwater into storm drains to nearby rivers, lakes and streams and cause many problems.

The bad news is...
Yes, you do have to "scoop the poop" but it's a small price to pay to protect our water quality.

The good news is...
Whether in your yard or walking your dog, you can easily do the right thing. Purchase a device made especially for the task or simply use a plastic bag. Then, just place the waste in a garbage can. Everyone will be happier when you pick up after your pet! Also, who wants to step in it?!



Did You Know?
In 2001, there are an estimated 61.5 million dogs in the United States. That's 6.3 billion pounds of poop per year! It would take a scoop 300 feet wide and 800 feet deep to dispose of all that poop!

For more information visit www.cleanwatercampaign.com or call:

City of Atlanta 404-330-6040	Fulton County 404-730-8097
Clayton County 770-961-8399	DeKalb County 404-294-2878
Cobb County 770-499-4136	Gwinnett County 678-376-6929



Information Campaigns

THINK PICKING UP DOG POOP IS UNPLEASANT? TRY DRINKING IT.

Pet waste washes into our storm drains and pollutes our streams.

www.KeepItCleanPartnership.org

Doo Good

Pick up dog doo. Protect streams.

Dog doo can pollute stormwater. Rain and melting snow flows across yards and trails, collecting in stormdrains that lead directly to streams (without being treated)

Bacteria Problems
A single gram of dog doo can contain 23 million fecal coliform bacteria and can spread diseases like Giardia and Salmonella. Bacteria from dog doo accounts for up to **20%** of the bacteria in urban waterways.

Nutrient Problems
Nutrients like nitrogen and phosphorus that are found in dog doo act like a fertilizer in streams. They cause algae to grow which reduces the available oxygen for fish. The more poop, the bigger the potential problem. Locally there are **90,000** dogs that make **11,700** tons of poop a year.

Be a "Doo Gooder"
You can make a difference by being a responsible pet owner/guardian. Being a "Doo Gooder" means being a model for others and picking up your dog doo. Here are **5** tips every Doo Gooder should know:

- Be prepared: carry poop bags with you.
- Take extra bags so you don't run out (and you can help someone in need).
- Make sure the bag ends up in a trash can.
- When you hike, never leave a bag on the trail – there's nobody designated to pick them up!
- Pick it up at home (or hire someone to do it) to keep your yard healthy and to protect streams.

PICK IT UP
Dog waste has been cited as the **3rd** largest contributor of bacterial pollution in urban watersheds. Keep the poop from washing into stormdrains. Pick it up and Keep it Clean!

Doo Good

Pick up dog doo. Protect streams.

Dog doo is more than a nuisance!

- 1 It spreads disease**
Locally there are like Giardia and accounts for up to **20%** of the bacteria in our waterways.
- 2 It hurts fish**
by adding nutrients in streams that act like a fertilizer, making algae grow and reducing oxygen levels.
- 3 It adds up!**
Locally there are **90,000** dogs that make **11,700** tons of poop a year.

THIS BUSINESS IS AN OFFICIAL COMMUNITY Doo Gooder
Pledging to help spread the word about dog doo.

PREVENT POLLUTION PICK IT UP!

When pet waste is improperly disposed, it can be picked up by stormwater runoff and washed into storm drains or nearby water bodies. Once in the water, it contributes bacteria and nutrients which can negatively impact water quality.

By picking up after your pet, you can help protect our local creeks, wetlands, bays and ocean. Follow the practices below for a cleaner environment:

- Pick up after your pet by sealing its waste in a plastic bag and disposing of it in a trash can.
- Keep your dog on a leash when walking along creeks and wetlands.

- When dogs are allowed on trails, carry plastic bags for their waste and dispose of it in a trash receptacle. Don't leave pet waste on the trail or in the surrounding vegetation. When park rangers use weed eaters to manage vegetation along trails, dog waste can be scattered throughout the area.
- Never hose pet waste into the storm drain. All storm drains flow directly to local creeks, bays, or ocean.

Thanks for cleaning up after your pet!

For More Information:
Marin County Stormwater Pollution Prevention Program
www.mcstopp.org
415-473-6528
485-3363 (Español)

If you are a person with a disability and require materials in alternative formats, call 473-4381 (Voice) or CRS 711 or email disabilityaccess@marincounty.org

Marin County Campaigns:

- Sewerage Agency of Southern Marin: Free waste bag holders when you take the pledge to "scoop the poop"
- Marin County Stormwater Pollution Prevention Program: Free bookmark

Please Pick Up After Your Pet

Help the environment!

helpful tips

- Always carry dog waste bags or plastic bags with you when you take your dog for a walk.
- Picking up after your pet ensures that waste will not wash into our creeks and coastal waters.
- Animal waste may contain harmful bacteria which can trigger beach advisories.
- Remember, it is illegal not to pick up your dog's waste.

clean water - what you can do

- Never dump anything down storm drains or into creeks.
- Use stormwater filters on your lawn.
- Reduce fertilizer use, control weeds with hand-pulling when possible.
- Sweep up driveway and sidewalk dirt instead of blowing it away.
- Use pet waste bags or plastic bags to dispose of dog waste.
- Use pet waste bags or plastic bags to dispose of dog waste.

LOST DOG HAVE YOU SEEN ME?

Please Pick Up After Your Pet

Help the environment!

helpful tips

- Always carry dog waste bags or plastic bags with you when you take your dog for a walk. *Siempre lleve bolsas para el desecho de perros o bolsas de plástico con usted cuando lleve a su perro a pasear.*
- Picking up after your pet ensures that waste will not wash into our creeks and coastal waters. *Recoger los desechos de su mascota asegura que los desechos no se laven a los arroyos y aguas costeras.*
- Animal waste may contain harmful bacteria which can trigger beach advisories. *Los desechos de animales pueden contener bacterias nocivas que pueden provocar avisos playeros.*
- Remember, it is illegal not to pick up your dog's waste. *Recuerde, es ilegal el no recoger los desechos de su perro.*

jeffcoopenspace

Dog waste affects water quality & safety. Doo the right thing & pick it up!

National Public Lands Day Volunteer Effort

Elk Meadow Dog Off Leash Area
Evergreen, CO
Saturday, September 24
8am-1:30pm

29 likes

jeffcoopenspace Volunteer with #jeffcoopenspace on #nationalpubliclandsday at #elkmeadowpark Dog-Off Leash Area on Sept. 24 #volunteer #colorado #dog #evergreen #donate #cleanup #dogsofcolorado #ilovemydog #outdoors #giveback #jeffcotrails #coloradolife #letsdooit #dogwaste

CITY OF ORLANDO

Home » Education » Stop The Poo-Lution!

Love the dog, hate the poo.

STOP POO-LLUTION

Pick up after your pet, it's the LAW.
Left behind pet waste is a source of water pollution and is a public health concern.

For more information, visit cityoforlando.net/stormwater.

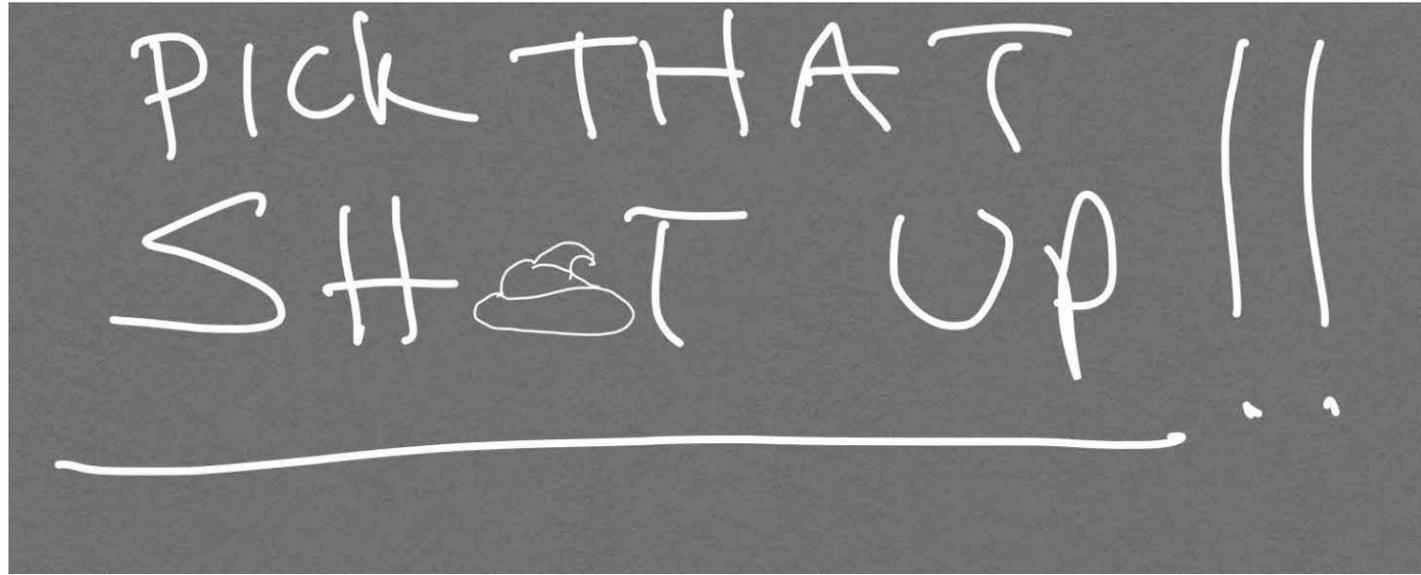
Love the Dog, Hate the Poo.

Pick up after your pooch! Unscopied pet waste is a source of water pollution and is a public health concern. You and your pet can help protect our lakes. Take a bag with you on walks to pick up after your pet. Dispose of the waste in the toilet or trash.

- **It's the Law!** Orlando City code and Orange County Ordinance require you to pick up after your pet. It's a nuisance and leads to water pollution, no matter where you live.
- **Water Pollution.** Unscopied poop washes into storm drains, which drain directly to local lakes and water bodies, harming human health, wildlife and the environment.
- **Reduced Oxygen Levels.** Decomposition of pet waste demands a high level of oxygen from water, reducing the amount of dissolved oxygen available to plants and animals – resulting in fish kills.
- **Algae Blooms.** Pet waste adds excess nutrients like those found in cow manure to lakes – resulting in algae blooms.

Message Strategy

Outreach Strategy



Main goal: Get people to pick up and throw their poop away without leaving bags by side of trail

Ancillary goal: Evaluate and measure success of campaign. What outcomes (results, impacts, etc.) do we ultimately seek? What will success look like?

Immediate Need: Waste can messaging and locations

Target Audience:

~26-40% that don't pick up and put into trash can

- 13.7% that don't take all of the bags with them
- 12.7% that don't pick up their pet's waste at all

~60-74% of people that might be induced to pick up poop of others

Potential Methods



- **Change Physical Infrastructure**

Focus on making it easier. Site dog waste bags and disposal in visible places, in proximity to entrances, and along the trails. Provide convenience and a sense that other visitors are watching (at least near entries). Installation of dog waste stations in locations far enough along the trail that dogs have pooped and people don't have to carry it too long. Maybe try a pilot hand sanitizer or wipes in a location to see if it helps with ick factor?

- **Education & Public Outreach**

Focus on outreach that changes the **perception of ease** (ie, it's easier than you think!) and providing swag that makes it easier (ie, **Bags On Board kits**). Educate about the **health and environmental hazards** of dog waste, which may be particularly helpful for those who can't stand the plastic. Consider collaboration with Marin Stormwater, environmental organizations, vets, and dog groups to broaden audience. Could create a broader awareness of the problem with "**poop call outs**" like poo pins or orange spray paint. Providing information at dog adoptions or vets could be a great educational opportunity. Boulder tried a "**1 + 1**" **campaign** to call on those who already know it's important to pick up waste to help with the ones who just won't do it. **Pledge** to pick up your poo or offer fun incentives like raffle tickets in a "**Scoop to Win**" program.

- **Innovative Pilot Projects**

Maybe long-term, someday, a **compost facility** and compostable bags to alleviate plastic guilt. Possibly a small-scale compost pilot demonstration project at a key location (McInnis?) with educational materials and outreach. Potentially a **pet licensing fee** to help with education and maintenance of dog waste stations. Establish a **Poop Patrol** or **Tails on Trails** volunteer group to help pick up waste. To enjoy off-leash dog walking in the City of Boulder, owners and their dog must complete a **voice and sight control training** to receive and subsequently display a valid city V & S program tag.

- **Change Regulations**

Lengthen the leash zone. Require owners to keep dogs on leash for 1/4 mile (or some appropriate distance) into the preserve so that they notice when dog poops. Require V&S program tags.

- **Enforcement**

Citations for violations. Maybe rangers could hand out incentives like raffle tickets, dog biscuits, bandanas, or stickers for people they "catch" doing the right thing.

- **Study Which Methods are Effective**

Get a baseline to measure success. Identify problem locations. Measure A research grants? Hire a social scientist to help understand and research visitor behavior.

Messaging that addresses audience behavior and perceptions

Using Hendee's Persuasion Framework: Five Categories of Undesirable Visitor Actions



Focus on things we can easily address:

- **Uninformed: Eventually it goes away, it's in the woods, dog poop biodegrading is probably better than the use of plastic, it's fertilizer.** Studies say: Dog guardians who did not pick up dog waste were more tolerant of dog waste left in public spaces, and viewed dog waste as "natural waste" and "biodegradable." Clear positive correlation between how often participants pick up after their dogs and how harmful they perceive dog waste to be to human health and the environment.

Messaging: Here's how it affects human and environmental health.

- **Careless: Too much work, lack of effort, not having supplies, not wanting to carry waste.** Studies say: Perceived behavioral control [perception of ease] had more influence on behavioral intentions than either attitudes or norms. 96% of the respondents who provided a response stated that additional trash/compost bins and/or bag dispensers would make them more likely to properly dispose of their dog's waste during their next visit.

Messaging: It's easy: Scoop it, bag it, trash it.

Other Interventions: Make it easier with more dog waste stations. Could include dog waste stations on map.

- **Unskilled: Not knowing what to do.**

Messaging: Checklist of what to bring, tagline like "Scoop it, bag it, trash it." Step-by-step guide.

- **Unskilled: Not knowing where to dispose.**

Messaging: Signs along trail stating "dog waste disposal, 5 min ahead." Trash can graphics that make it very clear.

- **Careless: Not having supplies**

Messaging: Checklist or messaging about "bring extra bags." Public outreach where we hand out bag dispenser swag/dog poo kits.

- **Illegal: The "ick" factor, don't care, not a big deal, want less restrictions, not my problem**

Messaging: Messaging about how terrible it is for human health and environment might counteract the force of "ick." It's against the law, violators will be cited.

Other Interventions: More enforcement by rangers

Potentially harder to address:

- It's far away off-trail, don't know where it is.

Message & Audience Approaches



Audience:
Uninformed and Unskilled

Headline is a call to action that is also a “How to” guide, and it emphasizes how easy it is to pick up your dog’s poo. There is information about the problematic environmental and health issues related to dog waste, a call to courtesy, and an enforcement warning.



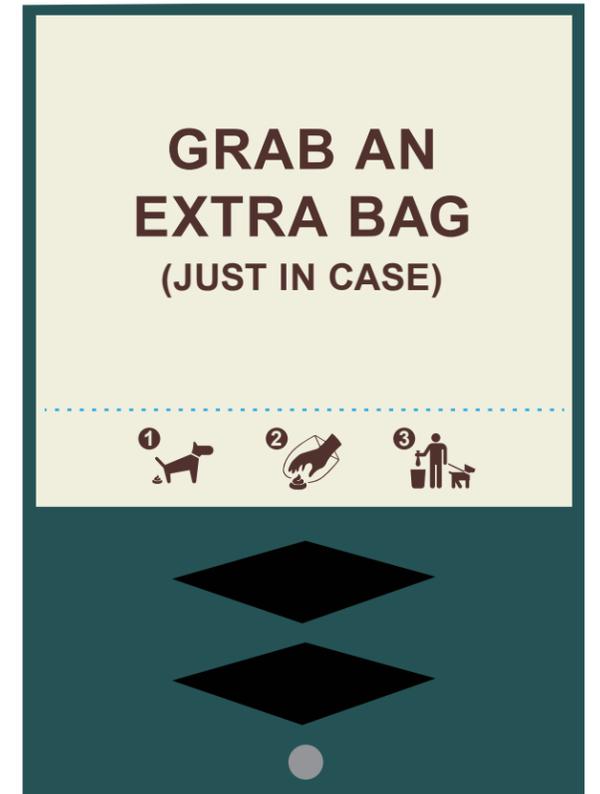
Audience:
Careless and Illegal

Littering and leaving dog waste is illegal per Marin County Parks and MCOSD code. This sign could be placed in areas where leaving dog waste bags is a persistent problem.



Audience:
Those that Doo & Care

Encourage those who are already picking up their dog’s poo and care about the environmental and visitor impacts of dog poo and the reputation of dog walkers as a whole to help out those who either don’t care or forgot their supplies.



Audience:
Careless and Unskilled

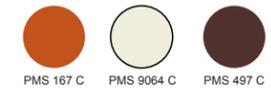
Provide information about how to properly pick up dog poo, which also emphasizes how easy it is to do. Encourage people to take an extra bag so they don’t find themselves without supplies if the dog poos twice.

Dog Waste Sign Family

Original Logo Colors



Additional Signage Colors



Door Decal
4" diameter

Dog Waste Only Decal
12.4" x 3.4" – 1.5" tall letters (150 pt)

Bag It Trash It Decal
12.4" x 6.1" – 2" tall letters (194pt)

Bag It Trash it Sign
12" x 16"
1" rounded corners

**Dogi Pot
Grab Extra Bag Decal**
8.9375" x 8.25"

**Dogi Pot Junior
Grab Extra Bag Decal**
8.75" x 3.875"

**Optional Dogi Pot Junior
Dog Station Ahead Decal**
1.75" x 7.25"

**Optional Dog Waste
Station Wayfinding Post**
3.5" x 12.5"

Optional Alternative Signs
12" x 16"
1" rounded corners

Provide Rangers with Dog Waste Education Tools



**Audience:
Careless and Illegal**

Hand out poo bag dispensers or bags as well as info cards to educate about why dog waste is an issue.

**Audience:
Those that Doo & Care**

Hand out dog poo dispensers, dog treats, and thank you cards to reward proper disposal.



Stop Poo-llution! Protect Marin's preserves and waterways.

Dog poo adds up. The average dog produces about one half to three quarters pound of poo each day, or 274 pounds per year. A 2007-2008 estimate concluded that Marin County has at least 60,000 dogs. That means Marin County is producing over 16 million pounds (8,220 tons) per year—that's a lot of poo! Some of this poo-llution ends up in Marin's preserves and waterways.

It's not native to the environment. The majority of pet foods on the market typically contain lower protein and higher carbohydrates than a ncestral diets. And the sheer volume of poop being left behind from so many dogs means that excess nutrients like nitrogen and phosphorous upset the natural balance. This can spread nitogen-loving weeds at the expense of native plants. When it gets into creeks, streams, and waterways, it acts like algae fertilizer, reducing oxygen levels and hurting fish.

It spreads disease. Dog poo is regulated by the EPA as raw sewage. The EPA estimates that a single gram of dog poo contains 23 million fecal coliform bacteria. It can also harbor viruses and parasites, including Giardia, Salmonella, and Roundworms. Roundworm and neospora eggs from dog poo remain active in the soil long after dog poop has weathered away. DNA testing also indicates that dog waste is a significant source of bacteria contamination in streams. Just 2-3 days of waste from 100 dogs can contribute enough bacteria, nitrogen and phosphorous to close 20 miles of a bay-watershed to swimming and shellfishing.

No one wants to step in poo. Picking up and throwing away your dog's poo is common courtesy.

You can help stop poo-llution by taking these simple steps:

Scoop it and Bag it. Bring extra bags and pick up after your pet every single time. MCOSD provides dog waste stations with free dog waste bags at many preserve entries.

Trash it! Carry out and throw away pet waste in the garbage. Leaving plastic bags along the trail is littering, which is illegal. Never wash pet waste into a stream, gutter, or storm drain.

Two Poos for the Planet! Doo your neighbor a favor! Sometimes someone forgets a bag, doesn't see where the poo landed, or doesn't fully consider the impacts of poo. Help keep our preserves and waterways clean by loaning a bag or picking up and throwing away an extra poo or two!



marincountyparks.org