Carmel Clay Parks & Recreation

PooPrints, by **BioPet *Vet Lab*** - mitigate un-scooped dog waste and improve cleanliness and sanitation inside the park.

The Pet Waste Problem

In the last 30 years, the dog population has doubled as more people seek the companionship of a dog. With up to 40% of pet waste left un-scooped, the problem ranks at **#6 on America's Top Gripes list**, according to a January 2010 Consumer Reports survey. The greater impact, however, occurs when the droppings wash into lakes, rivers, and streams, bringing a host of bacteria with them. "Pick it up today, or drink it tomorrow." Major cities such as New York, Los Angeles, Mexico City, Prague and Sydney, have conducted public awareness campaigns over the past five years. Clearly dog waste is no longer seen as an inevitable annoyance, it is globally recognized as a problem. DNA Registration enables the city to manage this problem with modern technology.

Health and Safety

Just one pile of dog waste contains over 3 billion fecal coliform bacteria, including *E.coli* and *Salmonella*. These bacteria constitute a non-point source pollutant which enters the water supply through several means, including storm water run-off[1]. **Fecal coliform presence in drinking water** contains disease-causing strains of bacteria, viruses, and protozoa which can result in nausea, vomiting, fever, diarrhea and, in rare instances, death.

According to the U.S. Centers for Disease Control and Prevention (CDC), waste is one vehicle from which zoonotic diseases pass from pets to humans[2]. Other pathogens from pet waste (including roundworms and their eggs) can survive in the soil for several years, and can transfer to other pets and to humans as well. Anyone gardening, playing sports or walking barefoot is at risk, but children are the most vulnerable.

Environmental Impact

In 1991, the EPA placed pet waste in the **same high risk category as oil and toxic chemical spills**, and has since listed pet waste management as the top priority in their publication *Pollution Prevention: Good Housekeeping for Municipal Operations*[3]. They estimate that a 100-dog community droppings can close a 20 mile watershed in just 2 to 3 days. Throughout the country dog waste has been responsible for the closings of swimming, fishing, and recreational areas in lakes and rivers. Further studies confirm that 20% or more of the fecal coliform bacteria found in contaminated water can be **traced back to dog**

waste alone[4]. This causes **phytoplankton "blooms"** whereby the growing plant biomass depletes the water of oxygen (hypoxia), resulting in large fish kills and danger to all wildlife.

Cost-Savings for the City

The goal is to reduce pet waste violations to zero. This end result has been proven in communities throughout the United States.

Dog waste is reduced by 75-100% in communities and public areas in the PooPrints program.

Current cost to maintain the city's clean water and green parks/public areas far exceeds the cost to implement the DNA registration program; reduced spending on water treatment sanitation and public landscaping will fully cover the program.

Creating a cleaner, greener, healthier living environment for all citizens will in-turn reduces costs, rather than expect revenue from penalizing violators.

Effective Implementation

Registration occurs via a simple, non-invasive DNA Cheek Swab. Swabs can be collected by:

- During Pet Registration Day hosted by Carmel Clay Parks & Recreation on August 22, 2015 at the Monon Community Center.

Swabs are mailed to ***BioPet Vet Lab*** where a genetic profile is created and stored securely online. **City officials are given administrative access to this secure, central database**. Pet owners also enjoy free access to medical and vaccine records stored online.

Each registered dog will receive a green identification tag with a unique code linked to that pet's genetic profile. This tag is visible proof of registration to citizens, other pet owners and animal services.

Tailwinds

Approving canine DNA registration is the beginning of positioning Carmel Clay Parks & Recreation as the **CLEANEST** pet-friendly parks department. Not only does canine DNA registration immediately address the pet waste problem and reduce many costs, but it can create a host of downstream tailwind solutions to other problems:

- There are approximately 5-7million reported dog bites in the United States each year, with over 800,000 requiring medical attention. Only about 15,000 of these cases are paid out by insurance, meaning hundreds of thousands of dog bite cases are never solved for the victim. Unfortunately, obtaining evidence is typically last on the list of activities after a dog bite occurs. Canine DNA registration serves two purposes in maintaining public safety from dog bites. First, registration via a simple cheek swab provides a quick and reliable way to obtain DNA evidence

after a bite has occurred. Secondly, registration creates a reference database of all city dogs to compare the obtained evidence and provide undeniable accountability.

- Canine DNA registration will effectively put a **STOP** to puppy mills and sale of poorly treated animals. This is accomplished in two major ways. First, a new ordinance barring pets bought or sold without prior registration will force out poor breeding practices and eliminate the market for puppy mill breeders. Also, puppies with registered DNA will have their health, vaccines, and proper breeding verified so that consumers can ensure no maltreatment of the pet they purchase.
- In addition to canines, DNA registration of **livestock animals** has the potential to drastically improve herd management, settle animal ownership and theft cases, and expedite food recalls when contaminated meat is in question.

Waste Disposal and Digestion

Through a partnership with UK-based **StreetKleen Bio, LTD**, a dog waste digestion unit has been developed with suitable capacity for disposing of up to 2,000 lbs. of dog waste daily. This digestion unit sustainably converts the dog waste into renewable energy, and can be placed at the bark park for patrons to utilize.

In addition to dog waste, these units are capable of converting food waste and/or green refuse such as grass cuttings and tree leaves into renewable energy. This technology allows PooPrints to provide a complete pet waste solution to Carmel Clay Parks & Recreation, from pet waste identification to sanitary and sustainable disposal.

Registering canine DNA with the goal of reducing pet waste, demonstrates program success in our new Central Bark Park. We are hoping other parks departments and apartment complexes follow suit for future advancements in public health, safety, and environmental sanitation!

References

[1] United States Environmental Protection Agency (US EPA). 1993. Guidance Specifying Management Measures for Sources of Nonpoint Pollution in Coastal Waters. US EPA, Office of Water. Washington, DC.

[2] United States Centers for Disease Control and Prevention (US CDC). 2011. Disease from Dogs. US CDC, National Center for Emerging and Zoonotic Infectious Diseases. Atlanta, GA.

[3] United States Environmental Protection Agency (US EPA). 1999. Pollution Prevention/Good Housekeeping for Municipal Operations. US EPA, Municipal Technology Branch. Washington, DC.

[4] Trial, W. et al. 1993. Bacterial Source Tracking: Studies in an Urban Seattle Watershed. Puget Sound Notes. 30:1-3.

[5]City of Sioux Falls – Animal Control – Ordinances 90. http://www.siouxfalls.org/police/uniformed/support-services/animal-control.aspx.

About *BioPet Vet Lab*: *BioPet Vet Lab* is a biotechnology company specializing in animal genomics. located in Knoxville, Tennessee. *BioPet's* research and development group explores genetic science in order to offer new tests that can be used to improve the healthcare and quality of life for our beloved pets. For additional information about *BioPet Vet Lab* and the PooPrints™ program, visit their website at www.biopetvetlab.com, or www.pooprints.com

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