

## STATEMENT OF GRANT PURPOSE

Kayla Fratt, New Zealand, Psychology

Assessments for Identifying Successful Conservation Detection Dog Candidates

New Zealand was the birthplace of conservation detection dogs in 1890 when a man named Richard Henry trained his dogs to sniff out endangered kakapo and kiwi birds. Once his dogs located the birds, Henry relocated the birds to breeding grounds safe from invasive predators. Over 100 years later, conservation detection dogs (CDDs) are now trained to sniff out endangered species, invasive species, ivory, and much more around the world. New Zealand's CDDs are still some of the best in the world. Once a dog locates the target, the handler can collect DNA samples, remove the invasive species, or apprehend a poacher. For example, the first conservation detection dog in Zambia put over 150 poachers out of business in his first 9 months in the field and CDDs are nine times more likely than camera traps to detect bear or bobcat in an area.<sup>1</sup>

Scientists increasingly recognize the value of using canine olfaction to assist in research and conservation efforts. There are more mentions of CDDs in scientific literature published since 2008 than in all of the literature from prior to 2008. Despite this recognition, the CDD field faces several large hurdles. Specifically, each CDD organization operates independently, with no established way to share best practices for identifying and training dogs. In addition, there is no standard method of identifying a dog that is suitable for this work. Even current best practices for dog selection and training result in six out of every ten promising, partially trained dogs “washing out” of training.<sup>1</sup> The top three reasons for CDD washouts in the U.S. are a dog's unwillingness to do work in exchange for playtime with a toy, inability to focus during long searches, and inability to focus in distracting environments.<sup>1</sup> Each washed-out dog costs the organization an average of \$8,000 in lost funding and staff time. In addition, finding qualified canine candidates is a needle-in-a-haystack situation, since only 1 in 1,000 dogs is suited to full-time fieldwork.<sup>1</sup> Meanwhile, U.S. shelters euthanize roughly 670,000 dogs per year. Many dogs are euthanized for being too high-energy for the average home. These dogs reportedly are exactly what CDD groups are looking for. Assuming that roughly 1 in 1,000 of the 670,000 dogs could be a CDD candidate, U.S. shelters may be euthanizing 670 potential CDDs each year because there is no way for shelters to identify a potential CDD.

New Zealand's long history of leading the world in CDD implementation makes it the perfect place to study how to identify a potential CDD. Dr. Alex Taylor, a world leader in the study of comparative cognition and director of the Clever Canine Lab at the University of Auckland, has agreed to host me while I work to identify the traits that make a successful CDD. The Clever Canine Lab is one of the world's leaders in understanding canine cognition. As one of the world's youngest Certified Dog Behavior Consultants, one of only 200 such experts worldwide, I will bring my own expertise to the table. The directors of Conservation Canines and Working Dogs for Conservation, two U.S.-based CDD nonprofits, are helping connect me with New Zealand CDD teams through their networks. The Fulbright will help me connect nonprofits and academics across the ocean. I plan to examine three canine behavior assessments that are used by search-and-rescue and police organizations to identify suitable dogs for that work. I will determine which components of the tests find the most significant differences between CDDs and other dogs. Then, I will combine the most useful components of each test into a new CDD-specific assessment, ensuring I cover each of the top three reasons that CDDs wash out of training. The result of my project will be a well-researched assessment for identifying potential CDDs based that can be downloaded for free from a public website. My connections with animal shelters, the International Association of Animal Behavior Consultants, researchers, and CDD nonprofits will help me promote this new resource to a global audience.

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Combining these three tests will result in a more robust view of the dog as a whole and help mitigate the weaknesses of each individual test. The Brownell-Marsolais Test, a search and rescue test, is the best assessment available for CDDs, yet it still results in a 60% washout rate of prospective CDDs.<sup>1,2</sup> The Brownell-Marsolais test measures the dog's sociability towards people, "nerve strength" in a variety of stressful situations, obedience, confidence on uneven surfaces, and drive to play with a toy. A trained observer scores the test, which is an advantage over the other tests that rely on owner observations. However, the test relies on a narrow observation of behavior and could catch a dog on an "on" or "off" day. The Dog Impulsivity Assessment Scale (DIAS) is based on reports from the owner on the dog's impulsivity and other behaviors. Similarly, the Positive and Negative Affect Scale (PANAS) is an owner questionnaire with questions about the dog's excitable behavior. Both DIAS and PANAS tests have the benefit of asking about general tendencies. The downside is that these tests require the owner - who is often naive to formal behavior analysis - to report on canine behavior.

I will be able to assess the effectiveness of these tests thanks to my understanding of the practical and academic aspects of Applied Behavior Analysis and canine behavior and cognition. In my work life, high-energy dogs were my favorite part of working at the Denver Dumb Friends League. I spent my years there focused on improving assessments for behaviorally challenging dogs. The Vice President and I used years of data on shelter dogs to rewrite the evaluation criteria for putting dogs up for adoption. My manager and I used similar data sets to overhaul the training programs for high-energy dogs to improve adoption rates. My experience using data to predict the success of dogs in a given environment will help me create a CDD assessment.

Though I am excited to connect with my new neighbors over hiking trails and food, I want to connect with New Zealand on a deeper level. I plan to volunteer at the Auckland SPCA to help perform community outreach, pet admission support, and pre-adoption education. This will allow me to share some of my own specific expertise while learning more about the New Zealand pet-owning culture and getting to know New Zealanders.

As an ecologist, writer, web developer, and behavior consultant I am particularly well-suited to do this research and share the findings. Fieldwork in the Amazon, observational studies on primate behavior in zoos, and detection training with my dog all help me understand both the ecological and training sides of CDD work. My experience as a writer and website designer guarantees that I can communicate my findings to a wide audience, bridging international communication gaps between different organizations. Finally, my connections to U.S.-based CDD organizations and animal shelters ensures that my research and its website will reach the people that matter most: CDD organizations and shelters across the globe. Ultimately, my new CDD assessment will help shelters reduce euthanasia rates of high-energy dogs by connecting CDD organizations with elusive CDD prospects. But my research is about more than saving individual dogs. Successfully training more CDDs will increase capacity to collect valuable scientific data, remove invasive species, and apprehend poachers. A more successful CDD program offers the opportunity for a truly global impact, protecting and conserving natural ecosystems in New Zealand, the U.S., and worldwide.

### References:

1. Hurt, A. and Copollilo, P. Working Dogs for Conservation. 2018. Telephone Interview.
2. Helton, W., 2009. [Canine Ergonomics: The Science of Working Dogs](#). CRC Press.