



NATURE CONSERVATION

“Shoreline Rangers” - Group #14

VISION*

We want to provide simple, tangible, and transferrable solutions and products towards protecting native and endangered species, through detail-oriented innovation, design and outreach. Funds from collar sales could be reinserted into the project to assist fellow NGOs targeting the root of the problem through spay/neuter/rescue/rehome actions.



Photo credit: Demi Walker. 'Oracabessa Bay Sea Turtle Project', 2021.

PROBLEM STATEMENT*

Untethered domesticated animals like cats and dogs are the most disruptive element in the endangerment of native wildlife. Of particular concern is how these animals we've come to love disrupt the life cycles of sea turtles – especially nesting sites – through unwanted predation.

SOLUTION *

Mandatory cat and dog waterproof collars with painless sensory triggers that activate in a predetermined proximity range to key environmental sites like the shoreline, alongside targeted community outreach and educational campaigns.



Source: [click here](#)

SOLUTION *



SOLUTION *

WHAT IS AN EXCITER OR TACTILE TRANSDUCER?

Quite simply, a sound exciter is a loudspeaker without the frame and cone. Exciters function by replacing these components with a rigid surface which vibrates in order to create sound. This is why exciters are often referred to as the "invisible" or "universal" speaker, as they can often be placed on surfaces not conducive to traditional speakers or in locations where hidden speakers are desired.



HOW DOES AN EXCITER WORK?

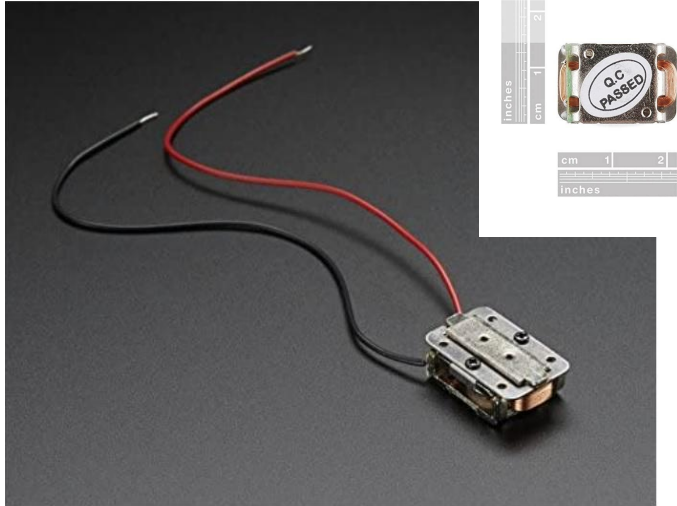
Exciters are comprised of a motor assembly, a voice coil, a suspension system, electrical connection terminals, and an adhesive ring or coupling plate which joins the exciter to the mounting surface. When a signal is transmitted to the exciter, the unit begins to vibrate at the frequency of the signal and those vibrations transfer through the exciter's mounted surface thus emitting sound.



Source: [click here](#)

SOLUTION *

Small Surface Bone Conductor
Transducer Exciter with Wires 8 Ohm 1
Watt



The skull of mammals have bony processes for the attachment of muscle that allow for sound to be conducted to the small bones in the middle ear, this is called Bone conduction.

The exciter will be situated inside the collar, transmitting vibrations transcutaneously to the dog's auricles. This technology must be accompanied by behaviour training. A training and education program for dog owners is also vital to the initiative.

SOLUTION *

Perimeter to defend key environmental sites would incorporate radio frequency identification and its three principle components: the transponder, receiver and transmitter.

RFID collar dog and cat tags are a well established technological equipment for pet lovers.

COLLABORATION *

- Tourism Enhancement Fund (TEF)
- Montego Bay Animal Haven (MBAH)
- Jamaica Society for the Prevention of Cruelty to Animals (JSPCA)
- National Environment and Planning Agency (NEPA)
- Jamaica Conservation and Development Trust (JCDDT)
- Oracabessa Bay Fish Sanctuary — Turtle Conservation Project
- Environmentalists and Anglers/Fishermen



Photo credit: Demi Walker. 'Oracabessa Bay Sea Turtle Project', 2021.

PASSION (EMPATHY)*

Although we'd be engaging with pet owners as customers, we would also want to appeal to and/or educate the following groups to facilitate upholding this & other solutions to come:

Fishermen/Anglers

Environmentalists

Students (Primary, Secondary, AND Tertiary)

Paired with the aforementioned collaborations we would reach out to public media groups (e.g. TVJ) to assist in the impact of the educational facet of the project/campaign, as well as with marketing the collar as a product. The product itself will be made of 80%+ biodegradable materials as well as be ergonomic in design.

PROOF OF CONCEPT*

Beyond conducting surveys we could produce a number of product prototypes and beta groups for testing and expand on that research by issuing questionnaires. We would want to pursue/collect the following data:

- Interviews with professionals working in conservation, followed up by feedback on any statistical improvements of the issue.
- Input from the public, during field visits to areas most affected, presenting existing market research & then prompting them on what they think of the approach.

COSTS*

Material Cost; Hemp \$1.80 USD , Exciter \$12 USD, RFID Transponder, Receiver and Transmitter \$25 USD

Purchase and installation of collars for \$500.

Training program for people to install devices

15% of profit contributed to social welfare programs.

OPPORTUNITIES & RISKS*

Opportunities:

By using technology we can hack not only the Sea Turtle Conservation efforts but provide haven for Jamaica's endemic species such as the Jamaican iguana, another prey of invasive species.

The Tourism Industry will welcome the true value of Jamaican beaches when the shores return to the turtles.

Animal rights activism and outreach

Risks:

Dog owners may not wish to participate if not mandated by legislation.

PLAN B

We could redirect our focus from animal access control and more so towards humane tech solutions for population control of stray domesticated mammals (dogs, cats), :

- Exploring what innovations could be immediately applicable in helping to streamline spay/neuter clinics and initiatives.

SUSTAINABLE DEVELOPMENT GOALS (SDG) ALIGNED TO*

SDGs:

8 “Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all”

11 “ Make cities and human settlements inclusive, safe, resilient and sustainable”

14 “Conserve and sustainably use the oceans, seas and marine resources for sustainable development”

15 “Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss”

Pitch Instructions - Delete after practice

- Pitching is simple, don't overthink it.
- Choose one person to deliver the pitch.
- It's a story, just breakdown your slides and narrate as a story, don't read from the slides
- Try to have maximum 4 points to a slide
- Keep it moving, made a mistake? Nobody knows, just keep going.
- Breathe, take a short breath with every full stop - feels like forever to you but it allows the audience to listen better.
- Share your personality and passion in your voice, don't be monotonous
- Have fun

