



Technical and Financial Project Proposal Template¹

Name of the Organization: Caribwhale	Type of Organization: Non-Profit Research, Education, Conservation
Brief Description of the Organization:	
<p>CaribWhale, the Caribbean Association of Whale and Dolphin Watching Operators, has an extensive network of members in sixteen of the Organization of American States. Based in Dominica, Caribwhale works to promote conservation education through its Floating Classroom program in collaboration with the Dominica Ministry of Education and Ministry of Youth. Research collaborations with the University of West Indies, Dalhousie University, University of New England, Boston University, as well as numerous non-government organizations throughout the world advance marine research focusing on cetaceans. Caribwhale implements operator training and certification programs to ensure a high caliber among its members and works closely with member states of the OAS. Collaborations have led to numerous scientific publications, reports, and innovative conservation media. The strength of Caribwhale is in its network and the organization plays a major role in conservation across political bounds through involvement in the United Nations Environment Programme's Special Protected Areas for Wildlife (SPA) convention.</p>	
Contact Person: Errol Harris	Address: Sutton Place, Roseau, Dominica
Telephone:	Email and Website: errolmar@cwdom.dm www.caribwhale.org
Project title:	
A Biogeographic Mapping Network, development of a mobile application for Regional Cetacean Monitoring	
Project Objective and Expected Outcomes:	
<p>Leveraging existing networks, this project seeks to foster international collaboration in documenting marine mammal sightings in a cohesive standardized manner consolidating divergent efforts into a single regional catalyst for ecosystem monitoring by using cetaceans as a sentinel species.</p> <p>To do so by streamlining current, paper-based collection methods into a cohesive region-wide initiative enabling online collaboration.</p> <p>CaribWhale and partners will implement a public awareness campaign to increase the participation of civil society in the conservation of migratory species by leveraging members and partnerships in the US, Caribbean, and Central America to document and share information on whale sightings.</p> <p>A comprehensive region-wide understanding of temporal and spatial distribution of cetaceans across political boundaries will be afforded.</p> <p>Compile an ongoing ecosystem service valuation of whale watching by gathering statistical</p>	

¹ The proposal can be written in English or Spanish



information on employment and passengers served in whale watching on a hemispheric scale.

A mobile app will allow facilitate contribution to this this broad scale data collection effort by citizen scientists throughout the region enabling a broad scale data collection effort.

Target Population:

Ecotourism Operators and passengers throughout from Central America and the Caribbean. Park Personnel, Protected Area Managers, Technical Conservation Personnel, Local NGOs, Upper Level Students throughout the WH region with particular emphasis on Eastern Caribbean.

Amount Requested in USD:

Co-financing:

Project Duration in Months:

Nine

Country:

Dominica (with partners throughout OAS)

Project Summary:

Caribwhale’s innovative internet-based whale sighting database allows whale watch operators, researchers and governments to easily share information about whale sightings despite typical barriers as national boundaries and language. Several members of Caribwhale, the Association of Caribbean Whale Watching Operators have participated in beta testing of a database tool to record and share marine life sightings data. The results have proven the concept that a simple technological solution can foster trans-boundary collaboration to collect biodiversity data using opportunistic platforms such as ecotourism operations thereby eliminating the cost of specialized research vessels for a more cost effective means of ecosystem monitoring. However, in order to maximize efficiency and not be dependent on an individual user’s access and skills in using a desktop computer a mobile application deployable on a tablet or smart phone needs to be developed to minimize costs and ensure maximum use in remote outermost regions and territories. The following proposes to a) develop an iPad application which integrates IFAW’s cetacean sighting database b) Provide iPads with the application and training to the Caribbean network of whale watch operators and c) Contribute data to the global Ocean Biogeographic Information System Spatial Ecological Analysis of Megavertebrate Populations for open access to all. The project will mainly be based in Dominica.

Creating a mobile sightings database streamlines the process and enables distribution data to be gathered on a much larger scale. No such long-term data exists for much of the Caribbean region. Creating an application able to run on a field tablet using integrated GPS allows fosters the trans-boundary collaboration needed to fill the knowledge gaps in cetacean distribution critical to designation and ecosystem based management of protected areas.

Resumen del proyecto:

Caribwhale innovador de Internet con sede en la base de datos permite a los operadores de avistamiento de ballenas avistamiento de cetáceos, investigadores y gobiernos a compartir fácilmente información sobre avistamientos de ballenas a pesar de las barreras típicas como las fronteras nacionales y lingüísticas. Varios miembros de Caribwhale, la Asociación de Whale Watching Operadores Caribe han participado en las pruebas beta de una herramienta de base de datos para registrar y compartir la vida marina avistamientos de datos. Los resultados han demostrado el concepto de que una solución tecnológica sencilla puede fomentar la colaboración transfronteriza para recoger datos sobre biodiversidad utilizando plataformas oportunistas como las operaciones de ecoturismo, eliminando así el costo de los buques de investigación especializados para medios más rentables de seguimiento del ecosistema. Sin



embargo, con el fin de maximizar la eficiencia y no ser dependientes del acceso de un usuario individual y las habilidades en el uso de una computadora de escritorio una aplicación desplegable móvil en una tableta o teléfono inteligente necesita ser desarrollado para minimizar costos y asegurar el uso máximo en remotas regiones ultraperiféricas y los territorios . A continuación se propone a) desarrollar una aplicación para iPad que integra la base de datos del IFAW cetáceos avistamiento b) Proporcionar iPads con la aplicación y la formación a la red caribeña de operadores de observación de ballenas y c) aportar datos al Sistema de Información Ocean biogeográfica mundial Análisis Espacial Ecológico de Megavertebrate Poblaciones de acceso abierto a todos

Creación de una base de datos de avistamientos móvil agiliza el proceso y permite que los datos de distribución para ser recogidos en una escala mucho más grande. Sin tales datos a largo plazo existe para la región del Caribe. Creación de una aplicación capaz de ejecutarse en una tableta de campo con GPS integrado permite que fomenta la colaboración transfronteriza necesaria para llenar los vacíos de conocimiento en la distribución de los cetáceos críticos para la designación y la gestión basada en los ecosistemas de las áreas protegidas.

2. Organization's Experience (300 words or less)

Caribwhale, the Association of Caribbean Whale Watch Operators, has been working on whale research, education and conservation for more than 15 years. Collaborations have resulted in numerous publications on photo-identification, acoustics, eco tourism guidelines and its members are frequently called upon to participate in regional management working groups, international cetacean conservation meetings, and to support data collection on sightings and behavior of a diverse range of marine species. Caribwhale operators implement a Floating Classroom program to educate the next generation of citizens, leaders and decision-makers about marine resources, and the critical need for sound conservation management practices. Students learn about whale and sea turtle conservation through classroom lessons, beach clean up and participate in an experiential learning "research cruise." This growing program involves lessons on citizen science and sea turtle nesting beach monitoring. Caribwhale coordinates research efforts on cetaceans in the region among members in 18 countries.

3. Project Narrative Description (Maximum 10 pages):

Rationale:

Documenting cetacean species distribution, abundance, and photo-identification is critical for the species categories of greatest concern, for both large and small whales, outlined in section 1 of the request for proposals.

Gathering information on cetacean, both large and small, using an as-yet-unharnessed power of a coordinated sighting system can fill in major knowledge gaps in Western Hemisphere cetacean habitat use. Information easily collected and shared in a centralized repository enables managers to view broad scale sightings and monitor changes in seasonality and as they relate to changing oceanographic conditions. Sightings data can aid in effective marine spatial planning by enabling science based spatial planning and decision-making on activities that may cause potential harm to large and small cetaceans.

Currently no simple means exists to document marine species for the layperson that is scientifically vetted. However with whale watching happening in 115 countries worldwide, many in the Western Hemisphere, a tremendous opportunity to document sightings exists. Leveraging new mobile technology enables scientists, governments, citizen scientists and ecotourism operators to collect data in a scientifically vetted manor to fill in major knowledge gaps critically needed for ecosystem based management. While academic and government collaborations exist, no singular source of data acquisition and simple sharing exists for trans-boundary collaboration. Whale-watch data can inform



conservation efforts such as marine protected area boundaries and ship traffic routing to better protect large and small cetaceans reducing risk association with both noise pollution and fatal ship strikes.

With more details on where certain species of whales tend to congregate and at what times of year, conservationists will be more effective in their efforts to protect marine mammals, particularly endangered ones. Such information would inform decisions about creation or expansion of “marine protected areas,” a designation for waters with a tailored set of restrictions on human activity for conservation purposes. Other conservation measures might include regulating fishing or re-routing shipping lanes to avoid disrupting whales.

If funded this proposal will leverage matching funds effectively to;

- Enable a hemisphere-wide coordinated database on species distribution and photo-identification fosters trans-boundary collaboration among OAS member states.
- Data collected as past of this project identifies habitat corridors by documenting changes in species presence seasonally.
- Sharing of photo-identification throughout the region further defines site fidelity of individual animals and family groups where no coordinated ability to do so existed previously.
- Promotion of a citizen science program undertaken through a mobile-app data collection tool increases the participation of civil society in migratory species conservation and builds the constituency by promotion of this citizen science program.

Whale watching continues to grow throughout the Western Hemisphere, every country in North America, 14 countries in Central America and the Caribbean and many in South America. In 2008 approximately 7 million tourists participated in whale watching in the Western Hemisphere. The sum of both direct expenditures, such as tickets, indirect expenditures, such as hotels and meals, totaled nearly \$1.5 billion (usd) in 2008. (IFAW 2009)

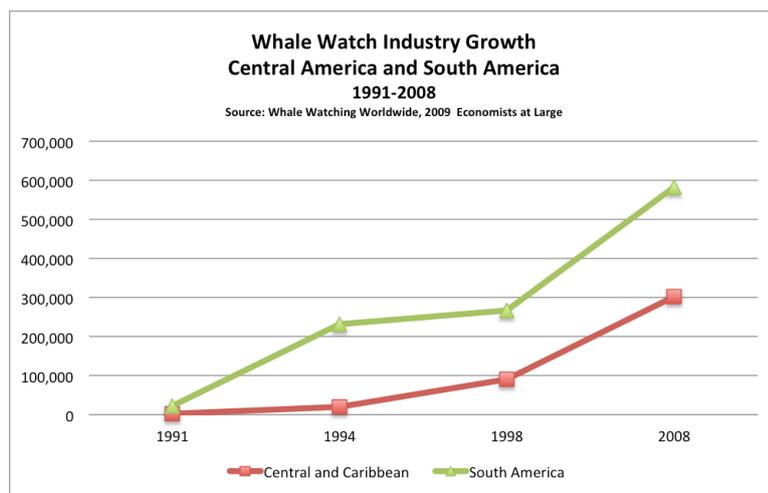


Figure 1: From Whale Watching Worldwide 2009, International Fund for Animal Welfare

Baseline:

While data is gathered on individual, disparate efforts, no singular coordinated effort exists to document cetacean distribution, abundance, diversity, and behavior or individual identification in the region. As part of the decade long census of marine life, an online database launched in 2002 to capture researcher observations of seabirds, sea turtles and marine mammals. From its name – Ocean



Biogeographic Information System Spatial Ecological Analysis of Megavertebrate Populations – to its data input format, this record-keeping and mapping system is highly technical. In addition, researchers cannot be everywhere at once: According to recent analyses, there is a dearth of data from many areas of the world including the Caribbean region. This sighting database enables anyone in and around the water to contribute to biodiversity distribution data and if funded, automatically upload data using a Wi-Fi or cellular internet connection without ever needing a traditional computer.

At least 33 species of marine mammals have been documented from the Wider Caribbean (approximately 1/4 of the world's marine mammal species). These include resident and migratory species, encompassing three orders. There are six species of baleen whales, 24 species of toothed whales and three pinnipeds. Of all marine mammal species in the region, four are classified as Endangered, and the majority of other species are listed as Data Deficient (IUCN 2004).

Caribbean and Central American Waters serve as primary habitat for a range of activities including calving, feeding, and mating. (Ward et al., 2001). However, data are scarce on the distribution, biology and status of most cetacean (whales and dolphins) and manatee populations in the Caribbean Sea (Reeves, 2005), and at least some stocks may be confined to particular parts of the Caribbean. Studies to determine life history parameters and habitat use, ecological roles, presence and scope of threats, and conservation status are urgently needed (Ward,1999). This is particularly critical for populations with limited distribution, whose viability may already be affected by multiple stressors/threats.

In recognition of the threats facing marine mammals and of the large information gaps, Parties to the Specially Protected Areas and Wildlife (SPA) Protocol of the Convention for the Protection and Development of the Marine Environment for the Wider Caribbean Region (Cartagena Convention), adopted the Marine Mammal Action Plan (MMAP) for the Wider Caribbean. All thirty-three species of marine mammals are listed in SPAW's Annex II for protection. The MMAP has provided a framework for activities wherein the information gaps, potential threats, prioritization of actions and possible mitigation factors can begin to be addressed.

Marine mammals are an integral part of the marine and coastal fauna of tropical and sub-tropical waters of the Caribbean Sea (Reeves, 2005). They are major consumers at most trophic levels, their large body size suggests that they may have a major influence on marine community structure, functioning, and even play a significant role in nutrient cycling. (Laws, 1984; Katona & Whitehead, 1988, Roman 2010).

Marine mammals are vulnerable to short-term natural and anthropogenic threats caused by activities on land and at sea, but also to the chronic and cumulative effects of various stressors (Borobia, 2005; Harwood, 2001). The known or suspected threats to which marine mammals are vulnerable in the Wider Caribbean include:

- Incidental killing as a result of interactions with fishing gear. A threat that can be mitigated through appropriate spatial planning. However in-depth data does not exist- a knowledge gap that will be filled in with this project.
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- Vessel collisions. More than 95% of global trade is conducted by sea and maritime transportation is extensive in the Wider Caribbean.
- Degradation and loss of habitat.
- Increased noise from shipping. Noise can interrupt behaviorally significant behaviors and weaken communication by masking their vocalizations.



- Climate change-There has been little investigation thus far, partly because the impacts of climate change are considered less imminent however this tool will establish a database that can be used to track long-term abundance and distribution as an ecological monitoring system.

3.1. Project Goals and Purpose: Project goals must be clearly defined and directly relevant to the need(s) identified above. Project purpose must be measurable, realistic (attainable within the project's period of performance), and be directly relevant to the priority area identified (See Section I of the Request for Proposals).

- Provide mobile and web based technology that facilitates cetacean sighting data collection and reporting at regional scale
- Integrate with other 3rd party data collection organizations and databases to provide a seamless, universal "cetacean" map of distribution and identify 'hot spots'
- Spur adoption of the technology across all network participants in the western hemisphere.

3.2. Project Outputs and Indicators: Describe the quantitative and qualitative outputs that the project expects to deliver. Explain how you will monitor progress as well as the indicators that will be used to assess if the expected outputs are achieved.

- Develop an iPad application which integrates CaribWhale's cetacean sighting database
- Conduct training on data collection so that representative whale watch operators from each member nation can train other operators in their respective country.
- Coordinated sightings in collaboration with NOAA National Marine Sanctuaries Sister Sanctuary Program to further identify migration routes.
- Contribute data to the global Ocean Biogeographic Information System Spatial Ecological Analysis of Megavertebate Populations for open access to all.

3.3. Project Activities and Methodology: Discuss all proposed project activities and describe the methodologies to be applied to implement the project. In this section the relation between project objectives and activities should be clear. Describe the innovative approach and technical methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output.

We propose to build on an existing whale sighting database so that it can be leveraged to collect and analyze survey effort, cetacean sighting distribution and individual photo-id data to take advantage of cloud computer and mobile application platforms to enable a cohesive region wide cetacean data collection system. This proposal aims to leverage mobile technology to improve the ability of regional managers to protect whales by increasing the effectiveness of existing volunteer and crowd sourcing data collection. The app will engage citizen scientists to enter data that ultimately helps protect endangered whales by dramatically improving data acquisition speed, accuracy and collection opportunities.

With the Whale Spotter App we will engage and leverage the numerous users that are in Western Hemisphere waters to crowd source information on the distribution of whales increasing public awareness of migratory cetaceans. The data from an engaged community will not only inform understanding on the distribution of whales within sanctuaries, it will also allow stakeholders to help protect these amazing and endangered whales by informing management



decisions such as a possible Dynamic Management Areas that requests vessels to slow down or reroute around concentrations of whales.

The app is intended to be used by both “pro” users, such trained citizen scientists and researchers, as well as by the general public will feed into a centralized database. A group of trained operators from Caribwhale Corps have been collecting marine mammal sightings aboard local whale watch vessels since 2001 using paper datasheets. The Caribwhale member are an appropriate test group and will be integral to developing a fully functioning app. The app will allow the user to see their location in realtime and enter sightings of various whale species while recording GPS coordinates from the smartphone/tablet. This data will then be uploaded when back on land to a centralized database that will be accessible to researchers and managers consolidating efforts into one strong regional effort.

The project will take place over the course of the next several months. The first phase, already underway is the initial development and testing of the baseline functionality with the goal of commencing initial beta testing January of 2013. The next phase will include the completion of the coding (incorporating the beta feedback) and having the system ready for field testing by Spring of 2012. The final phase will include a final testing cycle and then the subsequent public launch by the Summer of 2013. From that point forward, the partnership will oncentrate on a sustained marketing and industry outreach campaign designed to ensure maximum visibility and participation by all target constituencies.

The public has an important role to play in the protection of natural resources. The app is a tool to not only collect whale sightings but also directly engage diverse stakeholders in the conservation of endangered whales. We plan to educate the public about the dynamic and diverse marine ecosystem of West Coast National Marine Sanctuaries and to inspire them to become citizen scientists that help collect important data that informs Sanctuary management.

We have an incredible opportunity to reach out to and engage the maritime and larger conservation community in the conservation and management of endangered whales. The development of a mobile application to input and crowd source data on critically endangered whales will help meet resource protection goals among migratory species.

Spotter App will also improve access to data, streamline data collection efforts, improve quality control, and engage the greater public with increased awareness of spatial and temporal distribution of whale

3.4. Logical Framework: Complete a Logical Framework for the project using the format below:

Narrative Summary	Performance Indicators	Means of Verification	Assumptions/Risks
<p>Goal</p> <p>A more complete and accurate understanding of cetacean population counts and human impact on same.</p>	<p>Policy adjustments based on improved data capture and analysis resulting in healthier cetacean populations in the western hemisphere</p>	<p>Public facing web-site, 3rd party reporting on policy changes and resulting effects on cetacean populations</p>	<p>Assumption: New mobile and web technology will greatly enhance data collection efforts.</p> <p>Assumption: Means</p>



			<p>for leveraging a greater array of data sources exist or will readily be put in place.</p> <p>Risk: The sustained contribution of the data by the public.</p>
<p>Purpose</p> <p>Provide a singular observation database and sighting mobile application to the network of whale operators in the Western Hemisphere</p>	<p>Amount of data collected by network of observers</p> <p>Quality of data provided to researchers and managers</p>	<p>Public facing, web-based reporting tools</p> <p>User download, data submission reports</p> <p>Data clearing, verification reports</p>	<p>Program support from OAS member states in the form of press, awareness</p>
<p>Outputs</p> <p>A fully functional, open, web-based database.</p> <p>A fully functional mobile application (iOS)</p> <p>Training to core network of whale watching operators in the western hemisphere</p>	<p>A freely available sightings app available in mobile app stores.</p> <p>A critical mass of application downloads, web-based account creations and log-ins.</p> <p>Training to Caribwhale members takes place both online and in person</p>	<p>iTunes Connect App analytics (numbers of downloads)</p> <p>Server logs (for server requests etc.)</p> <p>Application download statistics, user web-registrations,</p> <p>Operator training registration and completion forms</p>	<p>Rapid development and testing environment</p> <p>Online beta testing support</p> <p>Online training coordination and delivery.</p>
<p>Activities</p> <p>Software development & testing, data prep</p> <p>Training & documentation</p> <p>Outreach</p>	<p>\$13,400.00 (U.S.)</p> <p>\$3,000.00 (U.S.)</p> <p>\$3,600.00 (U.S.)</p>	<p>Product release and general availability</p> <p>Web-based query tool for program's success</p> <p>On-going count of application downloads and data submissions</p>	<p>Assumptions to achieve the outputs</p> <p>Timely review and approval of Appstore submission</p> <p>Coordinated analysis and integration of user feedback,</p>



		User, operator feedback forums (Appstore, Website)	recommendations.
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3.5. Monitoring and Evaluation: Describe the methodology to be used to monitor progress and evaluate the project’s accomplishments and impact.

The evaluation methods will include qualitative and quantitative measures. Evaluation methods to be implemented include

Interviews: Interviews will be carried out with direct beneficiaries of this project, Caribwhale operators, regional bodies such as SPAW, representatives of funding agencies, project coordinators.

Questionnaires: In order to reach a larger public, a questionnaire (on line and offline) covering various issues (impacts, visibility, functioning, sustainability of projects, future activities) will be used to survey other stakeholders.

Participation of partners and stakeholders: The evaluation process will involve participation of NGOs, IGOs and other relevant stakeholders to evaluate usability and effectiveness.

3.6. Team Composition and Task Assignment:

Name	Organization	Expertise	Position Assigned	Task Assigned
Pernell Francis	CaribWhale	Species Identification, Photo-Identification	Catalog curator	
Errol Harris	Caribwhale	Ecotourism	Project Management/Industry Outreach	Coordinating user training
Jacob Levenson	Boston University	Field Research, Community Outreach, Site Fidelity and Migration Studies, Incorporating Distribution Data into Management	Consultant	Scientific guidance in coordination with NOAA International Sister Sanctuary Program
Virgil Zetterlind	EarthNC	Geospatial Databases, Mobile application development	Technical Team Lead,	Management of technical team, oversee database back-end development
Matt McGlinicy	EarthNC	Mobile Application Development	Lead Developer	Development of Whale Spotter Mobile Biogeographic Data Collection Tool



Brad Winney	EarthNC	Commercial business development, project coordination and outreach	Program manager	Liason with technical teams, research, govt organizations
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3.7. CVs of Proposed Staff: In addition to the general information about the individual, it would be helpful to have work undertaken by the individual that best illustrates capability to handle the tasks assigned.

Erroll Harris

Mr. Errol Harris assumed the position of Project Coordinator of the Dominica Sea Turtle Conservation Organization (DomSeTCO) in 2009 in order to increase the field support to the expanding turtle conservation program in Dominica. Prior to this Mr. Harris, who is a founding member of DomSeTCO, was the President. Mr. Harris’ association with turtle conservation began in 2002 when he worked for the UNDP COMPACT program around the Morne Trois Piton National Park World Heritage Site and he volunteered with the RoSTI/WIDECASST turtle conservation project in the southeast of Dominica. Mr. Harris has worked his entire life in agriculture from the most junior position to the post of Chief Technical Officer as well as in conservation related areas. He has studied for a period of eleven years attaining qualifications ranging from Hons. Diplomas in Agriculture to a BSc. Agriculture, University of the West Indies, and specialized training in Management for developing countries, University of Wales and University of Minnesota, Duluth. Mr. Harris has worked with Non-Governmental and Community Based Organizations and is actively involved as a member of the Waitikubuli Ecological Foundation, the Sustainable Living Initiative Centre as Chairman, the Dominica Poultry Association as Chairman and is the National Coordinator for WIDECASST (Wider Caribbean Sea Turtle Conservation Network) in Dominica. Mr. Harris is assisting with the IFAW Floating Classroom program on Dominica - a program that has incorporated sea turtle conservation.

Brad Winney – Co-Founder, President

EarthNC, Panopto, ClariFI, USConnect, Novell

Brad is a seasoned entrepreneur with several successful start-ups under his belt with an emphasis on SAAS / Cloud based systems. After serving his time in the corporate software world (Director of Strategic Business Development, at Novell, Inc. and COO of USConnect, Inc.) Brad co-founded ClariFI, a portfolio construction & risk optimization SAAS company that was acquired by McGraw Hill / Standard & Poor’s in 2008. He then co-Founded Panopto, Inc. a cloud-based lecture-capture provider (based on technology developed at Carnegie Mellon University) and ran the company until the summer of 2010 establishing the company as a dominant provider of distance learning and “flip” classroom technology with over 400 universities standardizing on the system. He most recently co-founded EarthNC (with Virgil Zetterlind) a leading provider of cloud-based navigational data (charts, weather, environmental data) to the maritime community. Brad currently serves as the chairman of the board of EarthNC providing strategic business development and investment raising services for the company.

In addition to being owned by three dogs, Brad has always been an animal lover and an outdoor enthusiast. He has become expert in the application of environmental technology and continues to look for ways to apply that technology in a way that both conservation and industry can benefit. Brad is a graduate of the University of Georgia’s vaunted Computer Science program.



Virgil Zetterlind – Co-Founder, Technology and Data
EarthNC, Mitre Corp,

Virgil brings a wealth of technological and practical experience to Conserve.IO - at home both in the field and in front of the computer solving difficult geo-spatial data management problems.

As co-Founder and Chief Technologist of EarthNC, Inc. he led the development of complex iOS, Android, and Google Earth visualizations, geospatial displays, spatial data processing, and mapping for a wide range of customers including the recent Shark Net and Whale Alert projects. Virgil also has a strong background in video and LADAR processing for remote sensing applications including support as a co-PI on government geo-visualization and remote sensing projects for the DoD, FAA, and NASA. His work credits also include high-profile Google Earth design projects for Google and the National Geographic Society.

Prior to founding EarthNC, Virgil served as a developmental engineer and program manager for the Air Force Research Laboratory-Munitions Directorate and as a senior engineer for the MITRE Corporation. While at AFRL, he led the vision-aided navigation research thrust, planned and conducted Video and LADAR airborne data collections, and provided program management on SBIR and DARPA projects including the Exploitation of 3D Data (E3D) LADAR algorithm program.

Mr. Zetterlind holds a Masters of Electrical Engineering from the Air Force Institute of Technology and a Bachelors of Electrical Engineering from the University of Missouri - Rolla (Missouri S&T). Graduating 1st in his class at both schools. Outside of work, Virgil is an active boater on the Gulf Intercoastal Waterway and the northern Gulf of Mexico and saw first-hand the effects of the Gulf Oil Spill on local wildlife and the local economy.

Matt McGlincy – Engineering
Google

Matt McGlincy has a long and colorful technical history. He spent many years on the east coast working with networks and databases, before becoming a hardcore Java programmer and moving west during the first Internet boom. He subsequently joined Google, working in a variety of teams (search quality, machine management, systems infrastructure) to help build Google's internal systems, tools, and data visualizations. Matt left Google to dive into mobile iOS development, shipping a variety of iPhone and iPad apps and games, both for himself and for clients like Evernote and San Francisco's Contemporary Jewish Museum. Matt holds a B.S. in Computer Science from the University at Buffalo and an MFA in Writing from Bennington College.

Pernell Francis

Bois-Beau, Castle Comfort
Roseau, Dominica
(767) 315-0559
pernellfrancis82@Hotmail.com

OBJECTIVE

To obtain a position as a Science-Coordinator.

PROFESSIONAL SKILLS

Data collecting, Photo Identification, Data Analysis, Educational Whale and dolphin tour guide, IT skills, Administrative skills, Operating Systems Windows 95/98/00/Xp/vista, Typing skills, Social skills, Internet skills, Communication and organization skills.

Applications

MS Office (Word, Excel, PowerPoint, Access, Works, Publisher)

Research Instruments

Hydrophone/pre-amp/headphones, Laptop, Tascam Recorder, Nikon D100 camera, Licenced whale Research operator permit(fisheries Act No.11 of 1987).

Summary

Accomplished Whale and Dolphin research specialist and tour guide with more than six years experience. Proven Conservationist, have a great passion for marine mammals, been working with conservation groups for the past six years. Proven ability to design and implement effective strategies, and guidelines, develop new ideas, manage and Construct Database, to produce results. Presently assisting with the Dominica Sperm whale project with Hal Whitehead and Shane Gero, have also worked on research vessels.

EXPERIENCE

Certified whale and Dolphin Research specialist, Certified Whale and Dolphin tour Guide, Administrative assistant, 2008 to Present
Data collection, Database, photo and Species Identification. Whale and Dolphin Conservation.

EDUCATION

St Mary's primary, 1988-1995
St Mary's Academy 1996-2001

JACOB LEVENSON

17 Hamilton St. ~ Plymouth, MA 02360

Phone: 508-648-3570

Jlevenson@mac.com

BOSTON UNIVERSITY

September 2012

Lecturer, Boston University Marine Program

- Responsible for carrying out teaching and research duties ranging from field data collection to guiding students in the transition from science to policy recommendations. Responsible for advising student research, organizing lectures and supervising seminars and tutorials on marine megafaunal ecology including subject matter such as fisheries management, forage fish and marine spatial planning.

MBO PARTNERS

January 2012-Present

Consultant

- Provide project management to research and conservation organizations as well as governments on marine protected area planning, marine mammal protected areas, conservation education, migratory species management, and climate by designing research surveys, ensuring field equipment was in operational order and that field data was collected, entered and analyzed in a timely manner.
- Collaborate with marine transportation industry partners in the development of a iPad based cetacean warning system to reduce the threat of ship strikes. Resulted in a tangible behavior change among project participants reducing the threat of collisions with large whales.
- Coordinated communications services for the CaribWhale, The Caribbean Association of Whale Watching Operators by drafting media releases, conducting media interviews as well as develop and implement web and social media strategy.
- Manage Floating Classroom education program integrating migratory animal science with classroom studies to reduce poaching of Leatherback Sea Turtles in Dominica.

INTERNATIONAL FUND FOR ANIMAL WELFARE- IFAW

November 2007 – December 2011

Program Officer/ Program Communications Officer

- Oversee international project/campaign planning, implementation and coordination among multiple partner institutions, grantee's and contractors involving complex natural resource issues, such as reducing cetacean bycatch, marine science education, endangered species recovery, leveraging whale watch vessels as opportunistic scientific platforms, reducing marine debris and satellite telemetry studies of Leatherback sea turtles.
- Represented IFAW at Sanctuary Advisory Council and NMFS Take Reduction Team in the Northeast Region
- Experienced in the development and upkeep of IFAW whale program web and social media content as well as managing development, scope, and budgeting for multiple professional contract services to support graphic design and web hosting.

NOAA FISHERIES SERVICE, Fishery Statistics Division

May 2004 – October 2007

Fishery Information Specialist

- Project manager with responsibility for data quality of fishing vessel trip reports by supervising the review, auditing and editing of fisheries data obtained from fishing vessel trip reports.
- Provide policy guidance on data quality and usability as it related to fisheries regulations, especially protected species interactions. Conduct geospatial analysis of fishing vessel trip reports to identify outliers and ensure data validity.

NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

09/2001 – 03/2003

Administrative Assistant, Office of Law Enforcement

- Maintained and updated time and attendance records. Purchased law enforcement equipment and office supplies.
- Managed sensitive property inventory database and procedures.
- Represented the office on regional diversity program-intern recruitment committee.

NEW ENGLAND AQUARIUM

01/1997 – 01/2004

Aquarist (05/2003-02/2004)

- Collected local organisms for exhibits by SCUBA, Seine Net, or commercial fishing vessels. Designed, constructed and maintained life support systems. Monitored and recorded animal health on a daily basis.
- Supervised interns and volunteers. Improved teamwork and productivity among interns and volunteers by maximizing the utilization of individual talents and interests.
- Participated in three NEA animal collection trips to the Bahamas and Eastport, Maine.
- Operated R/V *Lophius*, a 27' Vessel used as a platform for diving and animal collecting operations

Research Diver (05/1997-10/1997)

- Participated as a member of a research team comprised of representatives from the New England Aquarium, Massachusetts Audubon Society, and the Environmental Protection Agency.
- Monitored eelgrass along two dozen Massachusetts coastal sites through diving field surveys.
- Operated several small vessels used as a diving and sampling platform.
- Examined eelgrass for signs of wasting disease and performed computer data entry as necessary.

EDUCATION

BOSTON UNIVERSITY, Boston, MA

M.S. Criminal Justice Administration, 2003

Focus on living marine resource law enforcement and administration

UNIVERSITY OF NEW ENGLAND, Biddeford, ME

B.S. Zoology, Focus in Marine Science, 2001

TECHNICAL SKILLS

- Database & Office Software: Excel, Word, PowerPoint, Access, FileMaker 8 Pro Advanced, FileMaker Mobile 8, Apple Remote Desktop, Oracle 10g, Oracle Server 9i, TOAD SQL
- GIS and Cartographic Tools: ArcMap, ArcIMS Server, Maptech Marine Navigation Suite
- Oceanographic research tools: Seabird CTD, finfish sampling, plankton sampling using towed plankton nets and vertical closed-open-closed nets, Simrad Ecosounder

MEMBERSHIP, TRAINING & CERTIFICATIONS

- International Union Conservation of Nature, World Commission on Protected Areas 2012-Present
- Society for Conservation Biology 2009-present
- Society for Marine Mammalogy 2001-present
- National Marine Educators Association 11/1999- present
- American Elasmobranch Society 1998-present
- Divers Alert Network 06/1996-present
- IT Project Planning, NOAA, 02/2006
- New Leader Program, U.S. Department of Agriculture Graduate School, 10/2005
- Creating Successful Exhibits, Association of Zoo and Aquariums, 2/2005
- Captain 100 Gross Tons, United States Coast Guard, 10/2002, issue #2, 07/2007
- Divemaster Diving Certification, Professional Association of Diving Instructors, 08/1998

PRESENTATIONS AND PUBLICATIONS

Levenson, J. Smith, J. Amir, O. Development Of A Humpback Whale (*Megaptera novaeangliae*) Entanglement Mitigation Strategy for Artisanal Gillnet Fisheries in Zanzibar, Tanzania, East Africa. Poster presentation to the Biennial Conference of Marine Mammals, December 2011

Thompson, M., Levenson, J., Wiley, D., Pace, R., Automatic Identification Systems and Ship Speed Compliance and Commitment. Presentation to the Society of Marine Mammalogy AIS and Conservation workshop, Tampa, Florida. December 2011

Wiley, D.N., Thompson, M., Pace, R., Levenson, J. Modeling speed restrictions to mitigate lethal collisions between ships and whales in the Stellwagen Bank National Marine Sanctuary, USA. *Biol. Conserv.* (2011), doi:10.1016/j.biocon.2011.05.007

Levenson, J., Real Time Vessel Transmission of Ship Strike Regulations- A Pilot Project. Presentation to the International Cruise Ship Association Annual Meeting, Miami, Florida. March 2011

Thompson, Michael, Levenson, Jacob; Using long-term datasets to realign the Boston Traffic Separation Scheme reducing the risk of ship strike to right and other baleen whales. Presentation to the European Cetacean Society, Cadiz, Spain. March 2010

Protecting whales around the world, an overview of threats and what divers can do. Boston Searovers, Boston, MA March 2009

Whale Watching Guidelines and Code of Conduct, Presentation to Icewhale, the Icelandic Whale Watching Association, Isfjordur, Iceland 2009

Levenson, J. Marketing Responsible Whale Watching, Presentation to Icewhale, the Icelandic Whale Watching Association, Selfoss, Iceland. May 2008

Levenson, J., From Ocean Literacy to Ocean Advocacy, Promoting Conservation Action in Science Education, Presentation to the National Marine Educators Association Annual Conference, Savannah, GA June 2008.

Levenson, Jacob 2007. Site Fidelity and Migration of Striped Bass in Salem, MA. Demonstrating the Effectiveness of Community Participation in Fishery Research. Presentation to the National Marine Educators Association Annual Meeting.

Levenson, J., 2006 Geographic Information Systems as a Tool to Verify Data Submitted Through Fishing Vessel Trip Reports, Poster Presentation. Massachusetts Institute of Technology Geographic Information System Conference.

GRANT AWARDS

Disney Friends for Change, Integrating Satellite Telemetry Of Leatherback Sea Turtles Into Classroom Education. Principal Investigator (2009-2010). \$50,000

Davis Conservation Fund, Conservation Message Transmission Via Automatic Identification System, Principal Investigator (2008) \$10,000

Davis Conservation Fund, Development of a mobile app for real time warning of whales presence to shipping industry in the Boston Traffic Separation Scheme. (2010) \$10,000

Reichart Foundation, Striped Bass Site Fidelity and Migration, Development of a Citizen Science Tagging Network (2001) \$3,500

4.7 Work Plan

Work Plan																		
Activity	Output	Months												Responsible	Indicator	Budget		
		1	2	3	4	5	6	7	8	9	10	11	12			WHMSI Funds	Co-Financing	Total (US\$)
1.1. 'Cloud' Based Biogeographic Sighting Database Development																		
1.1.1	Mobile Sighting App Developed	x	x	x										McGlincy	Beta Versions of Mobile App Available for Testing by Month 3 and released to international app stores as a free download for Caribbean and Central American Whale Watchers	\$8900	\$9000	\$17900
1.1.2.	Summary report of photo-id workflow	x	X	X										Parnell Francis	Summary report of photo-id characteristics completed	\$1000	\$750	\$1750
1.1.3	Web site for photo-id analysis completed			x	x									Zetterlind	website for data collection goes online	\$3500	\$5000	\$8500
1.1.4	Uploading of historic sightings data from Dominica and other Caribbean and Central				x	x	x	x						Parnell Francis	Historical cetacean sightings and photo-id data from divergent databases is now online.	\$1000		\$1000

4.7 Work Plan

network of sightings data captured															Francis	photo-id and sightings data captured continues to increase			
Total:																	\$20000	\$35250	\$56250

Budget Item	WHSI Funds	Matching CaribWhale	Matching EarthNC	Matching (other)
Cloud Based Biogeographic Sighting Database Development				
McGlinicy Salary \$150 per hour	\$8,900		\$9,000	
Web Enabled Database Functionality				
Parnell Francis Salary \$12.50 per hour	\$1,000	\$750		
Zetterlind Salary \$150 per hour	\$3,500		\$5,000	
Uploading of historic sightings data				
Parnell Francis Salary \$12.50 per hour-200 hours total	\$1,000			
Training and Outreach				
Outreach material development				
Simon Walsh Graphic Designer \$100/hr for 20 hours	\$ 1,000.00	\$ 1,000.00		
Printing and Photocopies	\$ 450.00			
Outreach Distribution				
Postage	\$ 250.00			
Online Web Hosting			\$ 100.00	
Telephone	\$ 350.00	\$ 350.00		
Meeting Registration Fees	\$ 250.00	\$ 250.00		
Flights (2)	\$ 2,100.00			\$ 500.00
Per Diem (10 days) \$110 per day	\$ 1,000.00			\$ 100.00
Miscellaneous Travel Expenses	\$ 200.00			
Errol Harris Salary \$25 per hour for 180 hours total				\$ 5,000.00
Levenson Consulting Hourly Rate \$75/hr 133 hrs total				\$ 10,000.00
Training Course Venue		\$ 500.00		
	\$ 20,000.00	\$ 1,750.00	\$ 14,000.00	\$ 15,600.00

Total WHSI Funds Requested	\$ 20,000.00
Total Matching Funds	\$ 31,350.00
Total Project Cost	\$ 51,350.00



Annex 1: Document proving the legal existence of your Organization

(see attached)

Works Cited:

Borobia, M. 2005. Major Threats to Marine Mammals of the Wider Caribbean Region: A Summary Report. (UNEP(DEC)/CAR WG.27/INF.4)

Harwood, J. 2001. Marine mammals and their environment in the 21st century. *Journal of Mammalogy* 82: 630-640.

Katona S. and Whitehead H.1988. Are Cetacea ecologically important? *Oceanogr Mar Biol Annu Rev* 26:553-568

Roman J, McCarthy JJ (2010) The Whale Pump: Marine Mammals Enhance Primary Productivity in a Coastal Basin. *PLoS ONE* 5(10): e13255. doi:10.1371/journal.pone.0013255

Reeves, R. 2005. Distribution and Status of Marine Mammals of the Wider Caribbean Region: An Update of UNEP Documents. (UNEP(DEC)/CAR WG.27/INF.3)

2009 Whale Watching Worldwide: Tourism numbers, expenditures and economic benefits. A special report from IFAW – the International Fund for Animal Welfare

IUCN, 2004. Recommendations from the 4th World Parks Congress. Available from: www.iucn.org/themes/wcpa/wpc2003.

Ward, N., Moscrop, A, and Carlson, C. 2001. Elements for the Development of a Marine Mammal Action Plan for the Wider Caribbean : A Review of Marine Mammal Distribution (UNEP(DEC)/CAR IG.20/INF.3)

Ward, N. and Moscrop, A.. 1999. Marine Mammals of the Wider Caribbean Region: A Review of their Conservation Status. (UNEP (WATER)/CAR WG.22/INF.7)