Submission form for Ocean-Shot Concepts-Round 2

Response ID:47 Data

1. (untitled)

1. Ocean-Shot Contact Information: *Note - This information will be shared with the National Committee for the Ocean Decade in order to receive feedback. It will also be made publicly available if the Ocean-Shot concept is accepted into the Ocean-Shot Directory.

Primary Contact Name (First & Last) : Tamara Kahn
Organization : Spiral Pacific
Email address : tamara@ladybluetech.com

2. Ocean-Shot Title

Chasing Unicorns: Exploring the most remote corners of the Pacific Ocean for the Elusive Ginkgo-toothed beaked whale

3. Author(s): *Please list contributors to the submitted Ocean-Shot concept with first and last names in the order you wish them to be referenced for *potential* use in the Ocean-Shot Directory. Examples can be found here:

Cynthia Matzke, Robert Fitzgeralrd, Tamara Kahn, Dominique Barnes, Debi Kilb

4. Ocean-Shot Directory Summary (Please provide a short introduction/description of the Ocean-Shot concept for *potential* use in the Ocean-Shot Directory, 100 word limit. Examples can be found here.):

Spiral Pacific is on a mission to be the first scientists to confirm the existence of Ginkgo-toothed beaked whales in the Great Pacific Garbage Patch. Ginkgodens are an extremely rare species of whale with most information collected from dead specimens washed ashore. Our expedition will create marine science history and foster change by producing compelling and effective media that will engage students, policy makers, scientists and innovators to create sustainable solutions to plastic pollution, marine stewardship, and invasive species. Additionally, the expedition will create a data pool for scientists, educators and students worldwide expanding today's limited information on the Ginkgodens.

5. Abstract (describe hypothesis, scientific and/or technological objective, 200 word limit):

In 2014 we captured photographs of what scientists believe is the first-ever reported live sighting of the elusive Ginkgo-toothed beaked whale (Mesoplodon ginkgodens) in the Great Pacific Garbage Patch (GPGP). Today, we are preparing an expedition to be the first scientists to gather biological data to confirm the existence of this species of whale in the GPGP. We will deploy passive acoustic arrays and monitor for sound while conducting visual surveys organized by our Marine Mammal Observers team. We aim to capture surface images using cameras and drones to get a positive identification underwater and above. We will also use a whale research platform termed Hydro Video Acoustic Logger (HVAL), which we developed in 2019. HVAL consists of a handheld frame with two omni-directional hydrophones, a small 4K video camera, and sensors for collecting data on water GPS location, pH, salinity, wave height, and temperature. HVAL is designed to capture whale bioacoustic data with the goal of isolating and identifying which individual animal is echolocating. Additionally, we will process seawater from areas active with whale bioacoustics to look for environmental DNA or eDNA. Capturing eDNA of the targeted species would be compelling evidence of its presence in the GPGP.

6. Please select the challenges (no more than 3) that are most relevant to your concept (Expanded reference below):

Challenge 2: Understand the effects of multiple stressors on ocean ecosystems, and develop solutions to monitor, protect, manage and restore ecosystems and their biodiversity under changing environmental, social and climate conditions.

7. Describe how your Ocean-Shot addresses the selected challenges (150 word limit).

We believe imagery is a powerful way to bring the wonders of the ocean to the center of people's mind.Gathering compelling still and video footage of our journey through the Pacific ocean we begin documenting plastic pollution and cataloging the encountered marine life to better understand the ecosystem of the vast ocean. Here, we tell a visual story through a series of documentaries of our expedition and encounters with, for example, debris rafts in the great pacific garbage patch accumulation zone. We also record recruitment and reproduction for various marine species living in this region, document

invasive species that represent a major threat to coastal ecosystem dynamics and track human-caused stressors to the ocean. Over the past 7 years we have been sharing these media with the scientific community, educators and partner organizations to more quickly disseminate information on ocean health as well as needed conservation and restoration efforts.

8. Vision and potential transformative impact (200 word limit):

Knowledge is power. Information exchange that correctly sifts fact from fiction is a crucial step in improving the health of our oceans. We already know who is sitting at the table in terms of ocean stewardship, a primary aim is to increase the reach to those who don't know much about the topic, those who might likely share our passion for our oceans and those who can help us take action to improve ocean health. Specifically, we focus on digital storytelling that uses underwater, drone and high-resolution video footage, and pinpoints problems and potential solutions. Use of these techniques is proven as effective calls to action, resulting in beach cleanups, elimination of straws from certain establishments and a reduction in the use of plastic shopping bags, to name just a few. Storytelling informs. This creates discussion. And discussion leads to further interest, action and policy.

9. Realizable, with connections to existing U.S. scientific infrastructure, technology development, and public-private partnerships (150 word limit):

Our team is multifaceted and includes high-level scientists, communication and media specialists, musicians, artists and educators. In this way, we have already been building bridges between disciplines. Through this team, we have been engaging with academic, nonprofit, and corporate project partners that have access to vessels (international racing teams), equipment, media streams (e.g. Akaku.org) and scientific data and imagery (e.g. NOAA) and We continually strive to enhance communications with our project partners and potential partners, to leverage different talent pools and to avoid duplication of effort.

10. Scientific/technological sectors engaged outside of traditional ocean sciences (100 word limit):

Improving ocean health extends beyond fish. This means that broadly, education, sound engineering, energy, sustainable food and agriculture, the film community and public as a whole, are feasible audiences. Moreover, our mission takes us to the far reaches of the Pacific, a challenging target. Communicated enthusiastically, this will intrigue a broad range of industries. And some - the international sailing community who can provide vessels, corporations in any industry looking for plastic reduction and clean up solutions or even the beauty industry that depends on biodiversity and algal ingredients - are keen to participate/support directly.

11. Opportunities for international participation and collaboration (100 word limit):

The GBGP is located in International waters, so international participation is inevitable. We'll need governments and their agencies as well as international corporations (e.g. companies focused on ocean plastic solutions, sailing teams engaging in conservation efforts for the benefit of their sport). We will also work with the scientific community already studying ginkgo (e.g. Australia), invasive species and the GPGP.
Additionally, translators for communication material. The benefits of a participant translating instead of a computer program like Google Translate include more accurate information exchange and expanded scope via the translator's contribution to the conversation.

12. Develops global capacity and encourages the development of the next generation of ocean scientists (100 word limit):

To bring more next-gen into ocean sciences requires ingenuity. An angle that we have found extremely successful is instigating an arts focus, which complements the science. In this way, we have created a new conduit of talented artists who can help inspire and create video vignettes that can reach a broader audience. We have found that interdisciplinary collaboration takes the conversations to a higher level and ultimately results in an uptick in the public's conservation take-action participation and success rate.

2. Thank You!

Thank You Email

Jul 01, 2021 20:08:12 Success: Email Sent to: tamara@ladybluetech.com