OCEANS X LABS

BUSINESS CASE

INNOVATING AND ACCELERATING OCEAN CONSERVATION

A JOINT INITIATIVE OF

CONSERVATION X LABS

WWF

Transformative approaches are needed to sustain the planet's oceans. Oceans X Labs is a model that will engage the best of our planet's thinkers out to the far edges of possibility.

CONSERVATION X LABS

WWF

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OUR VISION

Our oceans are failing, and ocean conservation efforts are barely slowing the decline. Yet the ocean is essential to our survival, and we rely on it for health, wealth, and happiness. Human ingenuity has magnified our ability to extract value from the oceans. But that same ingenuity has not been applied to ensure that ocean ecosystems can survive the demands placed on them by seven billion people. "Innovative" oceans conservation efforts are emerging across the world in pilot projects but these approaches have not yet scaled. New conservation solutions and approaches are essential.

Oceans X Labs will be the world's first conservation incubator/accelerator designed to develop scalable innovations for oceans conservation. Oceans X Labs has been launched to dramatically increase the volume, scale, and pace of solutions to address the enormous challenges facing oceans today. Our goal is to identify high-risk, high-impact innovations that can transform oceans conservation.

Oceans X Labs will:

- **source** innovation and new technology applications from across the globe;
- **prototype** and develop innovations into products and enterprises;
- **accelerate** those enterprises to achieve scale; and,
- **inspire** people to join the movement.

Within three years, we intend to identify, incubate, and accelerate 30-45 new innovations, products, and enterprises that will transform oceans conservation, starting in the areas of aquaculture, overfishing, and coastal resilience. Our objective is that at least three to five innovations receive follow-up investment, become profitable, and get acquired — or scale —within three years.

Oceans X Labs is a joint initiative of World Wildlife Fund (WWF), one of the world's leading conservation organizations, and Conservation X Labs, a conservation innovation startup. The initiative is led by Alex Dehgan, the CEO of Conservation X Labs and former Chief Scientist of USAID; Brad Ack, the Senior VP of Oceans at WWF; and Paul Bunje, the head of ecosystem prizes at the X Prize Foundation and the co-founder of Conservation X Labs. The initiative is supported by a strong team of conservation technologists, explorers, field conservationists, and market-based conservation experts.

Oceans X Labs is currently seeking **syndicate partners** who will provide core support and guidance for the initiative, and **network partners** who will provide in-kind support of various kinds and levels to help advance new technologies, enterprises, and entrepreneurs. We are raising a philanthropic investment of $6.8M to launch the incubator/accelerator and to run three cohort classes through 2018. Over time, the Oceans X Labs business model will be funded largely through self-generated revenues.

The challenges we currently face in the oceans seem insurmountable. But taking a page from the long history of innovators who have gone before, Oceans X Labs is designed to shorten and reverse those odds, by opening up conservation to makers, hackers, and technologists, inspiring and engaging people to solve big problems, and similarly propelling thinkers to the frontiers of possibility.

We invite you
to join this mission...

BUILDING A NEW MODEL FOR OCEANS CONSERVATION

I. WHY DO WE NEED A NEW MODEL?

As our planet enters a period of accelerating human-caused change, efforts to conserve and sustain its biodiversity and ecological systems are facing never-before-seen challenges. Our human footprint has grown exponentially, while our conservation approaches and solutions have largely remained linear. Conservation must be reinvented to operate at the pace and on the scale necessary to match these enormous environmental challenges.

Over the last 30 years, approaches to conservation have undergone several evolutions, that have developed on top of each other:

- **Conservation 1.0** focused on setting nature apart from people, primarily through the use of protected areas, such as national parks or marine protected areas.
- **Conservation 2.0** began to integrate people and economies back into the conservation equation, through integrating economics into conservation activities (ecosystem services) and working with markets and industry.
- **Conservation 3.0** is now about a further redefinition and transformation of conservation, mobilizing a 'tribe' of conservation visionaries, solvers, and doers who will bring a new wave of innovation to conservation by focusing on problem-solving and forward-thinking. We move away from an activity done on the margins of the human enterprise to one that explicitly accounts for human behavior and incentives, and puts them to use in the protection of biodiversity.

To get there, we must broaden the number of minds and disciplines engaged in defining and addressing conservation challenges, imagine completely new approaches, harness new technologies, engage new solvers and entrepreneurs, generate new solutions, and bring those solutions to scale using the power of markets.

II. THE NEW MODEL – CONSERVATION 3.0

Oceans X Labs exists to foster Conservation 3.0. We will harness creativity, exponential technology, and entrepreneurship to increase the efficacy, speed, and impact of ocean conservation. There are two new global realities that make this possible:

- **Information and technology have been largely democratized**. Global access to information coupled with the power of emergent technology has allowed ingenuity to potentially come from anywhere and potentially go anywhere.
- **Global markets and the power of entrepreneurs allow rapid scaling**. In other industries (i.e. public health, development), the twin engines of markets and entrepreneurship have allowed public-sector solutions to grow through the private sector.

Silicon Valley leaders coined the term “moonshot thinking” to describe the commitment and application of human capacity to a seemingly impossible task. The essence of a moonshot effort is the combination of a huge problem, a radical solution to that problem, and a breakthrough technology that just might make a solution possible. Ocean X Labs will foster moonshots in oceans conservation by coupling human ingenuity, digital connection, and the power of markets in ways never attempted by previous ocean conservation approaches.

III. THEORY OF CHANGE

We believe that harnessing creativity, exponential technologies, and the power of entrepreneurs will dramatically improve the efficacy, cost, speed, sustainability, and scale of conservation efforts. Although innovation, technology, and entrepreneurship will not alone solve the conservation problems, they will provide necessary tools for the conservation community to dramatically improve the scale and impact of its work.

The Oceans X Labs model is based on the premise that generating new solutions through involvement of more solvers, and partnering with the private sector, can create more effective approaches at decreased cost that will reach greater scale. And ultimately do so independent of philanthropy. Success will depend on partnerships with the existing conservation community, intensive support for design and iteration, and the development of enterprises and markets that will help the technologies scale.

With that context, the Oceans X initiative seeks to demonstrate the power of open innovation and bring the strengths of WWF and Conservation X Labs together to scale innovation and emergent technologies in service of oceans conservation.

The joint initiative launched in the summer of 2015 when research teams from WWF and Conservation X Labs created a “landscape analysis” of 10 Grand Challenges for Oceans Conservation that helped us understand where we could focus our energies for maximum potential on problem sets.

WHO IS CONSERVATION X LABS?

Conservation X Labs is a conservation innovation startup focused on building the conservation technology ecosystem. The company is dual structured as both a for-profit benefit corporation and non-profit, bringing together the most attractive aspects of both business models.

The organization was founded in 2015 to create, harness and scale open source approaches, and exponential technologies for conservation, and convene a new “tribe” of conservation innovators, technologists, and visionaries.

WHO IS WWF?

Operating in 100 countries with 6000+ staff, including more than 450 working solely on oceans conservation, WWF is committed to driving conservation solutions at a scale commensurate to that of planetary change. WWF has embraced innovation as a critical tool to achieve this scale.

WWF brings an ability to sharply define oceans conservation challenges, evaluate potential solutions with an ecological eye, and prototype innovation in a variety of settings through an international web of private and public sector partnerships.

The partnership was further solidified in November 2015 at the "Oceans Big Think" when we convened leaders in oceans conservation, science, industry, and innovation at Scripps Institution of Oceanography to review the landscape analysis of challenges and prioritize among the most critical problems for oceans conservation. The participants proposed starting with the challenges of aquaculture and traceability and transparency in the seafood sector. Based on the Oceans Big Think, in February 2016, with the support of the Australian Government's Department of Foreign Affairs and Trade InnovationXchange, we launched the US$2.3 million (AU$3 million) Blue Economy Challenge to rethink aquaculture.

SEE PAGE 8 FOR MORE INFORMATION ABOUT THE CHALLENGE.

OCEANS X LABS BUSINESS PLAN

I. VALUE PROPOSITION

Oceans X Labs is a virtual incubator and accelerator that will support and develop scalable and transformative conservation technology products for the oceans. We will leverage a global network of experts, exponential science and technology, and entrepreneurship to help bring new ocean conservation innovations to scale.

Since many new innovations in conservation are evolutionary rather than revolutionary, remain only prototypes, or fail to be scaled or sustained, we have built a platform that seeks to overcome the challenges innovators face in taking a transformative idea to scale.

Oceans X Labs will harness the power of a broad and diverse network of partners; and be a catalyst, connector, amplifier, and mobilizer within the ocean conservation community. We will leverage an ecosystem of institutions and individuals to effectively develop, source, test, and accelerate conservation solutions.

We will use: technical partners to help improve the design and performance of innovations; industry partners to help improve the product development pathways and provide insights into demand for new innovations; financial & business partners to help innovators get to market readiness; legal and regulatory partners to overcome barriers to scale; and marketing and storytelling experts to help improve the recognition of these innovators. Our network of conservation partners can help with the testing and iteration on the ground. Finally, we will leverage a network of existing makerspaces, universities, and innovation companies to help us identify new innovations and develop them.

Within the first three years, we intend to identify, incubate and accelerate 30-45 new innovations, products, and enterprises that will have a transformational impact on aquaculture, overfishing, and coastal resilience. Our objective is to see at least three to five of these innovations receive follow up investment or financial support, become acquired, profitable, or otherwise scale within three years.

II. OUR APPROACH-SOURCE, PROTOTYPE, DEVELOP, SCALE, INSPIRE

Working against specific, defined problems, we will **source** new ideas and approaches from university and industry labs, makerspaces, and innovators worldwide, **prototype** and iterate innovation designs, **develop** innovations into enterprises, and **scale** those enterprises to achieve financial sustainability. By sharing stories of our innovators' stops, starts, and successes, we **inspire** minds to collaborate and fuel the space with, perhaps, the next big idea.

Our success is contingent upon building an online platform and community where people want to engage so we can identify new innovations.

We will succeed by:

- **Building a global digital platform** that will support a portfolio of innovators all over the world and connect them into a global network of technical experts, investors, and partners. Through the platform, users will be able to access technical and business expertise, secure funding, and receive storytelling and marketing support, to help their companies succeed.
- **Leveraging a global network** of innovative companies, universities, labs, and makerspaces to source new innovations, help develop the ones that we select through our existing digital platforms and programs, and support the acceleration process.
- **Establishing dedicated programming**, expert councils, and boot camps to provide specially-tailored mentoring, expertise, resources, and support to innovators, to help break through their technical barriers, achieve market readiness, and get to scale.

Our accelerator platform allows us to apply the tech venture model to conservation to identify and create new innovations, transform innovations into enterprises, and create a tiered funding model to bring innovations to scale. The platform will allow us to identify innovations, provide technical and business expertise to help innovations become market ready, and launch new companies and approaches that are financially and environmentally sustainable.

A. SOURCE

Oceans X Labs will scan the globe to identify innovators using techniques such as challenges, crowdsourcing, university partnerships, directed research, and reviewing graduates of makerspaces, other incubators, and other challenges. Two methods – directed research and hosted challenges – are already underway.

In February 2016, we launched the Blue Economy Challenge to reimagine aquaculture. In the summer of 2016, we began analyzing the landscape of innovation around our core focus areas: aquaculture, overfishing, and coastal resilience.

Through these approaches, we will access a global community of solvers to invent new approaches against the core constraints of ocean conservation problems. We aim to bring new entrants, technologies, and innovations into oceans conservation, and create a new pipeline of solutions.

Our goal is to support innovative ideas that clearly target a well-defined conservation problem, and produce solutions that are both impactful and scalable

The Ocean X Labs portfolio will include only the most promising, scalable innovations. We will focus on those breakthroughs that have the potential to be transformative (a 10x or higher improvement in effectiveness compared to existing approaches), revolutionary rather than evolutionary, impactful for conservation, novel, scalable and financially and ecologically sustainable. With these standards, our selection reflects the building of organizational trust among our community of investors, industry partners, and venture capitalists.

B. PROTOTYPE

Through prototyping, we will work with innovations and emerging research and adapt their design to the challenges of the environments in which such innovations or products will work. This requires technical expertise around design and engineering, and working with a network of partners around field testing. We will source and provide such expertise in a variety of ways:

- **Open source expertise** through our online digital platform. We will support skill sharing functions and crowdsource expertise, allowing individual innovators in Oceans X Labs to access and harness the expertise of a global community of makers, engineers, biologists, coders, and conservationists to help solve specific technical challenges.

THE BLUE ECONOMY CHALLENGE

The Blue Economy Challenge is a global competition for transformative innovation in aquaculture.

The competition will identify cutting-edge innovations around sustainable feed for farmed fish; aquaculture systems designs; and creation of new ocean products for human consumption and use.

Entrants are employing technologies based on microbes, black soldier fly larvae, agriculture or food waste, and algae as an alternative for the wild fish that is currently used in feed in the aquaculture industry. Others are working to create markets for new products like algae-derived artificial shrimp.

- **Network of makerspaces and universities** by partnering with existing hacker and makerspaces (such as the Schmidt Machine Shop) worldwide and by partnering with universities, both students and faculty, to support the sourcing, iteration, and development of technologies.
- **Partnerships for field testing and design iteration** to further refine the models. We will work across the WWF Global Network, as well as with scientific and conservation associations and industry, to field test and iterate prototypes across multiple locations, in different sociocultural contexts. The goal is to evaluate technologies for their effectiveness and fit; technologies must be reliable and suitable for a given user communities' education levels, the targeted operating environments, and viable within targeted manufacturing and distribution channels

C. DEVELOP

The best accelerators involve programmatic tools and resources, a robust community of fellow innovators at different stages, and access to mentors and finance. To move the most promising ideas into products and enterprises, Oceans X Labs will help innovators and enterprises by:

1. Providing access to a team of mentors from industry, technology, and conservation;
2. Creating direct programming to help innovators create viable, scalable, and sustainable social enterprises; and
3. Building a digital incubator that will help create virtual cohorts of innovators, connect innovators to funding and expertise, and support storytelling.

Mentoring: Our mentoring program is key for transforming ideas into true conservation impact. We will access assistance and attention from our global team of mentors in industry, technology, and conservation specific to each innovator's needs. Through our digital platform, virtual office hours, demo days and digital events, we will help innovators directly interface with seed funding opportunities, technical expertise, knowledge exchanges, and crowdfunding assistance. Through in-person boot camps and other convenings, we will assemble and recruit a cross-disciplinary technical "Council of Experts" to provide real-time feedback on technical and strategic issues for each innovator, and make commitments to help an innovator address his or her core challenges.

Programming: Through boot camps, we will bring cohorts together to provide training in product development and project management. We will help innovators develop clear and compelling business cases, understand investment landscapes, and select appropriate management structures and boards. We will provide them with assistance in opportunity assessment, growth planning, customer engagement, finance, and legal compliance. Oceans X Labs will harness the storytelling capacity of its partners to help innovators use narrative structure and media productions to craft sharable, impactful, and narrative driven pitches.

Digital Platform: Finally, through our digital incubator, we will connect cohorts with each other and a larger community of experts, resources, and opportunities.

D. SCALE

The impact we need to achieve requires scale. Without gaining widespread application, innovative solutions will not change the downward trends we face in the oceans fast enough to keep up with human population growth.

Acceleration is focused on the pipeline stage when ideas have evolved beyond prototypes to working technologies with a business model that is ready for additional investment and support to get to scale and financial sustainability. This stage will focus on moving innovations to scalable enterprises, including on business building, product and market validation, go-to-market strategy, and seeking growth investment.

As part of the scaling process, we will connect innovators with private industry, venture capitalists, angel investors, and philanthropists to provide them with access to markets and capital. We will also host demo days and tech fairs.

Finally, we will devote significant attention and effort to scaling with support from the virtual community of conservation innovators we will be building, as well as from WWF and other conservation non-profits, bilateral and multilateral donors, philanthropy, and, most importantly, through each innovation's or enterprise's own profitability and attractiveness to the private sector.

E. INSPIRE

Innovation is also about people and meaning. Going from idea to enterprise requires individual drive to make change and find meaning in one's work. Once that drive and heart is identified in a few key innovators, we can harness their emotional journey to inspire others via storytelling. Sharing emotional stories of rising innovators and technological potential can empower people who have transformational ideas but have yet to enter the innovation space. Since ideas are the fundamental input to our Oceans X Labs conceptual model, new entrants into the innovation space are key to our sustained conservation impact.

Oceans X Labs, harnessing the power of its partners, will do strategic storytelling, in part by producing and editing videos for the Oceans X Labs digital platform that contain technical training or business coaching for innovators. We will also identify and document the innovation progress of two to three vetted "characters" from each Oceans X Labs cohort to make compelling innovator profiles. Digital media expertise will be available to help selected innovators tell their stories for pitch sessions, crowdfunding campaigns, and Oceans X Labs showcases.

WWF field offices will help innovators prototype in the field while Oceans X Labs staff document the process. These field-based stories will be produced for video aggregator platforms, like

Upworthy and BuzzFeed, and will be curated for the social media platform Snapchat and Instagram. These strategic storytelling efforts will be field-based, emotionally rich, and narrative-driven – presenting innovators "on location" at troubled ocean spots. The visual content will tap into the adventure, outdoor, and conservation visual media spaces occupied by WWF and dominated by others like National Geographic, Patagonia, and Smithsonian. The results will be a significant increase in traffic driven to the Oceans X Labs digital platform and a visual brand that aligns our innovation work with popular attention to ocean issues.

IV. PARTNERS AND RESOURCES

To achieve a maximum acceleration model for Oceans X Labs, we need to build and leverage a network of makerspaces, incubators, investors, conservation organizations, industry, university research and engineering institutions to support the sourcing, prototyping and iteration, development, and scaling of oceans innovations.

Potential initial partners include the Schmidt Technology Fund, Microsoft, Scripps Institute of Oceanography, Singularity University, Google, and Duke University.

Partners can engage in two ways:

- We are recruiting a set of three to five **syndicate** partners who will provide core support and guidance to Oceans X Labs alongside WWF and Conservation X Labs. Syndicate partners will contribute core funding, co-create the overall effort, and provide expertise and resources to the platform. The missions of syndicate partners may benefit directly from participation with the Oceans X Labs platform.
- We are also recruiting a set of **network** partners who will help source new innovations, provide mentorship and technical expertise to innovators, support prototyping and iteration, and help bring new innovations to scale through acquisition, follow-up investment, or partnerships.

V. KEY PERFORMANCE INDICATORS

Oceans X Labs will measure success in the following ways:

Developing the Oceans X Labs platform and network.

- Through our digital platform, we will bring together 1,000 conservationists, engineers, and solvers to create a new community of practice around innovation for oceans conservation by 2018.
- We will use the platform to source and catalogue innovations and products for oceans conservation that will help create new markets to advance conservation technology for our oceans.
- We will create a novel network of conservation organizations, innovation firms, industry partners, academic and research institutions, and finance and funding partners that can support the development of conservation technology. This community of practice will reinforce and expand our pipeline.

Bringing transformative new innovations to scale.

- By the time our third cohort class graduates (Q3 2018), we will have identified and accelerated 30-45 new innovations, products, and enterprises that can have a transformational effect (10x improvement) on conservation and sustainability outcomes for aquaculture, overfishing, and coastal resilience.
- Three to five of these cohort graduates (10%) will receive follow-up investment, become profitable, and get acquired (or scale) within three years of graduating our accelerator.
- Initial grant investment will have been leveraged 4x through private sector investment and finance, or crowdfunding within five years of launching the accelerator.

FINANCIAL PLAN

Oceans X Labs is raising a philanthropic investment of $6.8M to launch the accelerator and run our first three cohort classes through 2019. We are also seeking technical and physical in-kind support to launch the accelerator. The long-term plan is to build a model that is self-financing

I. SHORT-TERM PHILANTHROPIC CAPITAL FUNDING

We project that it will cost $6.8M to launch the accelerator and graduate three cohort classes by the middle of 2019. WWF and Conservation X Labs have already invested and raised $700K of funding for this venture, and leveraged an additional $250K of technical expertise and investment. Please see the budget in the Appendix.

As previously mentioned, we are looking for a set of three to five **core partners** for the Oceans X Labs platform who will provide core support and leadership; and a larger set of **network partners** who, through in-kind support, can help source new innovations, and provide mentorship and technical expertise to innovators.

Core support will be used to defray the costs of the digital platform and programming, provide small funds for innovators to participate in the platform, support acquisition of IP, support engagement of network partners, and fund original content creation to share the stories of our innovators through video and social media.

In-kind support will include access to expertise (technical, marketing, and business knowledge) and resources (e.g., accelerator or incubator space) and will be critical to our success.

Our goals through such partnerships include: helping us shape critical problems and defining breakthrough solutions; sourcing and selecting the most transformative solutions; applying expertise and resources to help innovators and ocean entrepreneurs overcome key barriers; and creating commercialization pipelines, including the scaling up of key innovations.

II. LONG-TERM REVENUE STREAMS

Over the long-term, our model ties our financial sustainability to the success of the companies that graduate from our accelerator. The vision is to build a model that is largely self-financing.

The following revenue streams could support the future financial sustainability of the accelerator. These revenue streams will be pursued in a staged effort over time.

- **Program tuition costs** for our accelerator program once the model has been proven, we have established a strong brand, and we have demand in excess of the number of slots for each cohort.
- **Revenue sharing agreement** after a company graduates from the accelerator. This revenue stream can only be developed once the accelerator has a track record of success with launching companies that go on to be financially successful. Starting this program too early will detract people and companies from participating.
- **Corporate Sponsorships**. Partnerships with corporations to develop new classes of innovations that can improve their sustainability, supply chains, and products, which underwrite the cost of developing, prototyping, and accelerating new ideas.
- **Equity**. Oceans X Labs may request 5% equity for participation within the accelerator. If a company is successful, and increases in its valuation, such equity stakes could be reinvested within the accelerator.

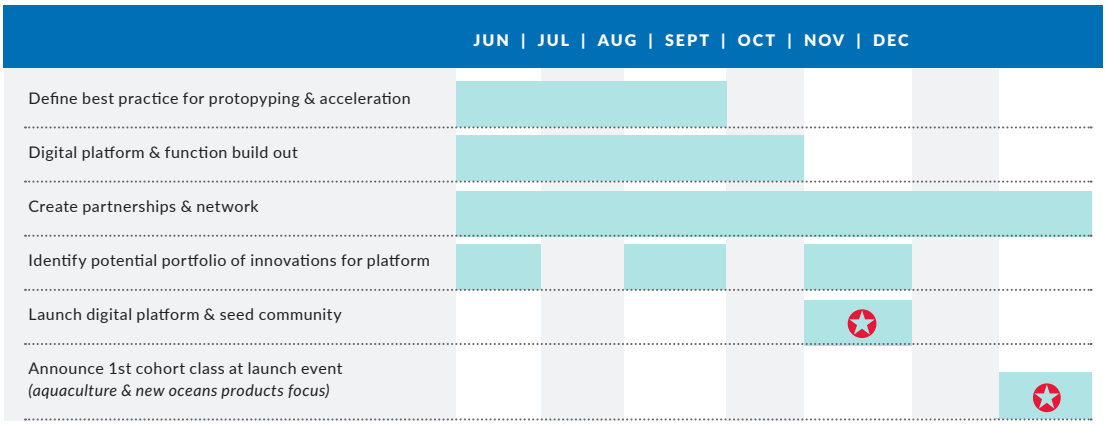
APPENDICES

APPENDIX A.

PROJECT SCHEDULE 2016 – 2018

indicates key milestones

PROJECT SCHEDULE 2016



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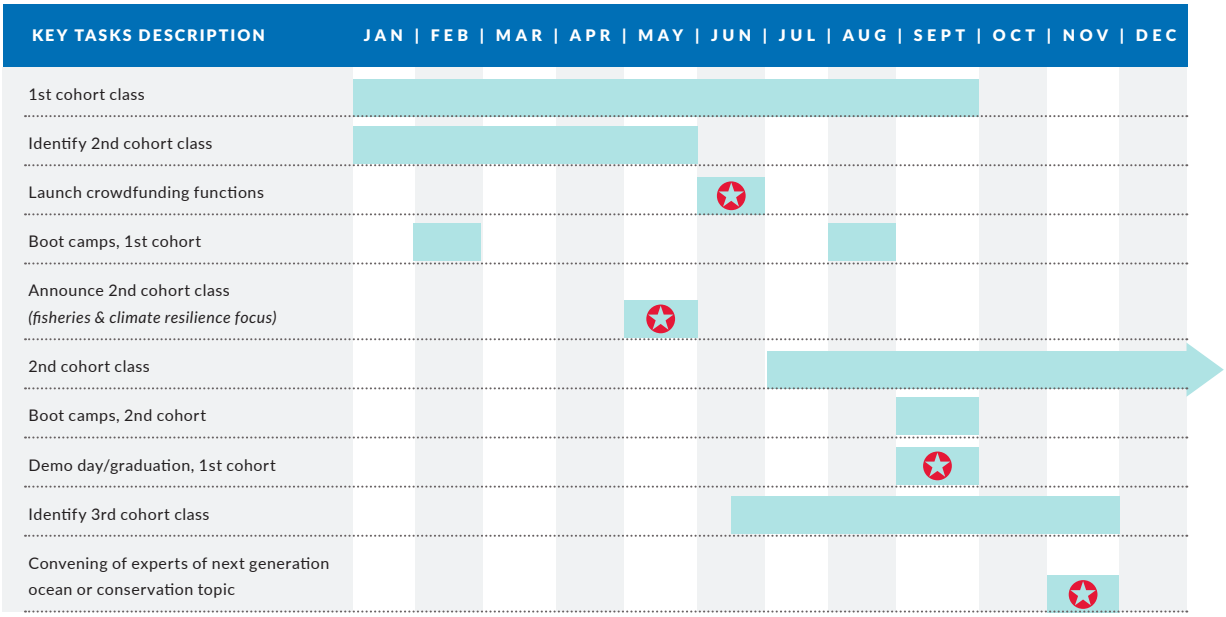
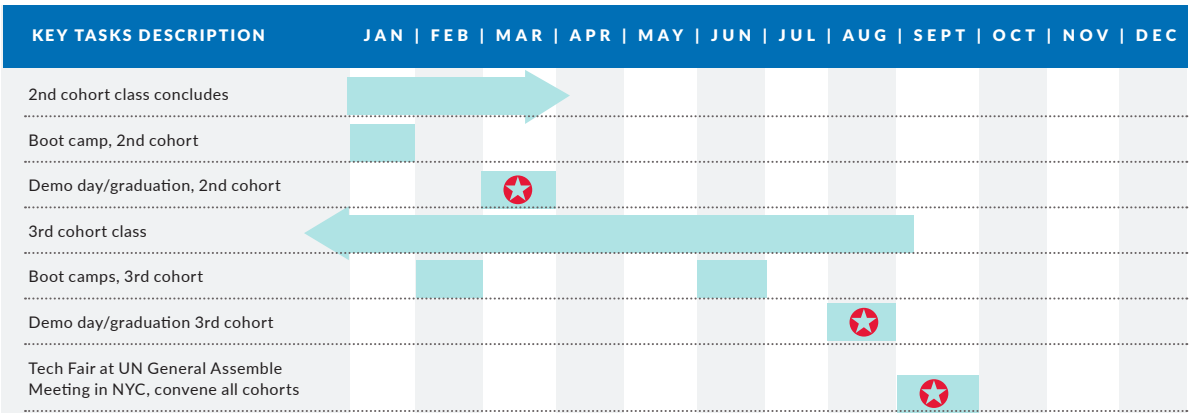


PROJECT SCHEDULE 2018



APPENDIX B.

BUDGET

APPENDIX C.

LEADERSHIP TEAM BIOS

BRAD ACK

Senior Vice President, Oceans, World Wildlife Fund

Brad Ack leads the WWF-US Oceans program, overseeing a talented team that works on accelerating the global transition to sustainable fisheries and protecting resilient marine ecosystems around the world. Throughout his career, Brad has worked on a wide range of conservation and sustainability initiatives across many geographies, biomes, and issues. In the State of Washington, he served two governors as Executive Director for Puget Sound clean up and recovery, leading a broad public-private partnership dedicated to restoring the Sound. Following that, he worked for the Marine Stewardship Council as Regional Director for the Americas, and then as Global Director of Strategic Initiatives. Brad holds a Master of Sciences degree in Foreign Service and International Development from Georgetown University in Washington, D.C. and a B.A. in Political Science from Macalester College in St. Paul, Minnesota.

ALEX DEHGAN

CEO and Co-Founder, Conservation X Labs

Alex Dehgan is the CEO and co-founder of Conservation X Labs, a conservation innovation startup. Dr. Alex Dehgan recently served as the Chief Scientist at USAID, with rank of Assistant Administrator, and designed and cofounded the Global Development Lab, the Agency's DARPA for development. Prior to USAID, Alex worked in multiple positions within the Office of the Secretary, and the Bureau of Near Eastern Affairs, at the Department of State. At State, Alex developed political and science diplomacy strategies towards addressing our most challenging foreign policy issues in Iraq, Egypt, and the greater Islamic world, including engagement with Iran under the Obama Administration with Amb. Dennis Ross. As head of the Wildlife Conservation Society Afghanistan Program, Alex helped create Afghanistan's first national park. Alex holds a Ph.D. and M.S. in Evolutionary Biology from the University of Chicago, a J.D. from the University of California, Hastings College of the Law, and a B.Sc. in Zoology and International Relations from Duke University.

PAUL BUNJE

Co-Founder, Conservation X Labs and Principal and Senior Scientist, Energy & Environment, X Prize

Paul Bunje brings substantial expertise in technology, conservation, science policy, and broad public engagement to the mission of transforming conservation through innovation. Paul was the founding Executive Director of the UCLA Center for Climate Change Solutions and the founding Managing Director of the Los Angeles Regional Collaborative for Climate Action and Sustainability. He is a member of the World Economic Forum's Global Agenda Council on Oceans, and serves as an advisor and board member to several environmental organizations. In 2013, the American Association for the Advancement of Science selected Paul as one of its "40 at 40" fellows, to recognize individuals who have made exemplary dedication to applying science to serve society. Paul holds a Ph.D. in Biology from the University of California, Berkeley and a B.S. in Biology from the University of Southern California.