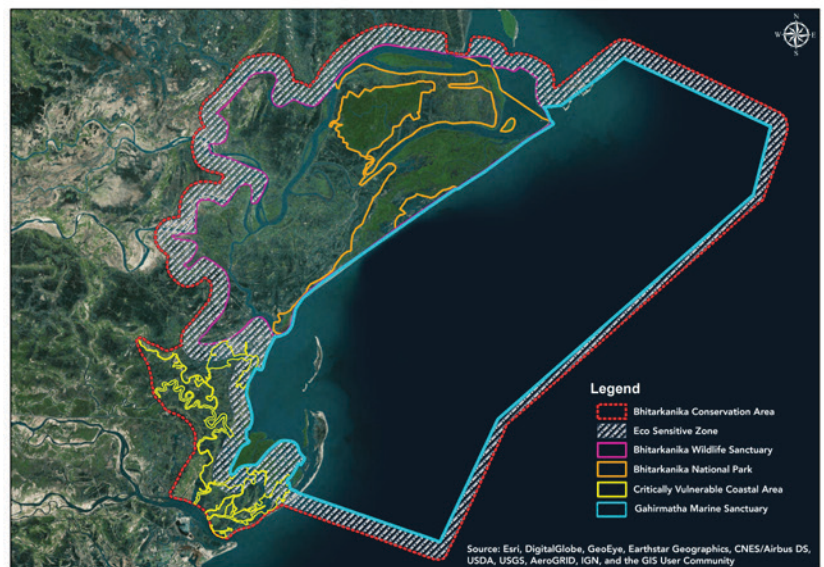# Bhitarkanika Conservation Area Report Card Workshop Newsletter

February 6–7, 2019 Stakeholder workshop summary

This newsletter summarizes outputs from the initial stakeholder workshop to develop the Bhitarkanika Conservation Area Report Card. The workshop took place between 6–7 February in Bhubaneswar, Odisha, India. More than 40 diverse stakeholders came together at this workshop to define the scope of the Bhitarkanika Conservation Area Report Card, create a shared vision for the future of Bhitarkanika, and discuss indicators, thresholds, and data sources for the report card.

This project is a collaborative effort of the National Centre for Sustainable Coastal Management (NCSCM), Ministry of Environment, Forest and Climate Change (MoEF&CC) and the University of Maryland Center for Environmental Science (UMCES). This report card will assist Rajnagar (mangrove) Wildlife Division manage and protect a healthy Bhitarkanika National Park ecosystem.

Bhitarkanika Conservation Area is comprised of four sub-regions and the Eco Sensitive Zone. Sub-regions are Bhitarkanika National Park, Gahirmatha Marine Sanctuary, Bhitarkanika Wildlife Sanctuary, and the Critically Vulnerable Coastal Area. Credit: Dr. Gejo Anna Geevarghese.

Bhitarkanika is home to more than 1,700 saltwater crocodiles. Lalit Patnaik, CC BY-NC-SA 2.0.

Boats are the main mode of transportation into the park. Heath Kelsey.

There are eight different kingfisher species within Bhitarkanika Conservation Area. Prasanna Kumar Mamidala, CC BY-SA 4.0.

Bhitarkanika Conservation Area supports unique biodiversity

Bhitarkanika Conservation Area is home to an array of unique flora and fauna, including saltwater crocodiles, Olive Ridley turtles, fishing cats, more than 200 bird species, and the greatest floral diversity in India. In addition to supporting the wildlife of Odisha, Bhitarkanika Conservation Area is a vital economic resource for surrounding communities. The 62 mangrove species in Bhitarkanika sustain fish populations and provide protection to their inhabitants from storms, floods, erosion, and saltwater intrusion.

Bhitarkanika has a long history of protection and preservation, however, outside pressures still threaten the fragile balance of this critical ecosystem. Increasing aquaculture and agricultural activities, alterations of freshwater flows, coastal erosion, and climate change all undermine the balance of Bhitarkanika Conservation Area's ecosystem. Unless action is taken to address these threats, we risk losing the benefits that this ecosystem and the mangroves provide.

Developing an ecosystem health report card for Bhitarkanika Conservation Area is the next step in preserving and improving this unique, important region.

Developing the Bhitarkanika Report Card

Ecosystem health report cards are high level, multidimensional assessments of complex environments. They provide a timely and transparent synthesis of information that is communicated to broad audiences. The process of creating an ecosystem health report card is stakeholder-driven, relying on local knowledge and expertise to select and evaluate relevant indicators for the report card. Report cards are great synthesis and communication products—they can be used to evaluate management actions in the region, acquire funding for restoration efforts, and educate the public about conditions in the region.

Stakeholders working together to conceptualize Bhitarkanika Conservation Area. Ravichandra Mondreti.

The process of creating a report card can be broken down into five easy steps. Step 1: Conceptualize was completed at the February stakeholder workshop. Step 2: Choose Indicators is currently underway by the project team. Between now and December 2019, the remaining three steps (Determine Thresholds, Calculate Grades, and Communicate) will be completed.
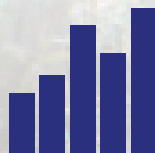
THE REPORT CARD PROCESS

1 CONCEPTUALIZE **2** CHOOSE INDICATORS **3** DETERMINE THRESHOLDS **4** CALCULATE GRADES **5** COMMUNICATE

Proposed indicators of ecosystem health

Report cards evaluate ecosystem health based on a set of scientifically-derived indicators and thresholds. Ecosystem health encompasses the chemical, physical, and biological integrity of those systems. We broaden this definition to include the social and economic values that healthy ecosystems deliver to society, as well as the health of the management and governance systems that provide an enabling environment for the maintenance or restoration of ecosystem health. Indicators that were identified during the workshop fall under three broad categories: ecological, social, and economic. All proposed indicators will be evaluated for inclusion in the Bhitarkanika Conservation Area Report Card, and many are listed below.


Ecological indicators

Bhitarkanika Conservation Area encompasses 150 km^2 of mangrove, river, delta, and shoreline habitats. These unique landscapes sustain the diverse flora and fauna of the region. To evaluate the health of these habitats and the organisms that reside here, the Bhitarkanika Conservation Area Report Card will assess a variety of ecological indicators that fall under three broad categories: biodiversity, mangroves, and habitats. Indicators proposed at the workshop must be evaluated for relevance and data availability; therefore, listed indicators in the figure to the left are not final.
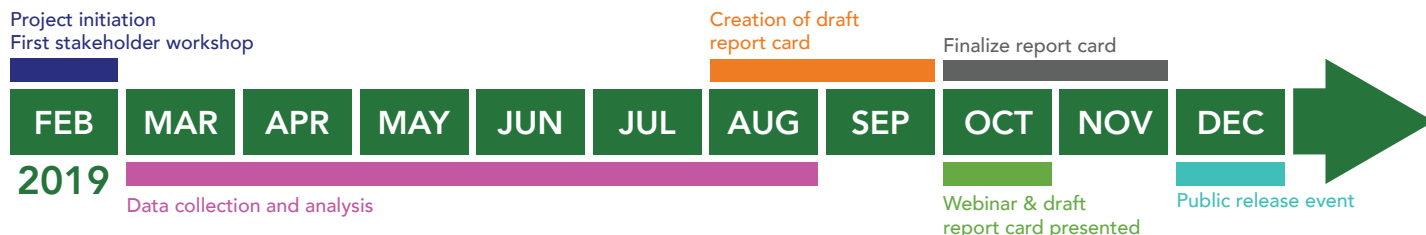
Socio-economic indicators

To produce a comprehensive assessment of health for Bhitarkanika Conservation Area, social and economic indicators in the region must also be considered and evaluated. Economic values identified during the workshop, in addition to what is pictured to the right, include agriculture, aquaculture, and ecosystem services. Societal values identified that are not listed include culture and quality of life. All indicators proposed at the workshop must be evaluated for relevance and data availability; therefore, listed indicators in the figure to the right are not final.
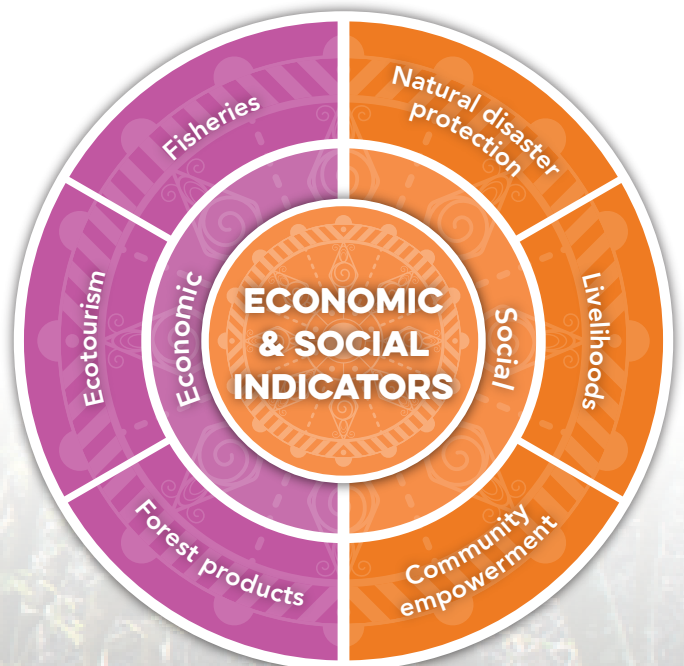
Next steps and project timeline

The development and production of the Bhitarkanika National Park Report Card is estimated to take eleven months, with the release planned for December 2019. Following the initial stakeholder workshop in February 2019, the next six months will entail collection and analysis of data for the identified indicators. A draft report card will be created between August and September 2019 based on the discussion and feedback from the stakeholder workshop. After a webinar in October in which the draft report card will be presented, the document will be revised and finalized from October to November. The final Bhitarkanika Report Card will be presented at a public release event in December 2019.

Project initiation
First stakeholder workshop

Creation of draft report card

Finalize report card

| FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC |

2019

Data collection and analysis

Webinar & draft report card presented

Public release event

Workshop participants

Professor R. Ramesh, Dr. A. K. Pattnaik, Dr. Purvaja Ramachandran, Dr. Deepak Samuel, Dr. Gejo Anna Geevarghese, Dr. Dipnarayan Ganguly, Dr. Robin RS, Dr. Gurmeet Singh, Dr. Abhilash, KR, Ms. Yogeshwari S, Mr. Debasis Tudu, Dr. Kakolee Banerjee, Dr. Paneer Selvam A., Mr. Raghuraman R, Dr. Ravichandra Mondreti, Mr. Safet Padhan, Mr. Sushanta Das, Ms. Diptimayee Swain, Dr. P.K Muduli, Smt. Pusa Zhule Mekro, Shri Bikash Ranjan Das, Shri Bimal P. Acharya, Shri Prodosh Pattnaik, Shri Prasanna Kumar Nayak, Dr. Meeta Biswal, Shri Sudhansu Sekhar Mishra, Shri Subrata Kar, Dr. Mamata Mishra, Shri Biswajit Sahoo, Shri Saroj Kumar Patnaik, Shri Chhayakanta Mishra, Shri Pravat Sutar, Shri P. K. Mohan, Shri Subrata Patra, Shri Bijay Kr Parida, Shri Amrish Nath Pradhan, Shri Sriram Arabindo Mishra, Dr. Sudhakar Kar, S. Mohapatra, Dr. P. K. Panigrahy, Dilip Kumar Mohanty, Marias Ranjam Sahri, Rasami Rojan Kobi, A. Beheror, Dr. S. S. Patri, Bijay Kumar Swain, Simon Costanzo, Katie May Laumann, Emily Nastase.

Science communication and facilitation

Simon Costanzo, Katie May Laumann, Emily Nastase, Kiri Carini, *University of Maryland Center for Environmental Science Integration and Application Network.*

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INTEGRATION AND APPLICATION NETWORK