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## EXPERT TASK FORCE TO INFORM INTERNATIONAL CRUSTACEAN FISHERIES MANAGEMENT

At roughly eight percent of global landings and 21 percent of global landed values in any given year, crustacean fisheries – such as shrimp, prawns, and crabs – are the fastest growing component of fisheries catch worldwide. Growth of these fisheries is fueled by a variety of crustaceans taking advantage of the ecological space created by overfishing of finfish and other species. As a result, coastal communities, particularly in China and Southeast Asia, are growing increasingly dependent on crustacean fisheries for seafood provisioning, jobs, and income.

Despite their economic and ecological importance, relatively few crustacean fisheries are monitored or assessed, and the assessments that are conducted differ greatly in terms of their soundness and utility for management. This stems from a lack of technical, resource, and/or governance capacity that varies by region and by fishery.

The Lenfest Ocean Program is supporting Dr. Kristin Kleisner, Environmental Defense Fund, and Dr. Yong Chen, University of Maine, to convene an expert task force with both global expertise and in-depth knowledge about crustacean fisheries in four case study countries – China, Indonesia, the Philippines, and the United States. The team will develop guidance on scientific and management approaches that could help sustain these fisheries in each of the case study countries and in other parts of the world.

### THE OPPORTUNITY TO BRING DIVERSE EXPERTS TOGETHER

China, Indonesia, and the Philippines are all currently undergoing profound transformations in fisheries management. Although the specific reform pathways are unique in each country, some common priorities are being established. All three countries call for improvements in the scientific enterprise and a stronger role for science in management, including:

- determination of biological reference points;
- monitoring and data collection systems to support scientific efforts;
- more effective harvest controls and the development of harvest control rules to meet management targets; and
- greater attention to ecosystem factors, including habitat and climate impacts.

### RESEARCH TEAM

- Dr. Kristin Kleisner, Senior Scientist, Oceans Climate Science, Environmental Defense Fund
- Dr. Yong Chen, Professor of Fisheries, University of Maine
- Bowen Chang, Marine Fisheries Partnership Coordinator, University of Maine
- Dr. Robert Boenish, Global Food Security Advisor, U.S. Department of State

A task force offers the opportunity to bring experts in science and management from these countries together with practitioners associated with crustacean fisheries assessment and management in the United States, as well as global fisheries via the UN Food and Agricultural Organization. Through cross-cultural and interdisciplinary collaboration, guidance that considers the unique life histories of crustacean species, spans a spectrum of research questions, data availability, and resource capacity settings could be developed. Scientists will evaluate different monitoring programs and assessment methods according to the needs of different fisheries, while managers can help shepherd such programs into policy and management.

## RESEARCH APPROACH

Drs. Kleisner and Chen will convene a task force of 21 scientific and management experts from the four countries and in international fisheries management. The task force will develop technical guidance on the most effective scientific and management strategies for crustacean fisheries by addressing a series of core research questions:

1. What are the unique attributes of the crustacean life history model that differentiate these species from finfish and other species important to fisheries?
2. What are the most important types of data and the most effective analytical approaches for crustacean populations?
3. What are the most effective harvest control methods and associated structure of harvest control rules for crustacean fisheries?
4. How can the effects of habitat and other environmental variables be incorporated into scientific and management strategies?
5. What are the most significant impacts of climate change on crustacean fisheries, how can these be differentiated from other environmental factors, and what are the most effective scientific and management responses?

## A Series of Interactive Convenings

The task force will work via a program of virtual presentations, interactive online discussions, and if possible, in-person workshops. Using a portfolio of approaches, including literature review, case study analysis, synthesis of expert insights, and data syntheses and analyses, the task force will cycle through the research questions over the course of four phases:

- Phase #1: Data-limited assessment approaches and associated harvest controls
- Phase #2: Complex stock assessment models and associated harvest controls
- Phase #3: Ecosystem-oriented data, models, and management strategies
- Phase #4: Synthesis of project outcomes, planning of final products and deliverables, and identification of future directions

Through these interactions, the task force will examine fisheries at different levels of data richness and scientific, management, and enforcement capacities. In addition to providing technical guidance, the task force will produce peer-reviewed publications in academic journals, as well as reports, blogs, and other summaries describing their findings.

The project began in March 2020 and runs through August 2022.

## CONTACT

For any questions, please contact Emily Knight, Manager, Lenfest Ocean Program, at [eknight@lenfestocean.org](mailto:eknight@lenfestocean.org). To learn more about this research and stay up to date on our latest projects, follow us on Twitter [@lenfestocean](https://twitter.com/lenfestocean) or sign up for our newsletter at [lenfestocean.org](https://lenfestocean.org).

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