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FISHERIES AND THE NEWLY ACCESSIBLE ARCTIC OCEAN

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From the start of human history until recenly, the waters of the central Arctic Ocean have been covered by perennial sea ice. Together with their remoteness from major ports, the ice cover has prevented any fishing activity in the region. Today, however, portions of these international waters are open in summer, raising the possibility of commercial fishing for Arctic cod (*Boreogadus saida*) and any other species that may be found there. Humans have found a way to fish in nearly all accessible waters around the globe, and many fisheries worldwide have proven unsustainable. This pattern suggests a new approach for the international waters of the Arctic Ocean: research and management before fishing.

We know today that the physical environment of the Arctic Ocean is changing rapidly. We know that the biological environment is also changing rapidly and in many ways. We do not know where these changes will lead. Analyses of the fishes of the Arctic Ocean and its marginal seas, together with an appraisal of the bathymetry of the Arctic Ocean, suggest that rapid increases in fish stocks in the central Arctic Ocean are unlikely in the near future. At the same time, the waters of the Chukchi Plateau are no deeper than fishing areas elsewhere in the world, and large schools of Arctic cod have been found in Arctic waters. While a sustainable fishery may be unlikely in international waters, a one-time fishing effort could target schools of Arctic cod that swim beyond the 200-mile limit.

Such a fishery could have far-reaching ecological effects and would undermine national fishery management efforts within exclusive economic zones (EEZs). The United States set a catch limit of zero in its Arctic waters in 2009, on the grounds of insufficient knowledge to establish an ecological surplus of fish that could be taken. Canada is setting a similar policy for the waters of its portion of the Beaufort Sea. Neither approach rules out future fisheries, should research show that a sustainable harvest is possible. A similar regime is being discussed for the international waters of the Arctic Ocean.

Whether the research needed to establish responsible fishing limits will be done is another question. In the U.S. Arctic, current fisheries research is largely driven by the need to understand and mitigate impacts from offshore oil and gas activity. There is little or no economic incentive at present to invest in fisheries research in its own right. The same logic applies to the central Arctic Ocean. On the other hand, there is considerable interest in studying the region in terms of climate change and related environmental changes. Establishing an international research program for the region, based on existing efforts and that included fisheries, would be a welcome step forward in terms of international cooperation generally and responsible fisheries management in particular.