The Process on Central Arctic Ocean Fish Stocks: Messages from the 2nd Scientific Meeting

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Arctic fish stocks science meeting; Seattle 14-16 April 2015

Pre-meetings meetings

Meeting of governments, Oslo. June 2010: what is the status of science?

1st scientific meeting, Anchorage, June 2011: No urgency, need to establish baseline data

Meeting of governments, Washington D.C., April-May 2013: Prospects for commercial fishery in areas beyond national jurisdiction?

Scientific meeting, Tromsø October 2013; not really. Need to know more.

Meeting of governments, Nuuk February 2014. Elements of agreement.

Scientific meeting, Seattle April 2015

ToR for Tromsø science meeting provided by Washington D.C. meeting

1. Baseline conditions/information needs

2. Outcomes of relevant scientific meetings

3. Future scientific cooperation

The workshop

Scientific institutions in Russia, The US, Canada, Greenland, and Norway

International organizations and programs

Expertise in fisheries biology, oceanography, marine ecology

ToR1:

Establish baseline conditions and define information needs for monitoring changes in baseline conditions which might influence patterns of distribution and abundance of finfish in the Arctic Ocean. This is viewed as a high-priority requirement.

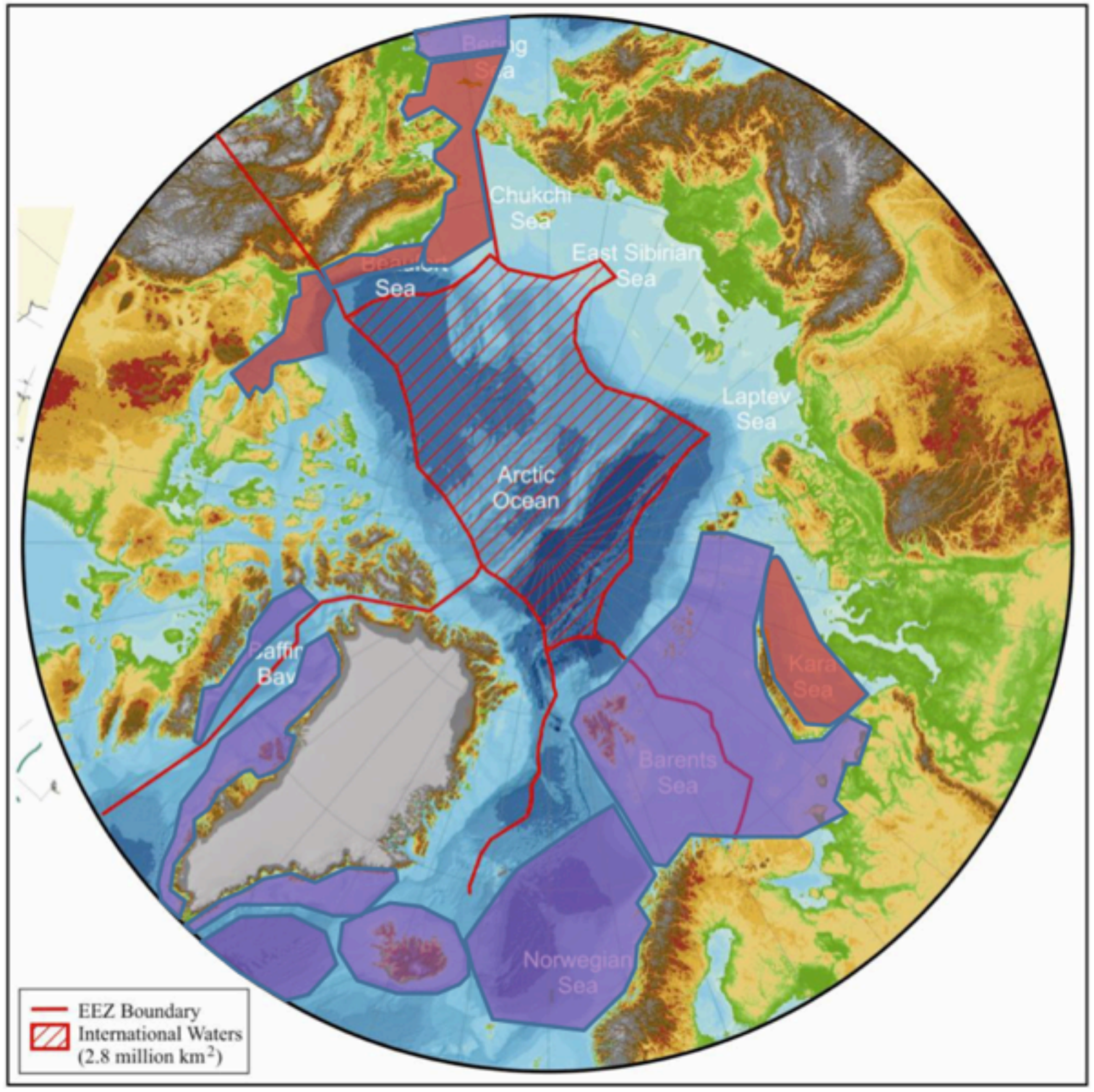
a) Current monitoring programs

- Where commercial fisheries exist, surveys are in place.

- New surveys needed in shelf areas not covered.

- Existing surveys should be extended to continental slopes, and possibly also accessible areas of the deep Arctic Ocean.

- Important synthesis activities (International Council for the Exploration of the Sea (ICES)).



Areas with established annual fish & oceanographic surveys

Areas with recent fish & oceanographic surveys

b) Evaluate survey design to ensure consistency

- Consistency with past practices priority.

- When possible, sampling should be standardized across regions.

- Workshop to evaluate methods of comparing sampling methods and gear types.

c) Survey program for the central Arctic Ocean to monitor distribution and abundance of commercial fish

- Polar/Arctic cods (*borreogadus saida*) are essential in Arctic marine ecosystems: Acoustic surveys to estimate abundance and distribution, from the shelf to at least 1500 m depth.

- Limited knowledge of biology in high seas areas: exploratory surveys on the slope and shallower parts of the central basin.

- Each country should extend existing surveys from adjacent shelves towards the Arctic Ocean.

c) continued…

- Enough production to support commercially viable fish populations? Studies to understand primary and secondary productivity.

- Joint international Arctic Basin oceanographic and fish survey, w. ice-capable vessels, to advise future potential future monitoring efforts.

- Previously unsurveyed shelf and basin areas should be surveyed periodically to document distributional shifts.

Key messages ToR1

- “Large-scale and coordinated monitoring is required as soon as possible to capture temporal and spatial variability.”

- “Demersal fish or shellfish are not expected to expand into the deep basin of the Arctic Ocean.”

ToR2

Evaluate the outcome of relevant recent scientific meetings, such as the ICES/PICES (North Pacific Marine Science Organization) workshop in St. Petersburg in May 2013, and discuss strategies to communicate outcomes regarding implications of climate change on management of living marine resources in the Arctic context

- International Council for the Exploration of the Sea (ICES) and North Pacific Marine Science Organization (PICES) workshop 2013: Climate impacts on marine ecosystems.

- Development and testing of methods for detecting changes in distribution, assessing modeling approaches, and quantifying uncertainty in projected climate-driven changes.

- Approaches to data-poor situations, regional downscaling.

- Future work - roadmap.

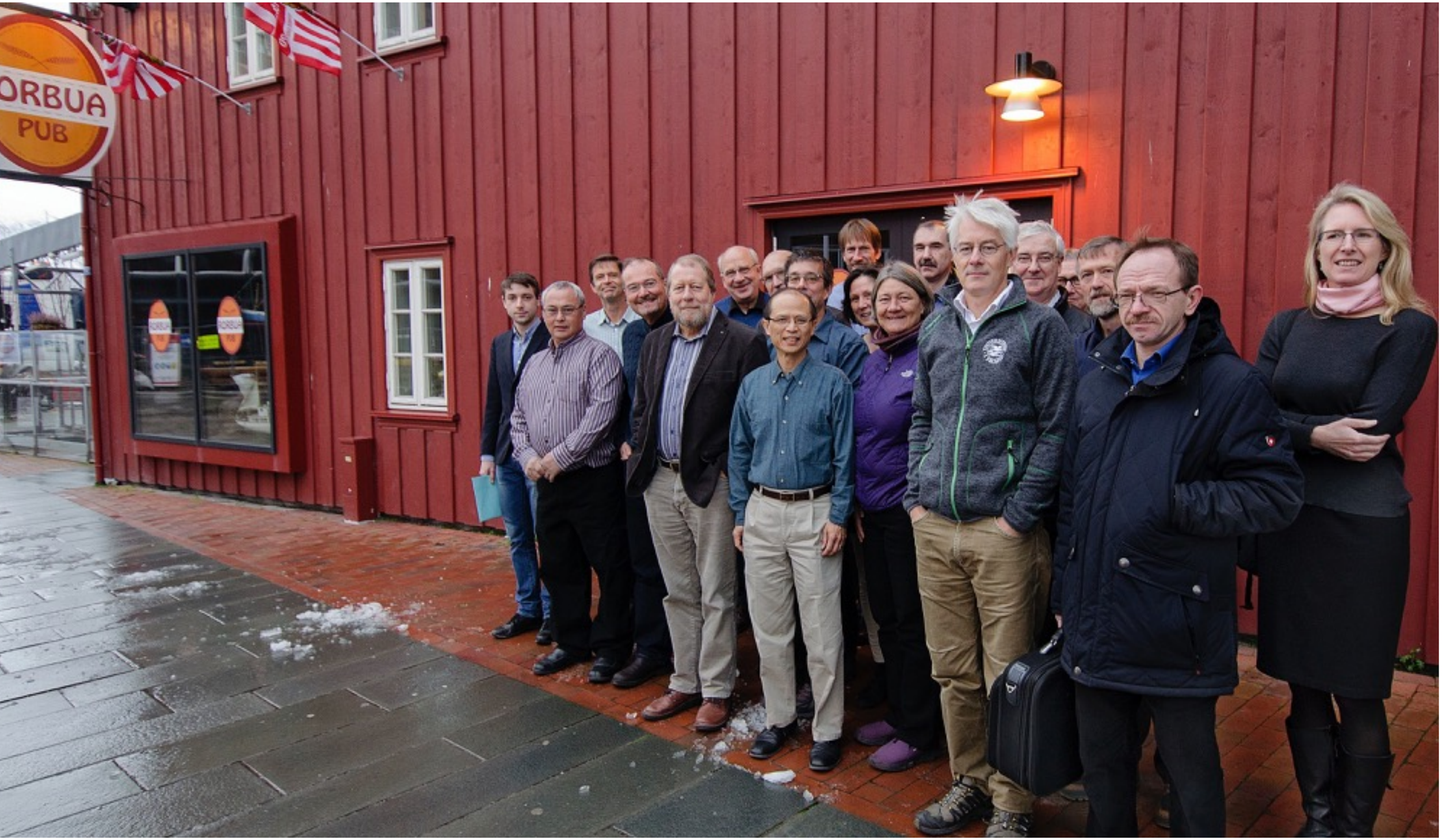
ToR3:

Consider meetings and other fora for future scientific cooperation

- High priority: assess distribution and abundance of polar cod in the central Arctic basin.

- ESSAS Annual Science meeting 2014, April in Copenhagen: synthesize current information on stock structure, distribution & biology of polar cod throughout the Arctic. (Ecosystem Studies in Sub-Arctic Seas)

- Follow-on Workshop(s) on modeling of potential changes in spatial distribution of fish stocks and their prey, discussion of methods and data, discussion of monitoring from ships of opportunity.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Meeting of governments, Nuuk February 2014