Ecosystem approach (memorandum)

Fisheries Agency of Japan

Background: (from STC submit. Doc.) Although there has no substantial pollock catch in the CBS area since 1993, no sign of stock recovery has been observed. The possible causes are:

1. Fish dispersed to out of CBS area
2. High natural mortality caused by Oceanographic change or predators such as MM,SB
3. Poor recruitment to the basin area.

Predation is an important factor of natural mortality.

Predation pressure on immature fish on the shelf region will also affect to the newly recruitment to the basin pollock stock.

How to study?

1. Retrospective study-review

   US-EIS Document

   Revise Japanese Issue Paper

2. Information exchange between other organization

   FAO

   PICES BIO (WG11)

3. Field study (data collection)

   To elucidate the predation effect to the basin stock dynamics, field study about prey-predation relationship is required.

   In the recent years, oceanographic condition changed, and pollock abundance decrease to low level. In this situation;

   seasonal distribution of predator,

   seasonal distribution of pollock,

   and their interaction

   are fundamental to carry out mortality analysis.

Feeding habit of the predator might be affected by abundance of food organisms and diet diversity of the predator. There is unclearness in the prey-predator relationship in the CBS and related area.

Comments for methhodology

Desirable cover area: CBS and related area (EBS, WBS, and AI). Bering Sea is so huge area. It is not easy to get the information about seasonal distribution and abundance of prey/predator. The difficulty in field study will be pointed out. It is quite time consuming and cost consuming. Cooperative effort and information exchange between institutes will be important in this field.

Seasonal migration: Seasonal migration is observed for fish/predator. The interaction between prey-predator relationship is important, however it is not easy to get this information from their whole life history. Some leading study in the specific experimental area will be one of the pragmatically way, if this information is available generally.

Data analysis: Lack of information about MM distribution in CBS is one of our problem. FAJ has started a study for retrospective MM distribution data analysis with using database of NRIFSF. Update effort of MM vessel observation report will be required for understanding our present situation.

Institute and staff: Predator study, especially MM study requires the specialty and experiences for the scientists/institutes.