

REPORT OF REX TASK TEAM

The REX Task Team met from 0830-1230 hours on October 7, 2001, to review the past year's accomplishments and to plan activities for 2002. The Co-Chairman, Dr. William T. Peterson, called the meeting to order and welcomed the participants (*REX Endnote 1*).

Accomplishments in 2000 - 2001

The report of the REX Workshop on *Trends in herring populations and trophodynamics* (convened in October 2000, at PICES IX in Hakodate, Japan) was published in the PICES Scientific Report No. 17.

A one-day REX Workshop on *Temporal variations in size-at-age for fish species in coastal areas around the Pacific Rim* was held October 5, 2001, in Victoria, British Columbia, Canada (in conjunction with PICES X). Approximately 40 persons attended the workshop. In total, 11 papers were presented by speakers from USA, Canada, Russia and Japan. Four presentations discussed salmon size-at-age, five considered herring, (one paper was on sardine-herring comparison), one - sablefish and one - chub mackerel.

Planned activities and recommendations for 2002

On the afternoon of October 6, 2001, REX met with MODEL. The main point of discussion was to develop a strategy for how to explicitly incorporate fish into the NEMURO model. The decision was to begin with a simple approach, to model growth of a single individual as a function of temperature and food concentration, using a bioenergetics approach. Focus will be on age-3 and older fishes since the eggs, larvae and juvenile stage live in bays and estuaries. At age-3, herring become members of coastal pelagic ecosystems. REX scientists will produce estimates of various rates including respiration, excretion and feeding as a function of

temperature and food. REX will seek these data for herring but if not available, other clupeids will be drawn upon.

REX reviewed the results of its workshop as well as the plans for the anticipated joint MODEL/REX workshop in Nemuro, Japan (*REX Endnote 2*). REX also discussed ways and means of accomplishing its work at PICES XI in Qingdao. There is a logistical problem with planning for PICES XI as there are only two days scheduled prior to the start of the PICES Annual Meeting rather than the usual three days. The following recommendations were made¹:

1. REX recommended convening a workshop on *Structure of pelagic coastal ecosystems around the Pacific Rim*. The idea of the workshop is to determine the availability of time-series data on seasonal cycles of temperature, nutrients, chlorophyll and zooplankton for as many coastal regions with herring stocks around the Pacific as possible. Since REX wants to work more closely with MODEL in the development of a "Coastal NEMURO" model, we need to

¹ Many of these issues were discussed at the CCCC-IP meeting and again following the PICES X.

- REX will not convene a workshop at PICES XI but will focus on gathering data on seasonal cycles of temperature and plankton during inter-seasonal periods. It was learned at the CCCC-IP meeting that Drs. Takashige Sugimoto and Michio Kishi were assembling these data for a review paper for the book entitled *The Sea*. They agreed to send their manuscript to Dr. Peterson as soon as it was completed. Thus, much of what REX had proposed to do will be undertaken by others.
- Since the Symposium on *North Pacific transition areas* was approved by the Science Board, REX requests funds for at least one overseas person to attend that meeting. REX also requests funds for at least one person to attend the MODEL/REX meeting in Nemuro, Japan, in January 2002.
- REX involvement at PICES XI will include participating in joint PICES/GLOBEC-INT focus group meetings, convening the REX Task Team meeting and attending the CCCC-IP meetings.

identify which regions have the best time-series data sets that can be modeled. Without good data on seasonal cycles of forcing functions we will not be able to determine how well the models are simulating zooplankton and herring dynamics. During discussions, REX listed regions of interest and suggested names of people who can be contacted for information on available data on seasonal cycles of forcing functions. It was agreed that Dr. Peterson would produce a template illustrating how one might present information on seasonal cycles, using data from the Oregon/Washington coastal zone. That template would be distributed to other REX members for comment. January 1, 2002 was suggested as the deadline for this template.

2. REX felt that it would be useful to post data on seasonal cycles of temperature, nutrients, chlorophyll and zooplankton on the PICES website, so that the data were available to a wider audience.
3. REX pointed out the need to make the NEMURO model code available to more PICES scientists, so that a greater number of people could explore the application of the model to coastal regions.
4. REX discussed potential conflicts between PICES activities and GLOBEC activities during the two-day inter-session period between the GLOBEC Open Science Meeting and PICES XI. It was resolved that if there are time conflicts, the proposed

workshop on *Structure of pelagic coastal ecosystems around the Pacific Rim* could be postponed for one year. REX recognized that the task might be too big to be completed within a one-year time frame. The Task Team agreed to let the Co-Chairmen make the decision about a workshop after the CCCC-IP meeting was completed.

5. Dr. Yoshiro Watanabe was recommended to replace Dr. Tokimasa Kobayashi as REX Co-Chairman for the next three years. The three-year term of Dr. Peterson expired but he is prepared to remain as Co-Chairman for one more year to provide some continuity in the work of the Task Team. A new Co-Chairman from U.S.A. or Canada will be selected at PICES XI in Qingdao.

Requests for travel support

REX requests travel support for two scientists: one person to attend the MODEL/REX workshop (*REX Endnote 2*) scheduled for January 2002, in Nemuro, Japan, and one person to attend the PICES Eleventh Annual Meeting. Alternatively, if REX chooses to convene a workshop on *Structure of pelagic coastal ecosystems around the Pacific Rim* at PICES XI, it would be preferable to support travel for two people to PICES XI, and REX would not request travel support for anyone to attend the workshop in Nemuro. A second alternative is to send at least one person to the proposed PICES-sponsored symposium on *North Pacific transitional areas*, to be held in late April 2002, in La Paz, Mexico.

REX Endnote 1

Participation List

Members:

Kenji Asano (Japan)
Douglas E. Hay (Canada)
Brenda L. Norcross (U.S.A.)
William T. Peterson (U.S.A., Co-Chairman)
Vladimir I. Radchenko (Russia, Co-Chairman)
Yoshiro Watanabe (Japan, Co-Chairman)
Yutaka Watanuki (Japan)

Observers:

Harold P. Batchelder (U.S.A.)
Alexander Kaev (Russia)
Mamoru Kato (Japan)
Takashi Minami (Japan)
Patricia Livingston (U.S.A.)
Akihiko Yatsu (Japan)

REX Endnote 2

REX/MODEL Workshop

REX and MODEL will jointly build a Nutrient-Phytoplankton-Zooplankton-Fish (NPZF) model of the North Pacific coastal ecosystem, to examine regional and temporal variation in fish growth. Initial effort will be directed towards herring. The workshop will be planned so that the hypotheses and final data synthesis will be developed before the workshop. The benefits include:

- ability to consider management issues by using the models to provide insights into observed patterns in growth

- examine response to climate change
- facilitate the move towards considering fish embedded in ecosystems
- perform long-term forecasts

In the long-term, stock forecasts will use NPZF models to examine variation in productivity in other planktivorous fish stocks.

