

FOREWORD

Some Canadians draw perverse pleasure from living in a country having "ten months of winter and two months of tough sledding." Despite our appreciation of winter, however, we remain relatively ignorant of the effects of the formation, persistence, and breakup of ice cover on our aquatic ecosystems.

In an earlier report, the Task Force on Environmental Aspects of River Ice reviewed the state-of-the-art and identified areas where research was needed. Their work is summarized in National Hydrology Research Institute Science Report No. 5, Environmental Aspects of River Ice.

This workshop report focuses on filling some of the research gaps. All of the papers contribute to advancing our knowledge. The interdisciplinary aspects of a number of the contributions are particularly welcome.

R.A. Halliday
Director, National Hydrology Research Institute

July 1994

PREFACE

This workshop is the seventh in a series of biennial workshops sponsored by the Subcommittee on Hydraulics of Ice Covered Rivers. A few years ago, the Subcommittee identified a serious gap in the knowledge of environmental aspects of river ice, despite the importance of ice processes to river ecology. The seventh workshop provided a forum for presentation and discussion of current work, and for informal interaction and exchange of ideas between specialists from different disciplines. A state-of-the-art report, produced by a Subcommittee Task Force on this subject, was also presented at the Workshop. Together, this report, and the Workshop Proceedings form an excellent basis for learning about work that is currently under way and for assessing research needs and priorities.

S. Beltaos
Chair, Subcommittee on Hydraulics of Ice Covered Rivers

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EDITOR'S PAGE

This volume contains the Proceedings of the Workshop on Environmental Aspects of River Ice held in Saskatoon, Saskatchewan, August 18-20, 1993, at the National Hydrology Research Institute. All papers appear in their original camera-ready format except for the title page and abstracts which were reformatted to ensure a consistency of style. Unfortunately, complete manuscripts for some presentations were not received and, hence, only the original abstract has been published. One additional paper by Milburn and Prowse has been added to the Proceedings. Although the paper was submitted to the workshop, the first author was prevented, at the last minute, from presenting the paper.

The papers are ordered according to the original program of presentations. The editor would like to acknowledge the support provided by Susan Wilkins and Norman Gridley (Task Force Co-Chairs) in developing the original scientific program. Thanks are also due to Janice Akre and Karen Sollid, who provided the editorial support for producing this volume, and to Philip Gregory, who provided the unique cover design.

T.D. Prowse

July 1994

WORKSHOP COMMENTS

The workshop brought together a variety of participants from the physical, chemical and biological sciences. The backgrounds of the workshop participants were reflected in the full range of groups potentially involved in environmental aspects of river ice, including: universities, research institutions, government agencies, water and power utilities, and consulting firms.

The workshop has helped create a network of contacts. Thoughts on research priorities were aired and debated. The need for interdisciplinary approaches was not only well-recognized but strongly highlighted.

Numerous possible actions were suggested as a follow-up to the August 1993 workshop. The primary candidate actions were:

- to maintain ongoing discussions among authors and researchers to raise questions and to consider joint research/study opportunities;

- to maintain communication among the full group of people at the workshop, in order that future workshops or seminars related to the topic can be more efficiently organized;

- to further define and expand the Task Force mandate, membership, and mailing list. Additionally, to make use of the mailing list in soliciting further interest. To consider cross-disciplinary use of the mailing list when seminars are being promoted in related fields;

- to ensure that the "Environmental Aspects" topic is carried as a standing element of the Subcommittee on Hydraulics of Ice Covered Rivers;

to increase the international content of the Task Force, and consider opportunities for international activities.

Participants agreed that the workshop was helpful in broadening understanding of the environmental aspects of river ice among disciplines. It was recognized that researchers and program planners should consider the importance of other disciplines when developing research proposals, analyzing results, and making interpretations.

In summary, the workshop fostered an awareness of the interrelated nature of environmental aspects of river ice. This awareness will impact future research developments on this important topic.

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Task Force Co-Chairs, Environmental Aspects of River Ice

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