showed increases in dissolved oxygen (DO) concentrations in each basin. In most cases, these concentrations were above the critical DO level of 5 mg/l.

The final segment of this book is composed of eight extensive data files plus a glossary and an extremely detailed table of contents.

This is not a book one picks up and reads like a novel. It is a detailed, data-filled report of the nation's water quality and improvements therein. This report provides the answer to the question posed at the beginning: Did the Clean Water Act improve US water quality? The answer is, as stated initially, an unqualified, "Yes".

G.F. Bennett

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**Proceedings of the Twenty-Sixth Arctic and Marine Oilspill Program (AMOP) Technical Seminar (Including Proceedings of the Twentieth Technical Seminar on Chemical Spills and the Fifth Biotechnology Solutions for Spills)**
Environment Canada, Emergencies Science and Technology Division, Ottawa, Canada, two volumes, 2003, 1115 pp.

This annual seminar is an outgrowth of Environment Canada's Technical Research and Development on oil and chemical spills cleanup. The conference initially focused on the Arctic, but in recent years only 20% of the papers presented deal with this area. However, the conference has maintained its truly technical perspective.

In addition to the papers presented at the seminar, these proceedings contain a list by author name of all the papers presented in the last 25 years; that list is 70 pages long. This list is a welcome addition to the proceedings. Although, it would have taken many more pages, an additional listing by topics would have been useful.

These proceedings contain 62 papers delivered in 12 sessions. In addition to a significant number of presentations by personnel from Environment Canada and its contractors, there were contributions from 11 other countries. Not surprisingly, papers dealing with oil spills dominate. There are, however, papers on chemical spills and a new, not unexpected, topic dealing with counter-terrorism.

The titles of the conference sessions are listed below. Each title is followed by the number of papers in that session in brackets:

- Physical and chemical properties and behaviour of spilled oil (12).
- Activity updates and contingency planning for detection, tracking and remote sensing (3).
- Biological effects of oil and hydrocarbons and oil biodegradation (4).
- Special session on counter-terrorism (5).
- Technical seminar on chemical spills (6).
- Containment and recovery (5).
- BIOSS (1).
- In situ burning and shoreline protection and cleanup (3).
- Oil spill treating agents (9).

- Spill modelling (8).
- Recent spill experiences (4).
- Papers from poster presentations (2).

I look forward every year to receiving these proceedings which are published simultaneously with the conference. The papers are all peer reviewed.

G.f. Bennett

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**Groundwater Modeling Using Geographical Information Systems**
George F. Pinder, John Wiley & Sons Inc., New York, NY, 2002, US$90, 244 pp. + CD-ROM
ISBN:0-471-08498-0

According to Pinder, "The purpose of this book is to present elements of the art of groundwater flow and transport modeling using tools generally identified with geographic information systems (GIS)." The advantage of GIS technology is that it ". . . allows for swift organization, quantification, and interpretation of large quantities of geohydrogeological data with computer accuracy and minimal risk of human error." This book evolved from a course Pinder taught on groundwater flow and transport modeling at Princeton University. He added the GIS concept while at the University of Vermont.

The book is divided into three major sections.

- Flow modeling
- Transport modeling
- Finite-element versus finite-difference simulation

As an example of the use of the model presented in this book, Pinder discusses contamination at the Tucson International Airport for trichloroethylene as a major contaminant of concern. Throughout the book, he works through the problem of modeling the plume giving numerous computer screen printouts of his work.

Accompanying the book is a CD-ROM that contains modeling software for groundwater. The programs found in this CD-ROM are as follows: MODFLOW, MOC3D, MT3D, MODPATH, ZONEBUDGET, HST2D, SUTRA, ModelViewer, and GWChart.

G.F. Bennett

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