Association Française pour l'Etude des Eaux

DOCUMENT NON SELECTIONNE

Trop spécialisé ☐
Sans intérêt ☐
Pas de mon domaine ☐
Pas le temps ☐

NUMERO F 6074

NOM : M. DUBEC

DATE ENVOI : ~~08 JUIN 1990~~

DATE RETOUR : ~~13 MARS 1991~~

LANGUE (S)

A

DOCUMENT SELECTIONNE

12 JUIN 1990

66/73001 AD

Titre de la revue ou Editeur de l'ouvrage

NEW YORK, ASCE, CONF., 1989, 21-25/05, SACRAMENTO,

THEME (S)

principal D Q

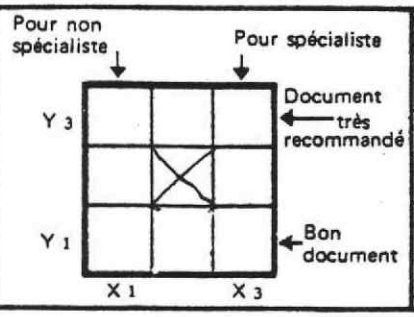
secondaire A

Nombre de Références

Date de parution 1989,

Pages : Début 818 P. Fin

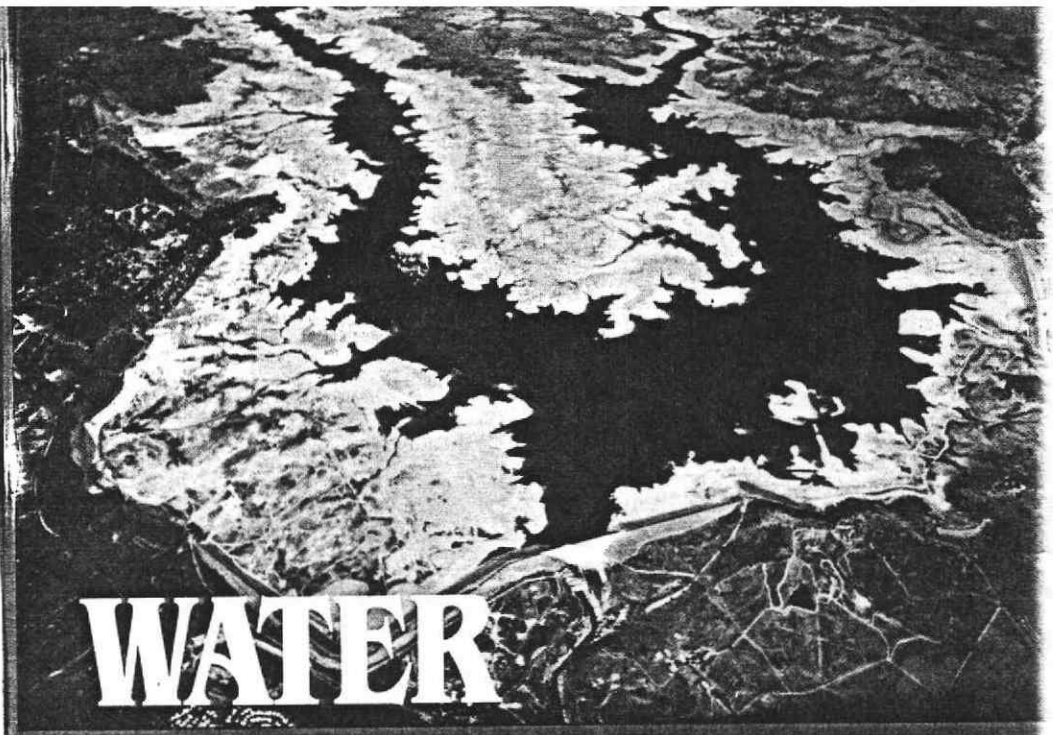
Auteur (s) HARRIS S.C.-



Z

Titre original : CONFERENCE. WATER RESOURCES PLANNING MANAGEMENT

Pratiques de gestion de l'eau aux Etats-Unis. Méthodes, politiques, études de cas. Conférences très courtes. Contact nécessaire avec les auteurs pour en savoir plus. F 6074.



WATER RESOURCES PLANNING AND MANAGEMENT

Proceedings of the 16th Annual Conference

Edited by Steven C. Harris

ABSTRACT

The proceedings of the 16th annual Water Resources Planning and Management Conference, which was held on May 22-24, Sacramento, CA, consists of four page extended abstracts for about 200 of the 250 papers presented. Since the theme of the conference was "Water Resources for the Future: The Management Challenge," the sessions covered a wide range of topics having to do with the management of water resources. Some of the topics discussed include ground water modeling and contamination, computer applications for water management, urban drainage, weather modification, reservoirs operations, water transfers, and water use between states and countries. Besides covering a variety of topics, the method of presentation also ranges from the theoretical applications of new engineering technologies to the reports on the successes, and failures, of completed projects, including their technical and social implications.

ISBN 0-87262-702-0
Manufactured in the United States of America

FOREWORD

This volume contains the papers presented at the 16th Annual Water Resources Planning and Management Conference which was held in Sacramento, California, May 21 to 25, 1989. The conference theme of "Water Resources for the Future: The Management Challenge" was supported by papers covering water supplies, groundwater supplies, water quality, runoff enhancement, and computer applications. Additional presentations were made in the plenary session on the morning of May 22 by a list of distinguished speakers.

The conference was sponsored by the Water Resources Planning and Management Division and hosted by the Sacramento Section of ASCE. Co-sponsors included the Sacramento Section, California Department of Water Resource, University of California at Davis, California Water Resources Control Board, Hydrologic Engineering Center of the U.S. Corp of Engineers, Bureau of Reclamation, Soil Conservation Service, and California State University at Sacramento.

The members of the conference steering committee include:

Darell Zimbelman, General Chairman
Steven Harris, Technical Chairman
Don Finlayson, Technical Vice Chairman
Sandy Houck, Local Arrangements Committee
John Pulver, Registration Committee
Steve Dalrymple, Publicity Committee
Wendy Cohen and Jay Lund, Local Technical Sessions
Morris McClung, Technical Field Trips
Joe Burns, Keynote Speakers

The members of the Executive Committee of the Division are:

Glenn M. Johnson, Chairman
Darell A. Zimbelman, Vice Chairman
Marshall Sterling Goulding, Secretary
Michael A. Ports
Jerry R. Rogers
Kyle E. Schilling

The papers for the conference were solicited through a "Call for Papers" issued in May of 1988. Potential authors were asked to submit a one paragraph abstract for review by the Technical Program Committee. Also, the technical committees of the Division were requested to submit their requests for sessions and papers by invitation. Originally, the conference was planned for about 30 sessions but because of the overwhelming demand to present papers at the conference, the number of session grew to 60. Even with 60 sessions there were papers

that could not be included, for this reason a poster session was added to accommodate the additional papers.

The session chairmen were delegated the responsibility for organizing the sessions, contacting authors, reviewing the papers, and providing the camera ready papers to the Technical Chairman. The Technical Chairman assigned the papers to the various sessions, except for the invited papers.

There were about 240 papers presented at the conference plus four panel discussions, and thirteen poster papers. Due to the number of papers, the written presentation was restricted to four page extended abstracts in order to have the proceedings less than 1000 pages. The authors were not required to have a written paper in the proceedings in order to make a verbal presentation at the conference. There are a total of about 200 papers in this proceedings. Expanded papers are eligible for publication in the Division Journal because these are extended abstracts and not full papers, without further authorization by the Division.

The Technical Program Chairman would like to thank the local organizers, the session chairmen, and the ASCE staff for the assistance that each person provided to make this proceedings possible.

Technical Program Chairman
Steven C. Harris

CONTENTS

*Manuscript not available at the time of printing.

SESSION E1
TUTORIAL ON LARGE SCALE COMPUTING AND
WATER RESOURCE APPLICATIONS
Chairman: Christine Schumacher

SESSION F1
EMERGING TECHNOLOGIES
Chairman: Brian Mar

SESSION A2
FEDERAL/STATE PROJECTS: II-FUTURE
Chairman: Edward Huntley

SESSION B2
POLITICAL, INSTITUTIONAL AND TECHNICAL CONSIDERATIONS
OF WATER TRANSFERS
Chairman: Greg Ten Eyck

SESSION C2
FAILURE DIAGNOSIS AND REHABILITATION OF
URBAN DRAINAGE INFRASTRUCTURE
Chairman: Jacques Delleur

SESSION D2
CASE STUDIES, POLICIES, AND INSTITUTIONS FOR
MANAGING CONTAMINATED GROUNDWATER
Chairman: Robert Montgomery

*Manuscript not available at the time of printing.

SESSION E2
NUMERICAL TECHNIQUES AND ALGORITHMS ON SUPERCOMPUTERS
Chairman: Dennis Morrow

SESSION F2
GEOGRAPHIC INFORMATION SYSTEMS IN WATER RESOURCES PLANNING AND MANAGEMENT
Chairman: Richard D. Males

SESSION A3
FEDERAL/STATE PROJECTS: III-PLANNING TECHNIQUES
Chairman: Don Paff

*Manuscript not available at the time of printing.

SESSION B3
MODELING GROUNDWATER FLOW & CONTAMINATION
Chairman: Reza Khanbilvardi

SESSION C3
PLANNING RAW WATER SUPPLIES FOR DROUGHT CONDITIONS
Chairman: Neil Grigg

SESSION D3
RECENT DEVELOPMENTS IN WATER POLICY FOR WESTERN STATES
Chairman: Bill Lord

*Manuscript not available at the time of printing.

SESSION E3
RIVER BASIN AND RESERVOIR SIMULATION
Chairman: Mark Rothenberg

SESSION F3
SIMULATORS IN WATER RESOURCE ENGINEERING
Chairman: Gilles G. Patry

SESSION A4
FEDERAL/STATE PROJECTS: IV-MANAGEMENT TECHNIQUES
Chairman: Herbert W. Greydanus

*Manuscript not available at the time of printing.

SESSION B4
SURFACE WATER/GROUNDWATER SYSTEMS
Chairman: Miguel Marino

SESSION C4
DEBRIS FLOW MITIGATION
Chairman: Richard McCuen

SESSION D4
FEDERAL AND STATE POLICIES FOR REMEDIAL ACTION PLANS IN THE GREAT LAKES
Chairman: Jonathan W. Bulkley

*Manuscript not available at the time of printing.

SESSION E4
THE CHANGING ROLES OF ECONOMIC AND FINANCIAL CONSIDERATIONS IN WATER PROJECT DEVELOPMENT
Chairman: Jack Mowreader

SESSION A5
CALIFORNIA FLOODS AND WEATHER
Chairman: Herbert W. Hereth

SESSION B5
UNCERTAINTY OF FORECASTING FUTURE DEMANDS
Chairman: M. Karamouz

*Manuscript not available at the time of printing.

SESSION C5
WATER RECLAMATION AND CONSERVATION
Chairman: James Crews

SESSION D5
MANAGING LARGE WATER BODIES—AN OVERVIEW REPORT
Chairman: H.J. Day

SESSION E5
RECONSIDERING THE ROLE OF THE EIS A DECISION MAKING TOOL
Co-chairmen: Ben Hobbs and Andrew Dzurik

*Manuscript not available at the time of printing.

SESSION F5
COMPUTER ADIED PLANNING AND MANAGEMENT
Chairman: Mathew Zidar

SESSION A6
WINTER WEATHER MODIFICATION
Chairman: Maurice Roos

SESSION B6
GROUNDWATER MONITORING
Chairman: Reza Khanbilvardi

*Manuscript not available at the time of printing.

SESSION C6
STORM WATER MANAGEMENT
Chairman: Roger Smith

SESSION D6
RESERVOIR SYSTEM OPERATIONS
Chairman: Jonathon Deason

SESSION E6
SESSION I—OVERVIEW
Chairman: Kieth Little

*Manuscript not available at the time of printing.

SESSION F6
MANAGING WATER RELATED RISK
Chairman: Eugene Stakhiv

SESSION A7
CALIFORNIA WATER QUALITY MANAGEMENT—I
Chairman: Edward C. Anton

SESSION B7
EXPERT SYSTEMS FOR PLANNING, MANAGEMENT, AND OPERATION OF EXISTING WATER RESOURCE SYSTEMS
Chairman: Slobodan Simonovic

*Manuscript not available at the time of printing.

SESSION C7
HYDROLOGY AND HYDROLOGIC TECHNIQUES
Chairman: Jerry Lee Anderson

SESSION D7
INTRODUCTION OF THE NEW MANUAL OF PRACTICE DESIGN AND CONSTRUCTION OF STORM DRAINAGE SYSTEMS
Chairman: Jonathon E. Jones

SESSION E7
SESSION II—HARDWARE/SOFTWARE INTERFACES
Chairman: Tom Walski

*Manuscript not available at the time of printing.

SESSION F7
USING HISTORY IN WATER RESOURCES PLANNING
Chairman: Martin Reuss

SESSION A8
CALIFORNIA WATER QUALITY MANAGEMENT—II
Chairman: James W. Baetge

SESSION B8
MODELING INSTREAM WATER USE FOR ENVIRONMENTAL AND NATURAL RESOURCE MANAGERS
Chairman: Marshall Flug

*Manuscript not available at the time of printing.

SESSION C8
OPERATIONAL REEVALUATION OF RESERVOIR SYSTEMS UNDER CHANGING PRIORITIES
Chairman: Edmund Burkette

SESSION D8
CURRENT PRACTICES AND DESIGN CRITERIA FOR URBAN RUNOFF WATER QUALITY CONTROL
Chairman: Marshall E. Jennings

SESSION E8
SESSION III—NETWORK SIMULATION ISSUES
Chairman: Uri Shamir

*Manuscript not available at the time of printing.

SESSION F8
A PANEL DISCUSSION ON "JOURNALS IN WATER RESOURCES: THEIR ROLE AND EFFECTIVENESS"
Chairman: Walter Grayman
Participants will include: Dr. Miguel A. Marino, Dr. William Yeh, Dr. Richard H. McCuen, L.R. Beard, and Dr. Soroosh Sorooshian

SESSION A9
SOUTHWESTERN GROUND WATER STRATEGY
Chairman: Helen J. Peters

SESSION B9
DESIGN AND OPERATION OF WATER RESOURCE AND DELIVERY SYSTEMS
Chairman: Miguel Marino

SESSION C9
RIVER BASIN MANAGEMENT
Chairman: Chuck Freeny

*Manuscript not available at the time of printing.

SESSION D9
STATUS OF EPA REGULATION ON PERMITTING OF URBAN RUNOFF FACILITIES
Chairman: L. Scott Tucker

SESSION E9
SESSION IV—INTERNATIONAL EXPERIENCES
Chairman: Larry Mays

SESSION F9
BANK PROTECTION AND EROSION
Chairman: Thomas W. Smith

*Manuscript not available at the time of printing.

SESSION A10
RESOURCES ALLOCATION
Chairman: Walter G. Pettit

SESSION B10
SIMULATING WATER RESOURCE SYSTEMS FOR PLANNING, MANAGEMENT, AND OPERATION: NEW APPROACHES AND CASE STUDIES
Chairman: Pete Louks

SESSION C10
COSTS AND BENEFITS OF DETENTION AND CHANNEL SYSTEMS
Chairman: Chuck Call

*Manuscript not available at the time of printing.

SESSION D10
WATER RESOURCES STRATEGY
Chairman: Don Finlayson

SESSION E10
SESSION V—U.S. EXPERIENCE
Chairman: Lindell Ormsbee

SESSION F10
DROUGHT MANAGEMENT
Chairman: Earl Eiker

*Manuscript not available at the time of printing.

POSTER SESSION PAPERS

*Manuscript not available at the time of printing.

TRADEOFFS BETWEEN FIRM SUPPLY AND AVERAGE SUPPLY

Robert H. Zettlemoyer*, M.ASCE, John Clements**, and Francis I. Chung***, M.ASCE

Introduction

The evolution of a typical water resources project (after political approval is obtained) generally proceeds in the following sequence: a group of planners will determine the reservoir size and other project features; designers will draw the plans down to the last rebar; then, after construction, a third group will begin operating the project. Usually, after some time goes by, the operators will formalize criteria by which the project will be operated. The operators will have some flexibility in selecting these criteria, but normally there are legal constraints that dictate certain aspects of the operating rules. Fish flows, power contracts, water demands, and flood control criteria are some of the constraints. Also, since most projects do not come on line at full demand, the rules could change with time. Selection of the operating criteria determines the firm supply and the average supply of the project. In this paper, we examine some of the consequences of this determination.

What Is Firm Yield?

The word "yield" has different meanings to different people and we now define more precisely what we mean. A simplistic definition is given by Clark and Viessman: "If an unregulated stream is to be developed as a primary water source, the safe yield will be the lowest dry-weather flow of the stream. Under this condition, the user will always have an adequate supply provided his maximum requirements do not exceed this minimum flow"(1). Linsley and Franzini define as follows: "The safe, or firm, yield is the maximum quantity of water which can be guaranteed during a critical dry period. In practice, the critical period is often taken as the period of lowest natural flow on record for the stream"(2).

* Senior Engineer, CA Dept. of Water Resources, 1416 Ninth St, Sacramento, CA 95814
** Associate Engineer, CA Dept. of Water Resources, 2440 Main St, Red Bluff, CA 96080
*** Senior Engineer, CA Dept. of Water Resources, 1416 Ninth St, Sacramento, CA 95814