

Winter 2004 • Issue No. 86

Published by the United States Committee on Irrigation and Drainage

Haman, McGahan, Moore Elected

In December 2003 balloting, **Dorota Haman, Joseph C. McGahan** and **Bruce C. Moore** were elected to three-year terms on the USCID Board of Directors. McGahan and Moore were elected to their second terms and Haman

(continued on page 15)

Workshop Honors Retiring Experts

To recognize the retirement of two icons of the profession, 100 of their colleagues attended the recent USCID Workshop on the *Application of Technology to Water Measurement and Management*. The Workshop, held February 25-26, 2004, in Scottsdale, Arizona, highlighted the professional contributions of **John A. Replogle** and **Marinus G. Bos** and their many years of collaboration in the water measurement and management fields.

(continued on page 16)



John Replogle, Rein Bos, Bert Clemmens and Tony Wahl attend Scottsdale Water Measurement Workshop.

Two USCID Meetings Planned

During the upcoming months, USCID will sponsor two conferences, providing USCID Members and other water resources professionals opportunities to learn more about contemporary issues in irrigation and drainage, and to expand their professional contacts.

See page 6 for details on each Conference. □

October 13-16, 2004, Salt Lake City, Utah. *USCID Conference on Water Rights and Related Water Supply Issues.*

March 30 - April 2, 2005, San Diego, California. **Third International Conference on Irrigation and Drainage.** Theme: *Water District Management and Governance.*

Water 2025

Preventing Crises and Conflict

The Department of the Interior's *Water 2025* offers a realistic and practical plan for working with western communities where burgeoning population growth, tribal water needs and expanding environmental requirements are placing unprecedented demands on finite supplies of water.

Water 2025 addresses the realities of the arid West and suggests proven tools

(continued on page 12)

President's Message Burns' Buzz

Dear USCID Members:

The Workshop on **Application of Technology to Water Measurement and Management**, held in Scottsdale, Arizona, recognizing the retirements of **John A. Replogle** and **Marinus J. Bos**, was an outstanding success. Kudos to Workshop Chairman **Albert Clemmens**, Director of the U.S. Water Conservation Laboratory, for organizing and coordinating the invited presentations.

Dr. Bos presented the ICID 2003 WatSave Young Professional Award to **Tony Wahl**. Dr. Bos had earlier accepted the award on Mr. Wahl's behalf at the ICID Executive Council Meeting in Montpellier, France. Mr. Wahl was also presented the Award's \$2,000 honorarium which was donated by the Japanese National Committee.

The United States Committee on Irrigation and Drainage was organized in 1952, and is a Colorado non-profit corporation. As shown on our letterhead, USCID is "The United States National Committee of the International Commission on Irrigation and Drainage." There has been informal discussion by your Board of Directors as to whether "Committee" adequately

(continued on page 16)

Inside . . .

ICID News	3
U.S. Irrigation Water Use	7
Lowell O. Weeks	8
New Members	18

United States Committee on Irrigation and Drainage

1616 Seventeenth Street, #483
Denver, CO 80202
Telephone: 303-628-5430
Fax: 303-628-5431
E-mail: stephens@uscid.org
Internet: www.uscid.org



Mission Statement

The Mission of the United States Committee on Irrigation and Drainage is to foster sustainable, socially acceptable and environmentally responsible irrigation, drainage and flood control systems and practices for providing food, clothing and shelter to the people of the United States and the World.

USCID Newsletter and Membership

The *USCID Newsletter* is published in Winter, Spring and Fall for USCID Members. News items and technical articles of interest to the irrigation community are invited. Contact USCID for advertising rates and media information. Membership application forms are available from the USCID office; online applications from the USCID website are also accepted.

Board of Directors and Officers

Joseph I. Burns, President
Joseph C. McGahan, Secretary
Albert J. Clemmens
David G. Cone
Dorota Haman
Bruce C. Moore
Maurice Roos
Mark Svendsen
Ivan A. Walter

Board Advisor

Dennis Wichelns

Executive Vice President

Larry D. Stephens

Ex-Officio Directors

M. L. Albertson
Clifford I. Barrett
Marcel Bitoun
Grant G. Davids
Franklin E. Dimick
Herbert W. Greydanus
Marvin E. Jensen
William C. Klostermeyer
James F. Ruff
David S. Wilson, Jr.
Darell D. Zimbelman

Standing Committees

Membership	Herbert W. Greydanus
Technical Activities	W. Martin Roche
Publications	Kenneth K. Tanji
Research and Special Studies	John A. Replogle
Long Range Planning and Conferences	Grant G. Davids
Strategic Review	Grant G. Davids and Mark Svendsen

Working Committees

Competing Interests in Water Resources	Herbert W. Greydanus
Integrated Land and Water Resources Management	vacant
Sustainable Use of Natural Resources for Crop Production	Travis P. Teegarden
On-Farm Irrigation Systems	James E. Ayars
Comprehensive Approaches to Flood Management	Bruce C. Moore
Development and Management of Irrigation Systems	Thomas E. Mitchell
Drainage	William R. Johnston
Environmental Impacts of Irrigation, Drainage and Flood Control	Wayne O. Deason
History of Irrigation, Drainage and Flood Control	Johannes J. DeVries
Capacity Building, Training and Education	vacant
Use of Poor Quality Water for Irrigation	W. Martin Roche
Irrigated Agriculture Under Drought and Water Scarcity	Robert H. Edwards
Socio-Economic Impacts and Policy Issues	Anisa J. Divine
Urban Irrigation and Recycled Water	John Wilkins-Wells
Application of GIS in Irrigation Projects	Guy Fipps

USCID Newsletter ©2004

ISSN: 1083-1320

Sustaining Members

- Bureau of Reclamation
- California Department of Water Resources

Corporate Members

- Automata, Inc.
- CH2M Hill, Inc.
- Coachella Valley Water District
- Control Microsystems Inc.
- Firestone Building Products Co.
- Guntert and Zimmerman Construction Division, Inc.
- Imperial Irrigation District
- MBK Engineers
- Metropolitan Water District of Southern California
- RSA Environmental, Inc.
- Sontek/YSI Incorporated
- Sweetwater International, Inc.

Institutional Members

- Colorado State University
- East Contra Costa Irrigation District
- Garrison Diversion Conservancy District
- Merced Irrigation District
- Northern Colorado Water Conservancy District
- Salt River Project
- Turlock Irrigation District

Library Members

- Colorado State University Libraries
- EBSCO Industries
- University of Maryland
- Utah State University

Upcoming USCID Meetings

Conference on Water Rights and Related Water Supply Issues
October 13-16, 2004 — Salt Lake City
Preliminary Program Online

Third International Conference on Irrigation and Drainage
March 30 - April 2, 2005 — San Diego
Abstracts Due June 1

58th IEC Meeting and Fourth International Conference on Irrigation and Drainage
Fall 2007 — Sacramento



19th ICID Congress

Beijing Call for Papers Issued

A Call for Papers has been issued for the **19th ICID Congress**, to be held September 11-19, 2005, in Beijing, China. The Congress Theme is *Use of Water and Land for Food and Environmental Sustainability*.

USCID is currently seeking summaries of proposed papers from U.S. authors.

The ICID Call for Papers outlines the Congress topics and the procedures for preparing Congress papers. USCID Members can obtain a printed copy of the Call from USCID, or go to the ICID website (www.icid.org) and link from the home page to the Call for Papers.

19th Congress Topics and Sub-Topics

Question 52: Improving Water and Land Management for Increasing Efficiency in Irrigated Agriculture

52.1 — On-farm water and soil management

52.2 — Performance evaluation and integrated management of irrigation and drainage systems

52.3 — Conjunctive use of water to optimize food production

52.4 — Policy options for water saving in irrigation

52.5 — Management transfer and participatory irrigation and drainage management

52.6 — Application of information technology in irrigation and drainage management

Question 53: Harmonious Coexistence with Flood Water

53.1 — Land use planning and its impact on flood and drought regime

53.2 — Integrated planning and management of flood diversion, storage, retention and discharge areas

53.3 — Adjusting urban and rural development to reduce flood risks

53.4 — Mechanisms for protection, relief and rehabilitation

53.5 — Information technical systems and professional contingent for flood fighting

53.6 — Case studies

Special Session on Legal and Institutional Challenges

Symposium on Water Quality/Salinity Management

Seminar on Management of Historical/Traditional Irrigation Projects

U.S. papers for the Beijing Congress will be selected by the USCID Committee on Technical Activities and submitted to ICID by USCID. To participate, please review the ICID Call for Papers, then send the 500-word Summary and Conclusions of your proposed paper to USCID. The Proforma found on page 18 of the ICID Call for Papers MUST be completed and sent to USCID with the Summary and Conclusions. Note: while there is no limit on the number of papers that can be offered for the two Questions, USCID can submit only one paper each for the Special Session, Symposium and Seminar.

Authors whose papers are accepted by ICID for oral presentation during a Technical Session or for the Poster Session are expected to attend the Congress. ICID will publish all accepted papers on CD.

The deadline to submit a 500-word Summary and Conclusions of proposed papers is **July 15, 2004**. □

Thatte Retires

C. D. Thatte retired as Secretary General of ICID on December 31, completing a tenure of six years. During a retirement ceremony, he was cited for his accomplishments in improving Central Office operations and overseeing several ICID innovations.

The new Secretary General, M. Gopalakrishnan, has 37 years of

experience in water resources development, irrigation, drainage and flood control. He was most recently Coordinator of the Government of India's Task Force on Interlinking of Rivers. He has extensive international work experience and is associated with several national and international professional organizations. □

B. C. Garg, 1931-2003

Former ICID Secretary B. C. Garg passed away on December 13, 2003, in New Delhi. He joined the ICID Central Office in 1962 and was Secretary from 1976 to 1989. As Secretary, he attended all IEC meetings and Congresses of the Commission and actively participated in technical and managerial activities, contributing greatly to the modernization of the Central Office. □

ICID Working Group Reports

(Editor's Note: the following reports were submitted by USCID representatives attending ICID meetings in Montpellier, France, September 2003)

Comprehensive Approaches To Flood Management

by *Maurice Roos*

The working group met on September 16, and sponsored a Workshop held on September 18. **Bruce Moore**, USCID's official representative on the CAFM workgroup, and **Maury Roos**, a USCID Board Member, attended.

The working group's purview includes flood damage assessment and control, use of mathematical modeling for understanding floods, and the desired degree of protection and constraints related to non-structural measures. J. van Duivendijk of the Netherlands has been chair of this group for many years; he stepped down after the Montpellier conference. The incoming chair, also a

Dutchman, is Dick de Bruin, of the Ministry of Transport, Public Works, and Water Management in The Hague.

Drafts of four chapter reports are on the ICID website, under WG-CAFM at: www.icid.org/index_e.html. They are:

- The relationship between flood parameters and inundations
- The relationship between flood parameters and damages
- Desired level of protection
- Use of hydrodynamic mathematical models for flood management

Copies are also available from Maury Roos, mroos@water.ca.gov.

During the workgroup meeting, a presentation on flood management in India was made by R. Jeyaseelan. Floods affect 8 to 10 percent of the country's area, and about 30 million people a year on average. They rely on a mix of channels, levees, reservoirs and flood plain zoning.

The workshop featured papers from France, Morocco, South Africa, Hungary and The Netherlands. In Morocco, there have been major floods during the last three years which did not fit the record. In Hungary, the big rivers are the Danube and Tizla and there is a flood warning system. In 80 years there have been no flood related deaths. Some 23 percent of the country is in the flood plain, where 2.3 million people live. The last decade has seen a number of very large floods, especially in Europe, leading to some talk of climate change. I was struck by the similarities in approaches. As structural measures become more difficult and expensive, more attention is being given to flood plain management and restricting development in flood plain areas. The final paper was an excellent summary on the history of flood protection in The Netherlands by incoming chair de Bruin. By U.S. standards, flood design standards in Holland are quite conservative: 1 in 1,250 years for the river levees and 1 in 10,000 years on the western coast. This is because a large part of the country is below sea level. Another interesting statement was that they feel it would be unsafe to raise river levees more and are looking for areas which can be temporarily inundated during floods as a means of

holding down river flood stages, both in Holland and upstream, in the "Room for Rivers" program.

Interest in flood management during the Third World Water Forum in Kyoto was reported, with at least six sessions on flood topics.

The workgroup plans to meet again next year during the ICID Moscow meeting. The goals of the new chairman are:

Explore more ways to integrate approaches to flood control

- Greater support in public venues of legislation about flood control
- That the working group take an active role in the next ICID Congress in Beijing in 2005

Working Group on Socio-Economic Impacts and Policy Issues

by Anisa J. Divine

The Working Group on Socio-Economic Impacts and Policy Issues met on September 15, 2003. Members from France, the U.S., South Africa, Indonesia, the UK and Iran were present, as were observers from France, India, Australia, Spain, Pakistan, Egypt and Nigeria.

The WG accepted as members, Shahbaz Khan, Australia, and S.V. Sodal, India. Pakistan was invited to pursue membership. The following summarizes the status of Working Group activities.

Worksheet for calculating the full cost of irrigation services. The WG agreed to undertake the following actions:

- Coordinate with the Task Force on Benchmarking and WG-DMIS to ensure that all items related to benchmarking of irrigation and asset management are included
- Study the World Bank's Price-Gittinger methodology and compare it with the methodology in the Draft Worksheet (Version V1) by completing the draft Worksheet using the World Bank Case study
- Complete the Worksheet and write a simple paper describing their experience no later than July 31, 2004. Forward by email to Chairman Rieu, who will circulate this material to the members and forward a copy to the Central Office.

- Hold an Internal Seminar on Direct Cost Accounting at Moscow in 2004. Members were requested to make presentations during the seminar.

WG-SOCIO intends to prepare a guideline document by 2006 on the basis of feedback received during the internal seminar, titled *Guidelines on direct cost analysis of irrigation and drainage projects*.

Internal Seminar on Pricing of Irrigation Services. Since 1997, the WG has been developing a methodology to work out the full cost pricing of irrigation services, with the view to evaluate the implementation of the water pricing mechanism in different countries. This year the WG held a Seminar. Chairman Rieu circulated his paper on the Draft Worksheet (Version V1), *Guidelines for Assessing Existing and Future Costs of Irrigation Services*. Sylvain Perret made a presentation of his results in using the Worksheet to assess costs of irrigation services on projects involving smallholders in South Africa. He reported that the Worksheet methodology was useful but somewhat less adaptable than he would have liked. **Anisa Divine**, Secretary, gave a presentation on cost calculations for the Imperial Irrigation District, a large district in the U.S.A. Full discussion followed both presentations.

Economic evaluation of social and environmental impacts of large irrigation and drainage projects. The Group agreed during their meeting in Seoul to discuss the *Checklist of Externalities* based on the *Checklist on Environmental Impact Assessment*, published by the WG-ENV in 1993 and to revise the existing checklist from an economic point of view. Members were requested to provide input to establish parameters for evaluating economic changes brought about by irrigation development and to develop appropriate criteria for their quantification. Pursuant to this effort, members agreed on following actions:

Don Brown will attend the WG-ENV meeting at Montpellier and provide feedback. He will work with other members to compile a resource base showing where to get advice; input, case studies, and other information that have

already been completed on this topic, and Anisa Divine will obtain the *Checklist on Environmental Impact Assessment*, published by the WG-ENV in 1993, and circulate it electronically among members.

Finalization of the questionnaire on water valuation in agriculture. At Granada (1999), the group agreed to design and implement a questionnaire on *Water Valuation in Agriculture*. The group received inputs from Bart Schultz, Rioto Nakamura, Henri Tardieu and some National Committees. The WG discussed whether to present water valuation in terms of production per unit of water or monetary return per unit of water. It was proposed to ask farmers what crops they would grow if no water were available. It was noted that IWMI had developed water valuation procedures for crops. It was also noted that valuation would be different from a district perspective (valuation of service).

Finalization of the questionnaire on analysis of the role of women in irrigation. Based on input received from members prior to the Montpellier meeting, the final version of *ICID Questionnaire on Gender in Irrigation and Drainage*, as prepared by Ms. Van Koppen and Anisa Divine, was presented along with completed questionnaires for four countries. The objective and future use of the questionnaire were discussed. The group proposed that the initiative will allow ICID members to know the status of role of women in irrigation in ICID member countries and to decide what kind of support member countries would like to receive from ICID in this area. After discussion, members agreed on following actions:

- Submit *ICID Questionnaire on Gender in Irrigation and Drainage* to ICID Central Office for publication on ICID's webpage.
- Each member will request his or her National Committee to complete the questionnaire and to return the completed questionnaire to Anisa Divine no later than July 31, 2004, for presentation at Moscow.

Position Paper on Socio-economic Sustainability of Services Provided by Irrigation, Drainage and Flood Control Schemes in Water Resources Sector. The paper contains three main chapters: (1) Definition of the main concepts, (2) Practices and procedures for pricing services, and (3) Some principles and issues towards sustainability. Henri Tardieu reported that Chapter 1 was completed; Chapter 2, which presents experiences from around the world, needs additional material on pricing and cost recovery; and that the position paper was likely to be vetted in the IEC meeting. Tardieu requested, and members agreed, as follows:

- Each member will read the paper and respond to Tardieu on two questions: Are you comfortable with the principles? How can I use them on my job?
- Ensure that each member's National Committee respond to ICID Central Office on the position paper and also reply to the following question: Is this type of paper useful for ICID or not?

WG-SOCIO Webpage. Brown and Divine re-committed to contribute towards preparation of the webpage.

Lake Chad Workshop *by Maurice Roos*

The Lake Chad Workshop was organized by the ICID African Regional Working Group. The Workshop had some high level attention, with a brief address by ICID President Keizrul bin Abdullah and a presentation by the Nigerian Minister of Water Resources. The Lake Chad watershed supports about 20 million people in Niger, Nigeria, Chad, Central African Republic and Cameroon. Lake Chad is a closed basin freshwater lake at an elevation of about 280 meters. Annual evaporation rates are high, estimated to be 2.5 to 3.0 meters. The drainage basin may be as big as about 2,500,000 square kilometers, mostly in the Sahel. Most of the water originates from the Chari River in the south during the summer monsoon wet season.

Forty years ago, the shallow lake covered 25,000 square kilometers with a fish catch of 140,000 tons. The normal average depth was about two meters.

Now the lake has shrunk to about one tenth the former area at 2,500 square kilometers and is often split into a small northern lake and a larger southern lake. Sand dunes from the Sahara are pushing into the northern area.

The primary cause of the shrinkage has been a persistent drought during the past 20 years, believed to be part of a change in climate in the Sahel. Irrigation of new lands, mostly in Nigeria, has been a factor in the lake reduction, but not the major reason. The Nigerian South Chad Irrigation Project has developed about 21,000 hectares of a planned 67,000 hectares. Further development of this irrigation project is on hold because of water supply questions, as Lake Chad is the water source via a pumped diversion.

Two potential solutions for restoring Lake Chad are being studied. One is an ambitious evaporation suppression project with a monomolecular film of hexadecanol. The potential saving might be up to 2 billion cubic meters (1.6 million acre-feet) if a film can be maintained. The second is an expensive transbasin diversion, the proposed Lake Chad Replenishment Project. It would start with a storage dam on the Oubangui River, a tributary of the Congo, in the Central African Republic, with a navigable diversion canal from the Oubangui River to the Lake Chad basin. The canal could be 2,400 kilometers long and also connect with the Benue River in eastern Nigeria.

Several countries have formed the Lake Chad Basin Commission, headquartered in the country of Chad, to develop possible solutions to the shrinking lake and to seek international aid. They made an appeal at the Third World Water Forum in Kyoto last March for nearly \$10 million dollars in financial assistance for a feasibility study of the proposed diversion project.

Lake Chad, in spite of being an apparent sink, is a fresh water lake and does not seem to be getting saltier in spite of its shrinkage. The reason is not sure, but a suspected underground outflow drainage exit may exist which conveys some water to a lower basin (the Bodele Depression) some 40 kilometers to the northeast. □

Upcoming USCID Conferences

USCID Conference on Water Rights and Related Water Supply Issues, October 13-16, 2004, Salt Lake City, Utah. The Conference will provide a forum to discuss the myriad of issues relating to water rights and the appropriation and distribution of water, including applications of technology. Presentations will range from case studies of water rights issues affecting individual water projects, to comprehensive reviews of U.S. and international river basins.

A one-day Exhibition will be held on October 15.

A half-day field tour on Wednesday morning will go to the Kennecott Copper Mine near Bingham, Utah. A day-long Saturday tour will provide a visit to area water resources projects.

Reed Murray and **Kib Jacobson** are the Conference Co-Chairmen.

Visit www.uscid.org for more details.

Third International Conference on Irrigation and Drainage, March 30 - April 2, 2005, San Diego, California. The Conference Theme is *Water District Management and Governance*. The Conference will feature oral presentations in Technical Sessions and an Interactive Visual Presentations Session. A *Symposium on District (Water User Authority) Formation and Strengthening* will be held as a separate track on one day of the Conference.

Papers presented during the Conference will focus on three main topics:

- Governance, Legislation and Policies
- District Management
- District Modernization and Environmental Mitigation

The Conference is Co-Sponsored by the Association of California Water Agencies and the International Network for Participatory Irrigation Management.

The deadline for submission of abstracts is June 1, 2004. The Call for Papers is posted on the USCID website.

Mark Svendsen and **Dennis Wichelns** are the Conference Co-Chairmen. □

Volunteers Invited

USCID will host the **58th International Executive Council Meeting** of ICID in September or October 2007. The week-long program of activities will take place in Sacramento, California, and will feature the **USCID Fourth International Conference on Irrigation and Drainage**. An Organizing Committee, chaired by **Albert J. Clemmens**, has begun preliminary planning and seeks additional volunteers. Please contact USCID (stephens@uscid.org) or Clemmens (bclemmens@uswcl.ars.ag.gov) to volunteer.

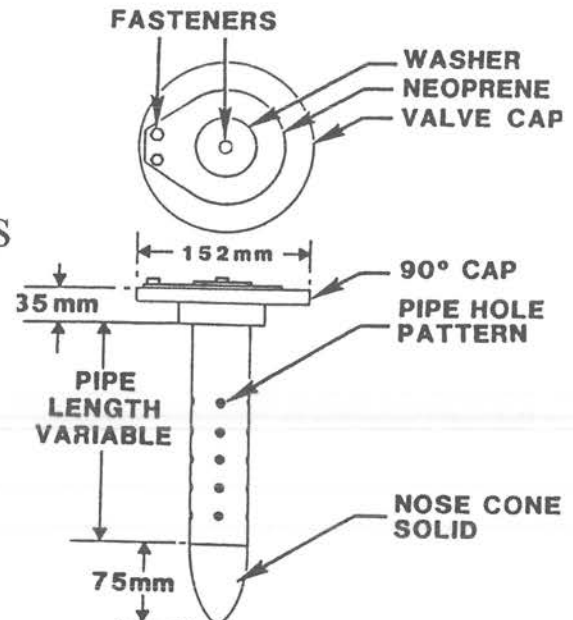
A new USCID Technical Committee is being organized. The **USCID Committee on Capacity Building, Training and Education** will assist the counterpart ICID Working Group in its mission and examine related issues in the U.S. Also, the **USCID Committee on Integrated Land and Water Resources Management** needs a chair and representative for the ICID WG. To serve on these committees, contact the USCID Denver Office. □



WEEP VALVES FOR CANAL CONSTRUCTION

COMPLETE VALVES OR PARTS
FLAPS WITH ONE HOLE OR TWO HOLES

HHH COMPANY
3821 S. EAGLE LANE
SPOKANE, WASHINGTON
99206
TELEPHONE 509 926 9311



U.S. Irrigation Water Use

by Mark Svendsen, Water Resources Consultant, Philomath, Oregon

The recently released U.S. Geological Survey (www.usgs.gov) water use report for 2000 presents an interesting snapshot of water use in the United States (the full report may be found at <http://water.usgs.gov/pubs/circ/2004/circ1268/htdocs/test-ir.html>). It reports that irrigation water withdrawals have held constant for the past 15 years at around 153 million acre-feet per year, and currently comprise about 34 percent of total water withdrawals. The report is the latest of a series of five-yearly reports on water use which date back to 1950. This article draws on the data and descriptions in the report to paint a quick picture of the current status of and recent trends in U.S. irrigation water use.

After growing steadily during the 1950s, 60s and 70s, irrigation withdrawals peaked in 1980 and then declined to about the current value, where the level has remained. Over the same period, however, because other uses of water were increasing, the share of irrigation declined from half to about one-third of total withdrawals (Figure 1). Over that same period, domestic use increased from 9 percent to 12 percent of withdrawals. On a per capita basis, however, domestic water use has remained almost constant at about 165 gallons/person/day since 1980, with growth in use a result only of the

increase in population. The remainder is accounted for by industrial withdrawals, principally for thermoelectric cooling.

The surface water share of irrigation withdrawals in 2000 was 58 percent, with groundwater contributing the remaining 42 percent. In 1950, the groundwater share was just 23 percent, and the change reflects the three-fold increase in groundwater use for irrigation over the last 50 years. Irrigation withdrawals from groundwater were up 16 percent from 1995 levels. In many states, this increase exacerbates an already serious overdrafting problem.

U.S. irrigated area in 2000 was about 61.9 million acres, 75 percent of which was in the 17 western states. In 2000, for the first time, pressurized irrigation (sprinkler and drip) constituted more than half (52 percent) of all irrigation in the country. Just 7 percent of the total was micro-irrigation and, of that, 72 percent was in California. Nevertheless, micro-irrigated area was up 25 percent since the last survey in 1995.

The average water application rate for the country in 2000 was 2.48 feet. This reflects a slight but steady decline from 1995 (2.59 feet) and 1990 (2.67 feet). The decline probably results from the continuing expansion of micro-irrigation and the fact that recent growth in irrigation has come largely in the mid-west and south where irrigation is more supplemental. Water application rates for the 17 western states are shown in Figure 2. They range downward from more than 6 feet in an Arizona awash in CAP water, to 1.5 feet and less in the

eastern band of states where private pumping of groundwater predominates and rainfall provides a portion of crop water requirements.

It must be remembered that these figures represent withdrawals and not consumptive use of water. Still they do reflect trends over time, and show that irrigated agriculture is becoming steadily more efficient in its use of water and withdrawing a considerably smaller share of the total than it did 50 years ago. □

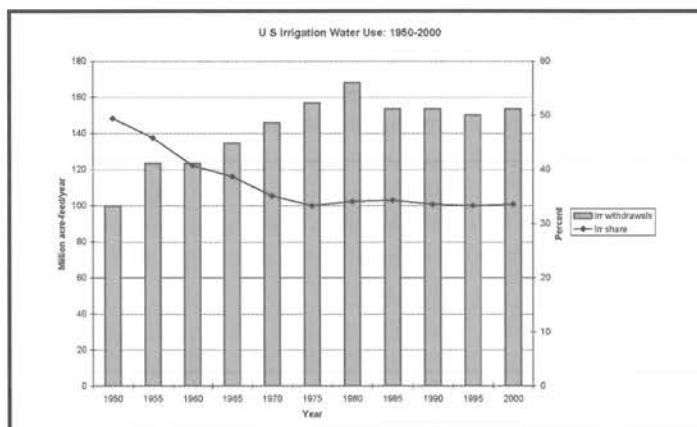


Figure 1. U. S. irrigation withdrawals and share of total withdrawals, 1950 - 2000.

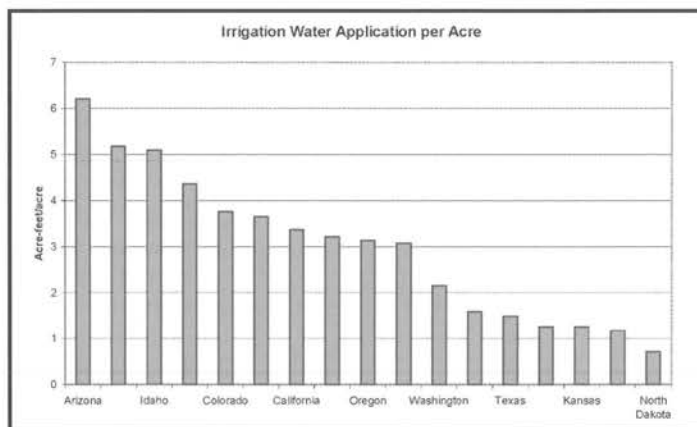


Figure 2. Irrigation water application rates for the 17 western states.

Lowell O. Weeks, 1919 - 2004

Lowell O. Weeks, retired General Manager-Chief Engineer of the Coachella Valley Water District, died unexpectedly on February 25 at the age of 84. The Palm Desert, California, resident worked for CVWD for 36 years, serving as General Manager-Chief Engineer from 1956 until his retirement in 1986.

During those years, CVWD changed dramatically from predominately an agricultural irrigation agency serving farms in the lower valley to a provider of multifaceted water-related services, such as domestic water, sanitation and recycled water to nearly the entire Coachella Valley.

Mr. Weeks was an active Member of USCID from 1962 until his death. He organized the Southwest Study Tour during the 1984 12th ICID Congress, arranging for tour participants, most from foreign countries, to stay with area families during their visit to the Coachella Valley.

Mr. Weeks, a World War II veteran, obtained a bachelor's degree in civil engineering from the University of Southern California in 1949. He was active in the community and helped spearhead efforts to create The Living Desert, a non-profit education and conservation center dedicated to preserving the plant and animal life of the desert.

He is survived by his wife, Ethelena Weeks, and their two sons and two daughters. Memorial donations may be made to St. Andrews Community Presbyterian Church, 47-192 Monroe Street, Indio CA 92201; or to The Living Desert, 47-900 Portola Avenue, Palm Desert, CA 92260. □

Guy LeMoigne Dies

Guy LeMoigne, a distinguished international water resources professional, died December 1, 2003, at his home in Bethesda, Maryland.

Dr. LeMoigne was the Senior Water Advisor at the World Bank where he served for many years until his retirement in 1996. He directed much of the Bank's water resources activities for most of two decades. He was active in ICID for many years.

Following his retirement from the World Bank, Dr. LeMoigne was the first Executive Director of the World Water Council from 1996 to 1998. □

Global Water Partnership Seeks Nominations

The Global Water Partnership, whose mission is to support countries in the sustainable management of their water resources, is seeking nominations for candidates to serve on the GWP Technical Committee (TEC). The role of the TEC is to drive GWP's efforts to create, accumulate and disseminate knowledge to support integrated water resources management change processes. TEC members act in their individual capacity and provide advice and analysis in an independent manner.

Candidates should be world leaders in water resources management, with a demonstrated background and interest in the theory and practice of integrated water resources management. TEC Members are expected to provide an input of approximately four to six weeks per year, including two annual TEC meetings in different parts of the world. TEC Members are paid a daily rate, plus travel, per diem and accommodations.

Contact and background information on proposed candidates should be submitted to Marie Gunnarsson, e-mail gwp@gwpforum.org. Visit www.gwpforum.org for more information. □

CSU Issues Report

USCID Member **John Wilkins-Wells**, Colorado State University, and colleague Terence H. Podmore, have released a report on secondary water systems (dual systems). The full report, as well as an Executive Summary, are available on the Sociology Water Lab website, <http://waterlab.colostate.edu>.

The Study on *The Benefits and Costs of Dual Water Systems in Colorado and the Potential Role of Canal Companies and Irrigation Districts in Providing the Pressurized Irrigation Water Supply Portion of Dual Systems* was funded by the Colorado Water Conservation Board and several water districts in the Colorado Front Range. The study was designed to assess the benefits and costs of pressurized dual water systems, with an emphasis on the most effective way for the state to promote these systems. Dual water systems provide separate, noncontiguous, pressurized treated and untreated water lines into residential lots. The pressurized untreated water line is referred to as the secondary water system, and is used for landscape purposes. The study focused on the potential role of traditional agricultural water suppliers in developing, operating and maintaining secondary systems around the state.

A major conclusion was that there is an important connection between the involvement of traditional agricultural water suppliers in providing secondary water service and the strengthening of the economic position of irrigated agriculture in the state. A second important conclusion is that the involvement of canal companies and irrigation districts in the provision of pressurized untreated water is an important drought mitigation strategy.

The provision of secondary water by canal companies and irrigation districts is expected to result in a more orderly transfer of agricultural land and water to urban uses.

USCID Members are invited to provide comments about the study and the report's conclusions and recommendations. Wilkins-Wells may be reached at telephone 970-491-5635, e-mail johnww@lamar.colostate.edu. □

USCID/Summers Scholarship

Applications are now being accepted for the USCID/Summers Engineering Scholarship. Undergraduate students enrolled in programs relating to water resources, irrigation, drainage and flood control are invited to apply for the \$1,000 award. Applicants must be Student Members of USCID — the first year's dues are waived as part of the new USCID Student Member program.

To apply for the USCID/Summers Engineering Scholarship, students should send a 500-word summary of their study program, a copy of their university transcript and a letter of recommendation from their academic advisor. Applications should be mailed or e-mailed to the USCID office by May 31, 2004.

The USCID Board of Directors will select the scholarship recipient during its June meeting.

The USCID/Summers Engineering Scholarship was endowed by a generous gift from **Joseph B. Summers**. □

New Publication

Colorado's Water: Science & Management, History & Politics, by Neil S. Grigg, Professor of Civil Engineering and former Director of the Colorado Water Resources Research Institute at Colorado State University. The book provides a comprehensive look at Colorado's:

- Water Lifeline
- Water History
- Climate and Hydrology
- Streams and River Systems
- Reservoirs and Lakes
- Physiography, Geology and Ground Water
- Water Balance: Supply and Use
- Environment and Outdoor Recreation
- Dams and Water Projects
- Water Law and Management
- Water Economics and Stakeholders
- Water Wars and Politics

To order, call 303-322-4742 or visit www.aquamediapublishing.com. □

Missouri Basin Report

Accumulation of mountain snow continued to be disappointing during March and dry conditions persist across much of the Missouri River basin. Lower reservoir levels and reduced flows are expected again this year, according to the Corps of Engineers.

Runoff above Sioux City, Iowa, in March was 2.7 million acre-feet, 92 percent of normal. As of April 1, the mountain snowpack was 82 percent of normal in the reach above Fort Peck, and 72 percent of normal in the reach from Fort Peck to Garrison. Forecasted annual runoff is 19.5 MAF, compared to normal runoff of 25.2 MAF.

Although there will not be enough water to support navigation above Nebraska City, there is ample water for other purposes, including water supply. The navigation season is likely to be shortened 36 days.

Powerplant generation totaled 456 kWh of electricity during March, 67 percent of normal. □

AUTOMATA, INC

A Leader in Agricultural and Water Distribution Automation Since 1975

Introducing our NEW **MINI-SAT** Field Station using **Satellite** Communications

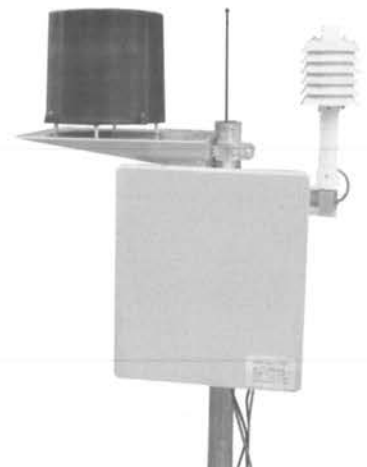
Automata, Inc supplies complete system solutions including telemetry, software, and sensors. Our products are proven management tools in canal automation, flood warning, irrigation pump, and well water supply systems.

For more information check out our web site:

www.automata-inc.com

or call

530-478-5882



Water Measurement Workshop —



Darell Zimbelman (left), Northern Colorado Water Conservancy District, and Joe McGahan, Summers Engineering, Inc.



Tracy Vermeyen (left), Bureau of Reclamation, visits with Ted Cameron, The Cameron Group, exhibitor and sponsor of the Wednesday tour.



Tom Spofford, Natural Resources Conservation Service, talks during the John Replogle tribute dinner.



Bryan Thoreson represents Davids Engineering, Inc., sponsor of the M.G. Bos retirement lunch.



Cliff Pugh (left), Bureau of Reclamation, and Mark Vargovich, representing Hancor, Inc.



Tony Wahl (left), Bureau of Reclamation, receives the 2003 ICID WatSave Young Professional Award from Rien Bos.



Murray McCaig (center), representing exhibitor Rubicon Systems, visits with Anisa Divine and David Bradshaw, Imperial Irrigation District.



Bob Strand (left), U.S. Water Conservation Laboratory, visits with John Klebba, President of Geomation, Inc.



Maury Roos (left), USCID Board of Directors, and USCID President Joe Burns.

February 2004, Scottsdale, Arizona



Chris Ward represents USCID Corporate Member, exhibitor and Thursday reception sponsor SonTek/YSI Incorporated.



Bert Clemmens (right), Director of the U.S. Water Conservation Lab, visits with former Directors Al Dedrick and Herman Bouwer.



Dennis Richards (left) and Jeff Bradley represent WEST Consultants, Inc., sponsor of the Workshop participant portfolios.



Al Dedrick (left), Agricultural Research Service, USDA, and Brian Wahlin, Davey-Cairo Engineering, Inc., enjoy a Workshop break.



Darell Zimelman and Alison Swanson review SCADA products offered by USCID Corporate Member Control Microsystems Inc.



John and Marianne Replogle enjoy John's retirement dinner.



Janet Albers and Eduardo Bautista, U.S. Water Lab, discuss Campbell Scientific, Inc. systems.



Lenny Feuer (center), presents Automata information to Bert Clemmens and Rein Bos. Automata, Inc. is a Corporate Member of USCID.



Newly elected USCID Board Member Dorota Haman meets Randy Marsden, RD Instruments, Inc.

Water 2025 (continued)

and innovative approaches that can make a difference, including conservation, more efficient uses of current supplies, water marketing and alternative water sources.

Water 2025 provides a solid framework that can help to develop adequate supplies of water and prevent chronic shortages from escalating into crises and conflicts. But it requires local initiative, a long-term commitment, and a new appreciation of the value of cooperative planning.

The **Bureau of Reclamation** held nine consulting conferences on *Water 2025* in major western cities last summer. The response from participants and communities was overwhelmingly positive. More than 3,000 people participated, including state, tribal, agricultural, environmental and water officials.

The response to *Water 2025* confirms that a new generation of Western leaders, tempered by past water wars and mindful of the harsh new realities facing their communities, is embracing a forward looking approach for meeting the region's 21st century water needs.

The New Western Reality

In the first half of the 20th century, the Bureau of Reclamation built a vast system of dams, reservoirs and canals to spur the development of the arid West. Today, these projects provide 10 trillion gallons of water to more than 31 million people in 17 western states.

But now, new challenges face Reclamation and the region. In some areas of the Southwest and Mountain West — the fastest growing regions in the United States — existing water supplies are, or will soon be, inadequate to meet the demands of cities, farms, Indian tribes and the environment, even during normal water years.

Because it is nearly impossible to arrive at rational and well reasoned solutions in the heat of a crisis, *Water 2025* is intended to focus sustained attention on measures that can be put in place before extended drought or other pressures push communities toward divisiveness and conflict.

Because local approaches to avoiding water shortages work best, *Water 2025* recognizes that states (which have primacy for water law), tribes, local governments and affected communities have the leading role in this effort. For lasting solutions, everyone needs to be at the table, including state and local governments, tribes and stakeholders. The emphasis is on solving problems through mutual understanding and agreements instead of looking for ways to assert an increased federal presence.

Water 2025 encourages a vigorous public discussion of the new reality that faces the West, so that decisions will be made at the appropriate level in advance of a water supply crisis. The federal role is to provide a forum for this discussion, work with regional groups to develop solutions, and then focus scarce federal resources where they will provide the greatest benefits.

Water 2025: Helping Irrigated Agriculture

For more than a century, Interior has worked side by side with western farming communities to help build one of the most productive and dynamic agricultural economies in the world.

One of every five western farmers and one-third of irrigated farmland in the region — about 10 million acres — depend on water from projects built and managed by the Bureau of Reclamation. The food and fiber produced by these farms is critically important to our nation's economic security as well as to the health and vitality of western communities.

The challenge we face today is developing realistic ways to address the increasing competition for finite water supplies. *Water 2025* supports solutions that can be used today — projects, for example, that conserve water by modernizing irrigation water storage and delivery systems. Water banks and markets also can provide efficient solutions to shortages by allowing farmers to rent or lease some of their water to cities and towns in times of drought, and still retain their ability to farm.

Budget and Challenge Grants

To help western communities avoid future water supply crises, President Bush's Fiscal Year 2005 budget calls for \$21 million in *Water 2025* funds. The President's proposal is an increase of \$13.4 million over Western Water Initiative funds enacted in FY 2004, which includes \$4 million in the Secretarial 50-50 Challenge Grant program and \$3 million for water improvement technology.

Water 2025 grants, when matched with state, local and private sector funds, can foster practical, community-based solutions to the water supply crises facing many Western areas. The initiative invests in conservation projects, water-saving technologies for irrigation systems, desalination research, and strategies to improve water management, including water banks and water-marketing systems.

Water 2025 calls for concentrating existing federal financial and technical resources in key western watersheds and in critical research and development efforts that will help to predict, prevent and alleviate water supply conflicts.

The related Challenge Grant program is funded under the Western Water Initiative. The program sought proposals from irrigation and water districts that want to leverage their money and resources in partnership with the Bureau of Reclamation to make more efficient use of existing water supplies through water conservation, efficiency and water market projects. The goal of these challenge grants is to support realistic, cooperative approaches and tools that have the most likelihood of successfully addressing water challenges in the basins facing the greatest risk.

There was an overwhelming response to the \$4 million Challenge Grant program for 2004. The Bureau of Reclamation received more than 100 proposals representing nearly \$100 million in water delivery system improvements across the West. Final selections will be announced this summer.

President Bush has requested \$20 million for *Water 2025* Challenge Grants in Fiscal Year 2005. □

SonTek/YSI News

SonTek/YSI, Incorporated, a Corporate Member of USCID, received the Irrigation Association's Best New Product award in the Agriculture category for its Argonaut-SW Acoustic Doppler Flowmeter. The award was presented during the November 2003 International Irrigation Conference in San Diego. The Argonaut-SW is a self-contained, highly compact unit used for measurement of water flow, velocity and level. Able to be used in canals, pipes and natural streams, the SW is designed to account for velocity variations within the channel to produce the most accurate flow calculation possible. Support for the development of the Argonaut-SW was provided in part by the Irrigation Training and Research Center of California Polytechnic State University and the California Energy Commission's Energy and Agricultural Program.

SonTek/YSI, Incorporated and Qualitas Instruments of Madrid, Spain, have been awarded a contract to supply 55 Argonaut-SW Acoustic Doppler Flowmeters to the Comunidad General de Regantes del Canal de Orellana. The goal of the project, partially funded by the Spanish Agricultural Administration, is to modernize irrigation areas and improve water use. The initial products will be used in the renovation of canals less than three meters deep.

SonTek recently announced the release of two cutting edge software packages. First, new Windows-based software has been developed for the realtime capture, visualization and export of data from one or more SonTek Acoustic Doppler Velocimeters (ADV™). The second release is an updated version of current surveying software. According to SonTek's Chris Ward, "HorizonADV 1.0 replaces SonTek's older set of software for realtime ADV data capture. HorizonADV captures data from one or more ADVs and can display virtually everything you could possibly want at one time. A powerful scripting capability allows the user to define their own variables when custom variables are required." Version 4.0 of SonTek's surveying software has recently been released with several enhancements. The

interface has been redesigned to be highly intuitive. Depth sounder data can now be integrated in real-time. Also, the GPS data gets used for navigation with the inclusions of waypoints.

For more information, contact SonTek/YSI, Incorporated, 6837 Nancy Ridge Drive, Suite A, San Diego, CA 92121, telephone 858-546-8327, fax 858-546- 8150, e-mail inquiry@sontek.com, Internet www.sontek.com. □

Loan Reports

The following publications are available on loan from the USCID Denver Office.

Danube Valley: History of Irrigation, Drainage and Flood Control, 2003. International Commission on Irrigation and Drainage.

The Indus Basin: History of Irrigation, Drainage and Flood Control, 2003. International Commission on Irrigation and Drainage.

How Design, Management and Policy Affect the Performance of Irrigation Projects: Emerging Modernization Procedures and Design Standards, March 2002. Food and Agriculture Organization.

The Role of Women in Poverty Alleviation through Sustainable Irrigation Development, October 2000. South African National Committee, ICID.

Flow: The Essentials of Environmental Flows, 2003. IUCN, The World Conservation Union.

Change: Adaptation of Water Resources Management to Climate Change, 2003. IUCN, The World Conservation Union.

Report on Participatory Irrigation Management, June 2003. Indian National Committee on Irrigation and Drainage.

Malara and Land Use: A Spatial and Temporal Risk Analysis in Southern Sri Lanka. IWMI Research Report 68.

Tubewell Transfer in Gujarat: A Study of the GWRDC Approach. IWMI Research Report 69.

Energy-Irrigation Nexus in South Asia: Improving Groundwater Conservation

and Power Sector Viability. IWMI Research Report 70.

Water Operation and Maintenance Bulletin, June, September and December 2003; and March 2004. Bureau of Reclamation.

San Joaquin Valley Drainage Monitoring Program, 2000. California Department of Water Resources.

ICID News & Views, Autumn 2003. British National Committee on Irrigation and Drainage.

Irrigation Business and Technology, December 2003. Irrigation Association.

Currents, December 2003 - April 2004. Wright Water Engineers.

Western Water, November/December 2003, and January/February and March/April 2004. The Water Education Foundation.

Water International, December 2003 and March 2004. International Water Resources Association.

Colorado Water, October 2003 - April 2004. Water Center of Colorado State University.

World Water and Environmental Engineering, September/October and November/December 2003; and January/February 2004.

IWRA Update, October 2003 and January 2004. International Water Resources Association.

River Report, Winter 2004. Colorado River Project, Water Education Foundation.

Water Gazette, October 2003 - March 2004, Coachella Valley Water District.

Water, November 2003. Department for International Development, HR Wallingford.

Resources for the Future, Fall/Winter 2004. Resources for the Future.

EWRI Currents, Winter 2003/2004. Environmental & Water Resources Institute of ASCE.

Water Conservation News, Winter 2004. California Department of Water Resources. □

Arab Water Council Created

The Arab Water Council was formally inaugurated on April 14, 2004, in Cairo, Egypt, following many years of planning, discussions and consultations. AWC is a civil society, not-for-profit, regional organization dedicated to water issues in the Arab States. The mission of the Arab Water Council is:

The Arab Water Council endeavors to promote better understanding and management of the water resources in the Arab States in a multi-disciplinary, non-political, professional and scientific manner; to disseminate knowledge, enhance sharing of experience and information for the rational and comprehensive water resources development of the region for the benefits of its inhabitants.

The Founding Assembly met recently in Cairo and included some 400 experts, scientists, professionals and individuals with interest in water issues from 17 countries of the Arab States. They are affiliated with governments, public sector organizations, universities, research centers, private sector firms, NGOs, development funds and international financial institutions, United Nations organizations and voluntary institutions.

The Founding Assembly elected Mahmoud Abu-Zeid as the President of the Council. An interim General Secretariat is established in Cairo.

"The Arab Water Council is pioneering a new definition of the civil society and its role in the water affairs in the Arab States," declared Abu-Zeid. "The Arab countries are facing the greatest share of the water challenges in the world today. These challenges are driven by internal and external factors affecting its water and food security, threatening its economic, social and environmental sustainability and hampering the development of a stable and secure region for its inhabitants," he concluded.

For further information, contact secretariat@arabwatercouncil.org.

ITRC Update

The following classes are available for irrigation professionals through the Irrigation Training and Research Center, California Polytechnic State University:

Irrigation System Evaluation Short Courses

Evaluation Class 1: Theory and Laboratory Practice of Evaluation, June 14-16, Cal Poly San Luis Obispo

Evaluation Class 2: San Joaquin Valley Field Evaluation of Drip/Micro Systems, June 16-18. Sponsor: California Department of Water Resources

Designer/Manager School of Irrigation

August 12 - September 2. ITRC will be conducting 1-3 day classes covering basic soil/plant/water relationships, hydraulics, pumps, chemigation, row crop drip, micro irrigation, and irrigation scheduling. Attend one day or the entire 3 ½ weeks. Classes cover material for the Irrigation Association certification program including CID-Drip and the Certified Ag Irrigation Specialist (CAIS). Co-sponsor: Bureau of Reclamation, Mid-Pacific Region.

Pump Efficiency Testing Class

September 7-8, 2004. Sponsor: California Energy Commission

ITRC also announces the release of two new versions of its Agricultural Irrigation Evaluation and Distribution Uniformity software programs.

Irrigation Evaluation, version 3.2

Border Strip, Furrow, Hand Move Sprinkler, Linear Move Sprinkler, Drip Micro, Under Tree Sprinkler

\$120 for software and manual (plus tax and shipping); \$25 for software upgrade only (plus tax and shipping).

Drip Micro version, 3.2

\$50 for software and manual (plus tax and shipping); \$25 for software upgrade only (plus tax and shipping)

Questions about course content or software details may be directed to ITRC Director **Stuart Styles**, telephone: 805-756-2429. e-mail sstyles@calpoly.edu.

Questions about registration or software purchase may be directed to Susanne Gartner, telephone 805-756-2530. e-mail sgartner@calpoly.edu.

Further information is also available from the ITRC website, www.itrc.org.

Grant Funds New Cal Poly Institute

The California Department of Food and Agriculture has awarded more than \$2.8 million to California Polytechnic State University's College of Agriculture for the creation of a special institute for the study of specialty crops. The new institute will sponsor research by faculty members, graduate students and undergraduates into economic, policy and regulatory issues that affect specialty crops, defined as all crops except agricultural commodities of wheat, cotton, rice, peanuts, tobacco, oil seeds and feed grains. More than 90 percent of the crops grown in California are considered specialty crops.

California Urban Water Report Issued

After three years of research, number crunching and review, the Pacific Institute has released a new report on California urban water efficiency. The report, *Waste Not, Want Not: The Potential for Urban Water Conservation in California*, is available free of charge at www.pacinst.org/reports/urban_usage/index.htm. An Executive Summary and technical appendices are also available on the website.

Hard copies may be purchased from the Institute by contacting Shirley Brown at telephone 510-251-1600, e-mail sbrown@pacinst.org. The 165-page report is \$32, including postage.

Election (continued)

to her first. Other candidates for the Board were **James E. Ayars**, **George J. Cairo** and **Paul R. Cross**. A total of 191 ballots were counted by a Tellers Committee of David C. Rogers, Tony Wahl and Larry D. Stephens.



Dorota Haman is Professor and Irrigation and Water Management Engineer in the Department of Agricultural and Biological Engineering,

University of Florida, Gainesville, Florida. She received a B.S. Degree in Mathematics from the University of Warsaw in Poland, and M.S. and Ph.D. Degrees in Agricultural Engineering from Michigan State University. She has been working at the University of Florida since 1985. In addition to teaching and research projects in various aspects of irrigation, she has statewide responsibilities as coordinator of irrigation and water conservation programs. She is also extension program leader for water conservation in Florida, and is a recipient of the Governor's prize for energy conservation. Her research projects are focused on water conservation and implementation of water saving technologies including microirrigation. Her most recent research is on water conserving production systems in ornamental container nurseries, leading to a patent for water harvesting devices in plant production. She has extensive international experience that includes teaching irrigation courses in Chile, Mexico, Colombia, Ecuador and Egypt. Recently, she has been involved in analyzing the Santa Elena Peninsula irrigation system in Ecuador. During the last two years, she has also been involved in development and evaluation of FAO irrigation courses for irrigation professionals in east and southern Africa. She is a Life Member of USCID.



Joseph C. McGahan is President, Summers Engineering, Inc., Hanford, California. He received a B.S. Degree from

California Polytechnic State University in 1970, and, in 1971, an M.S. Degree from California Institute of Technology in Pasadena. He has spent 33 years working in the field of irrigation, drainage and municipal water supply engineering. As President of Summers Engineering, he is responsible for assuring that the firm's projects are completed in a timely manner. This work has included irrigation and drainage studies, preparation of feasibility reports, economic analyses, structural design, hydraulic design, design of water treatment facilities for municipal purposes, preparation of specifications and supervision of construction. He has participated in planning, design, management and disposal of drainage waters. Since 1985, this has included issues related to the drainage problems in the San Joaquin River Basin in Central California. He currently serves as Drainage Coordinator for the Grassland Basin Drainers. He was a co-recipient of an award honoring "Those whose consensus-based initiatives have promoted new and effective forms of public participation; improved public accountability; or advanced the successful resolution of water resource conflicts," at the California Water Policy VIII Conference, held in October 1998. He has also made presentations to groups nationwide regarding non-point source water quality issues. In 1993 and 1995, he assisted the World Bank in developing loan repayment strategies in the states of Haryana and Orissa, India. He is a Registered Civil Engineer in California, a Life Member of USCID, and member of American Society of Civil Engineers and American Water Works Association. He has presented papers at several USCID conferences, was on the organizing committee for the 1999 USCID Conference on Benchmarking Irrigation System Performance Using Water Measurement

and Water Balances, and General Chairman for the USCID Conference on TMDLs, held in Sacramento during the fall of 2002.



Bruce C. Moore is Reclamation Liaison to the Assistant Secretary, Water and Science, U.S. Department of the Interior, Washington, D.C. He received a B.S.

Degree in Civil Engineering from Iowa State University. His 30-year federal career includes experience in the natural and water resource fields, having held positions in the Corps of Engineers, National Park Service and the Bureau of Reclamation, serving in several responsible positions such as Project Supervisor for the National Park Service, Lower Colorado Regional liaison to the four-billion dollar Central Arizona Project, and Regional Engineer for Reclamation's Upper Colorado Region. He was Reclamation's representative for implementing the adaptive management process required in the Environmental Impact Statement on the operations of Glen Canyon Dam. As Regional Engineer, he provided engineering solutions that were technically sound, environmentally compatible and cost effective. He served as the chief technical advisor to the Regional Director for all design and construction issues in the Region. He has written and presented papers at technical and professional conferences on water resource subjects in both domestic and foreign venues. In the early 1990s, he was selected to make presentations on construction contracting in Taiwan and Japan. In 1999, he received the Reclamation Regional Engineer of the Year Award, given to those persons exemplifying quality in managing and leadership in the engineering and construction fields throughout all of Reclamation. He is a Registered Professional Civil Engineer in Colorado, and is a Member of USCID. He has actively participated in several USCID and ICID meetings, serving as an author and speaker, as session moderator and as a member of a conference planning committee. □

Burns' Buzz (continued)

portrays to others what and who we are. Executive Vice President Stephens' answering machine intones "You have reached the United States Society on Dams and the United States Committee on Irrigation and Drainage." What if that message was "You have reached the United States Society on Dams and USCID, the Society of United States Irrigation and Drainage Professionals"? Would that better convey the message that we are a "multidisciplinary professional society" as stated in our brochure, rather than a "committee?"

Under the concept discussed, the legal name would not be changed. The USCID acronym would be used with an explanation (or kicker) such as the above, or another example, "USCID, the United States Society on Irrigation and Drainage." "The United States National Committee of the International Commission on Irrigation and Drainage" statement would remain on the letterhead.

Your reactions or comments on this issue are welcomed.

At the suggestion of Board Advisor **Dennis Wichelns**, an ad hoc committee has been formed to examine the financial records and develop a Business Plan for USCID. The ad hoc committee members are Secretary **Joseph McGahan, Rick Gold, Herbert Greydanus, David Cone** and **Dennis Wichelns**. The committee will report to the Board of Directors at the Fall meeting. The committee welcomes your input or suggestions on the development of the Business Plan.

Be sure to mark October 13-16, 2004, on your calendar for our **Conference on Water Rights and Related Water Supply Issues** to be held in Salt Lake City, Utah. □

Workshop (continued)

Replogle recently retired after more than 40 years of service with the Agricultural Research Service; and Bos will soon retire from the International Institute for Land Reclamation and Improvement, The Netherlands.

Albert J. Clemmens, Director of the U.S. Water Conservation Laboratory, organized the Workshop.

The Workshop featured a retirement dinner honoring Replogle. Bos was the guest of honor at the Thursday lunch. During that event, Bos presented colleague **Tony L. Wahl** with the 2003 ICID WatSave Young Professional Award. Wahl received a honorarium of \$2,000 and a plaque in recognition of his innovations in water conservation techniques. Wahl is a Hydraulic Engineer at the **Bureau of Reclamation** Water Resources Research Laboratory in Denver, Colorado.

Workshop activities began with a tour of the hydraulic laboratories at the U.S. Water Conservation Laboratory, USDA-ARS. Workshop sessions on Wednesday afternoon and Thursday

featured presentations by Replogle, Bos and other experts on state-of-the-art applications and management techniques in water measurement. A one-day exhibition on Thursday featured the products and services of a dozen companies. The Workshop exhibitors and sponsors included:

- Aqua Systems 2000 Inc.
- Automata, Inc.
- Campbell Scientific, Inc.
- Control Microsystems Inc.
- Davids Engineering, Inc.
- Geomation, Inc.
- George Fischer Signet, Inc.
- Hancor Inc.
- In-Situ, Inc.
- MBK Engineers
- RD Instruments
- Rubicon Systems
- Siemens Process Instrumentation
- SonTek/YSI Inc.
- The Cameron Group
- WEST Consultants, Inc. □



Your #1 Source for
SCADA

Control Microsystems' SCADAPack PLCs & RTUs
National Instruments' Lookout HMI/SCADA Software
Teledesign Systems' UHF/VHF/Microwave Radio Modems
Locus Spread Spectrum & Ethernet Radio Modems
Win-911 Alarm Notification Software
Security Web Cams with Alarm Paging
Operator Interface Panels & Industrial PCs
Leased-Line & Dial-up SCADA Modems
Remote I/O Systems

...Everything to meet your SCADA system needs!

Sage Designs, Inc.
SCADA & Industrial Automation Products
1-888-ASK-SAGE • 1-888-FAX-SAGE
www.SageDesignsInc.com

Meetings and Conferences

The following meetings and conferences may be of interest to USCID Members.

Groundwater in the West: 25th Summer Conference. The Natural Resources Law Center, University of Colorado, is sponsoring the Conference, to be held June 16-18, 2004, in Boulder, Colorado. The Conference will begin with a primer on groundwater in the West focusing on science in the morning and law in the afternoon. The Thursday program will present case studies of groundwater use and management, focusing on innovative solutions for a rapidly growing West, transboundary issues, the High Plains and the Lower Colorado Region. The Friday program is available for separate registration and will focus on Colorado groundwater resources, issues and solutions.

For more information, visit www.colorado.edu/law/centers/nrlc/waterconference/index.htm.

Third International Symposium on Flood Defense. The Symposium will be

held in Nijmegen, The Netherlands, May 25-27, 2005. The theme of the Symposium is *Floods, from Defense to Management*.

A Call for Abstracts has been issued for the Symposium. Abstracts of proposed papers on the following main topics are invited:

- Scientific Developments
- Policy-Making and Implementation
- Frameworks
- Measures/Solutions
- Specific Topics, including flooding due to ice damming; flooding and navigation works; and flood management and climate change.

Abstract format requirements and additional details are available at www.isfd3.nl.

Land and Water Management: Decision Tools and Practice. The 7th Inter-Regional Conference on Environment and Water will be held in conjunction with the 2004 CIGR International Conference, October 11-14, 2004, in Beijing, China. The Conference will focus on five major topics:

- Water Saving and Water Productivity
- Land Use Planning and Management
- Soil Erosion and Conservation
- Water Conservation and Soil Management
- Salinity, Water Treatment and Reuse, and Contamination Control

For more information, visit the Conference website at www.2004cigr.org.

25th Annual International Irrigation Show. The annual Irrigation Association conference and exhibition will take place November 14-16, 2004, in Tampa Bay, Florida. In addition to the largest industry trade show in the U.S., other activities from November 11-17 will include education courses, certification exams, technical sessions, an international irrigation forum and industry tours. For more information, visit www.irrigation.org, or e-mail cynthia@irrigation.org.

INNOVATIVE DRAINAGE AND WATER CONSERVATION SOLUTIONS





WHEN EVERY DROP COUNTS

Uncompromising product quality and 100 year service life are two of the features that are creating tremendous interest in our new line of 18" - 60" low pressure irrigation pipe. When every drop of water counts – put Hancor to work for you.




Contact us today at:
1-800-2HANCOR ext. 809
www.hancor.com

Hancor® is a registered trademark of Hancor, Inc., © 2004 Hancor, Inc.



<H²O = <NO₃ = >O₂

Drainage systems equipped with Agri Drain Water Level Control Structures can reduce unnecessary water and nutrient loss from farm fields, improving water quality and increasing yields.



Agri Drain
CORPORATION

Adair, IA Ph: 800-232-4742 www.agridrain.com

News of Members

Vincent F. Bralts has been elected to the Board of Trustees of the American Society of Agricultural Engineers.

Robert Clark is Resident Engineer on two wastewater and water treatment plants in Egypt. The projects are funded by the U.S. Agency for International Development and located in Beni Suef, south of Cairo on the Nile.

Wayne O. Deason retired after a 34-year career with the Federal government. He served in several leadership positions in environmental programs for the **Bureau of Reclamation**, including Director, Office of Environmental Affairs in Washington; and most recently Deputy Director, Program Analysis Office in Denver. He resides in Marana, Arizona.

Guy Fipps has been named the Director of the Irrigation Technology Center, Texas Cooperative Extension, Texas A&M University. He is responsible for implementing and expanding existing ITC programs in irrigation as well as designing the testing laboratories and training facilities as part of a new, 500-acre center.

Terry A. Howell, Jr. has been elected to the Board of Trustees of the American Society of Agricultural Engineers.

Samuel E. Kao recently joined Davey-Cairo Engineering, Inc., Tempe, Arizona, as a Senior Consultant.

Phillip Kirpich wrote chapters on Food Security and Irrigation Management for the encyclopedia *Water: Science and Issues* recently published by Macmillan Reference USA.

James F. Ruff will retire May 15, 2004, from **Colorado State University**.

Jerry Schaack recently retired from the **Garrison Diversion Conservancy District**. He now resides in Bismarck, North Dakota.

Vytautas Sliupas is president of the Auksciai Foundation (USA), an affiliate of the Lithuanian-based nonprofit, Auksciai Farm and Forestry Center (www.aukfoundation.org). The Center's purpose is to assist small-scale Lithuanian farmers with learning new

methods and technologies to help them compete more successfully in the free world economy. He notes that he has been a Member of USCID since 1966.

Brian Wahlin is now affiliated with Davey-Cairo Engineering, Inc., Tempe, Arizona. □

New Members

The following have joined USCID since publication of the last Newsletter:

Corporate Members

Sweetwater International, Inc.

Attn: Edward W. Jackson
455 South 300 East, #200
Salt Lake City, UT 84111
Office: 801-328-1993
Fax: 801-328-1954
E-mail: ewj@i-sweetwater.com
Internet: www.i-sweetwater.com

Individual Members

Iltaf A. Abro

University of Arkansas
1731-B Reap Drive
Fayetteville, AR 72703
E-mail: iabro@uark.edu

Aaron Beutler

Utah State University
3927 West 4200 North
Benson, UT 84335
E-mail: aabeutler@cc.usu.edu

Joe Burns

California State University, Los Angeles
960 South Normandie Avenue
Los Angeles, CA 90006

Robin William Davis

11600 Huebner Road, #2808
San Antonio, TX 78230
E-mail: rwdavistx@hotmail.com

Edward W. Jackson

Sweetwater International, Inc.
455 South 300 East, #200
Salt Lake City, UT 84111
Office: 801-328-1993
Fax: 801-328-1954
E-mail: ewj@i-sweetwater.com

Franklin D. Johnson

Sweetwater International, Inc.
455 South 300 East, #200
Salt Lake City, UT 84111
Office: 801-328-1993
Fax: 801-328-1954
E-mail: fdj@i-sweetwater.com

Venu Kandiah

California State University
24341 Blueridge Road
Lake Forest, CA 92630

M. Yameen Memon

Community Development Specialist
Sindh Agricultural & Forestry Workers Coordinating Organization
C-20 GECHS Qasimabad
Near Hyderabad Town
Hyderabad, Sindh
Pakistan
Office: 92-221-650-996
Fax: 92-221-655-160
E-mail: yameen@realp2p.com

Jatinder S. Punia

Chief, Flood Operations Branch
State of California, Department of Water Resources
3310 El Camino Avenue, #200
Sacramento, CA 95821
Office: 916-574-2611
E-mail: jpunia@water.ca.gov

Alyse Schrecongost

Michigan State University
500 North Foster Street
Lansing, MI 48912
Office: 517-231-3501
E-mail: schrecon@msu.edu

Cat Shrier

Colorado State University
1526 Whedbee Street
Fort Collins, CO 80524
Office: 970-491-2419
E-mail: cshrier@lamar.colostate.edu

Theodor S. Strelkoff

Research Hydraulic Engineer
Agricultural Research Service, USDA
4331 East Broadway Road
Phoenix, AZ 85040
Office: 602-437-1702, x267
E-mail: fstrelkoff@uswel.ars.ag.gov

Lynn C. Stutzman

Owner/Project Manager
Engineering Associates
P.O. Box 1900
Cody, WY 82414
Office: 307-587-4911
Fax: 307-587-2596
E-mail: lynnst@eaengineers.com

David R. Webster

President
Webcom Communications
7355 East Orchard Road, #100
Greenwood Village, CO 80111
Office: 720-528-3770
Fax: 720-528-3771
E-mail: davidwb@infowebcom.com □



Davey-Cairo Engineering, Inc.

- Consulting Civil & Agricultural Engineers
- Water Resources Specialists

George J. Cairo, P.E.

Principal Engineer

Central Arizona Office
2121 W. University Dr., Suite 123
Tempe, Arizona 85281
www.daveycairo.com

480.921.4080
Fax 480.921.4087
Cell 602.690.6661
gcairo@daveycairo.com



DAVIDS ENGINEERING, INC

CONSULTING AGRICULTURAL & CIVIL ENGINEERS

1772 Picasso Ave., Suite A
Davis, California 95616-0550
e-mail: grant@de-water.com
http://de-water.com

530.757-6107
530.757-6118 fax

MBK ENGINEERS

Water Resources

Flood Control

Water Rights

2450 Alhambra Boulevard, 2nd Floor
Sacramento, California 95817-1125
http://www.mbkengineers.com

Phone: (916) 456-4400
Fax: (916) 456-0253

GILMORE EQUIPMENT INC

CANAL TRIMMERS AND LINERS

KENNETH GILMORE
President

4377 Emerald Ridge Lane
Suisun City, CA 94585-3147
phone 707.863.7722
fax 707.863.7723
email gilmorek@aol.com



Stantec

George V. Sabol, PhD, PE
8211 South 48th Street, Phoenix, AZ 85044
Tel: (602) 438-2200 Fax: (602) 431-9562
gsabol@stantec.com
Visit us at: stantec.com

PLANNING, DESIGN, and REHABILITATION

- Irrigation Water Conveyance
 - Land Drainage
 - Flood Control
 - Dams & Water Storage
- ### STUDIES
- Agricultural Land Use
 - Irrigation Feasibility
 - Watercourse Master Plans



A YSI Environmental Company

*The World Leader
for Water Velocity Measurement*

Acoustic Doppler
Solutions for:

- Velocity
- Level
- Flow

SonTek/YSI, Incorporated

6837 Nancy Ridge Drive, Suite A
San Diego, CA 92121
Tel: (858) 546-8327 Ext. 136
Fax: (858) 546-8150
Email: dbrooks@sontek.com
www.sontek.com

Necrology

Keith Ainsworth died June 25, 2003, after a long illness. He was long-time employee of the Coachella Valley Water District, Coachella, California, retiring as assistant general manager after 41 years of service.

Gilbert L. Corey died August 6, 2003, in Moscow, Idaho. He was 86. He earned a Ph.D. degree from Colorado State University and was a faculty member at the University of Idaho. During his career, he also was employed by the Agricultural Research Service, resided in India and Pakistan as a water management expert and was a senior water management specialist for the U.S. Agency for International Development. He joined USCID in 1973.

C. B. Thompson, Fountain Hills, Arizona, a Member of USCID since 1961, died recently.

USCID Notes

by Executive Vice President Larry Stephens

Organizing workshops and conferences that address contemporary water issues is an increasingly important function of USCID. The recently completed Workshop in Scottsdale, Arizona, was an excellent example of our meetings. Technically, the Workshop, organized by **Bert Clemmens**, offered an in-depth review of water measurement state of the art. An exhibition gave several companies the opportunity to display their irrigation and flow measurement products. A highlight of the event was an opportunity to recognize the retirements of **John Replogle** and **Rien Bos**. I'm confident that everyone who attended found the Workshop a most worthwhile experience. Sincere thanks to Bert and his team for developing and presenting the technical information, and to the exhibitors and sponsors for their outstanding support.

The next USCID meeting will be held in Salt Lake City, Utah, during mid-October 2004, for a conference focused on the water rights issues facing water users. An excellent group of papers has been accepted for the conference, and conference co-chairs **Reed Murray** and **Kib Jacobson** are developing a noteworthy program, including interesting keynote and meal speakers, two excellent study tours and a guest program. Plan to attend.

Then early next spring in San Diego, USCID will host the Third International Conference on Irrigation and Drainage. The Conference theme is *Water District*

Management and Governance; abstracts for proposed papers are currently being accepted by USCID. Go to www.uscid.org/05idconf.html for more details and to review the Call for Papers. The co-chairs of this Conference are **Mark Svendsen** and **Dennis Wichelns**.

The common denominator of these past and upcoming USCID meetings is the volunteer work of USCID Members who serve on the planning committees, review papers, serve as session moderators, organize study tours and help market sponsorships and exhibits. Each planning committee for the Salt Lake and San Diego Conferences includes about 25 Members.

As has been mentioned in previous *USCID Newsletters*, USCID has been selected to host, in Sacramento during the fall of 2007, the 58th Meeting of the ICID International Executive Council. Associated with the IEC Meeting will be USCID's *Fourth International Conference on Irrigation and Drainage*. **Bert Clemmens**, USCID's most experienced conference chairman, has agreed to chair the Sacramento event. I urge you to step forward and volunteer to help with this Conference, as this will be the most challenging event USCID will host since the 12th ICID Congress, held in Fort Collins during 1984.

Speaking of volunteers — USCID needs Members to represent us at ICID: the **Working Group on Integrated Land and Water Resources Management** and the **Working Group on Capacity Building, Training and Education**. Please contact me for more information about these opportunities. □

USCID Meetings

October 13-16, 2004, Salt Lake City, Utah. USCID Conference on Water Rights and Related Water Supply Issues.

March 30-April 2, 2005, San Diego, California. Third International Conference on Irrigation and Drainage.

ICID Meetings

September 5-11, 2004, Moscow, Russia. 55th IEC Meeting.

December 6-9, 2004, Cairo, Egypt. 1st African Regional Conference on Drainage.

May 16-20, 2005, Frankfurt, Germany and Slubice, Poland. 21st European Regional Conference.

September 11-19, 2005, Beijing, China. 56th IEC Meeting and 19th Congress.

September 10-17, 2006, Kuala Lumpur, Malaysia, 57th IEC Meeting and 7th Micro Irrigation Congress.

Fall 2007, Sacramento, California, 58th IEC Meeting, and Fourth International Conference on Irrigation and Drainage.

2007, 4th Asian Regional Conference, Tehran, Iran.

2008, 20th ICID Congress, Lahore, Pakistan.