national ground water
research and educational foundation

2011 Annual Report

December 2011

Uganda and Kosovo to benefit from Developing Nations grants

Three grants totaling $20,000 were awarded to help build and restore drinking water wells in Uganda and Kosovo, the National Groundwater Research and Educational Foundation announced in April. The three grant recipients and award amounts were:

- Hope 2 One Life/Family Empowerment Uganda (FEM), $6000
- Committee on Foreign Missions for the Orthodox Presbyterian Church, Nakaale Station, Uganda, $8000
- Water for Life, Tushile Safe Water Project, $6000.

The Atkinson Foundation/FEM project installed a high-capacity water well and solar pumping system at the FEM Canaan Farm in Rakayata Village, Masindi, Uganda, to help 150 survivors of civil war who are rebuilding their lives. The NGWREF grant helped to pay a portion of the overall project cost of $27,000.

Situated in northeast Uganda, the Nakaale Station project by the Committee on Foreign Missions for the Orthodox Presbyterian Church involves installing wells in four villages to serve up to 5000 people. At present, the people in these villages get their drinking water from polluted water in rivers, creeks, and swamps.

The Tushile Safe Water Project developed by Water for Life will serve 800 villagers in Kosovo by capping 150 open wells to protect them from contamination, installing pumps in the wells, and cleaning up sources of pollution.

"Thousands of people in these war-torn, impoverished countries will benefit from the safe drinking water that these projects will provide. For some, especially children under the age of five, these projects are a matter of life and death," said Steve Schneider, MGWC, and NGWREF president.

"It was for projects such as these that the Foundation created its Developing Nations Fund."

2011 NGWREF Assante Scholarship winners announced

A group of high school seniors received $23,000 in 2011 NGWREF scholarship awards, the second highest amount ever awarded (a record $25,000 was made available in 2010).

The 2011 NGWREF Len Assante Scholarship Fund winners are as follows.

William Reichart III
Past President Award recipient
Hanover, Pennsylvania
College of William & Mary
Environmental Sciences

Norman Harris IV
Ora Lyons Award recipient
Gilford, New Hampshire
Worcester Polytechnic Institute
Environmental Sciences

William Pearson
Lake City, Michigan
Michigan Technological University
Geology

Thomas Palmieri
Covina, California
University of Southern California
Civil Engineering

Erik Caderat
Trabuco Canyon, California
California State University, Fullerton
Hydrogeology

Continued on page 2

Sebastian Teas
Zanesville, Ohio
Muskingum University
Geology

Bryce Kober
Kansas City, Missouri
University of Missouri
Environmental Sciences

The source of funds for these awards comes from a number of sources, including an annual fundraising auction held in conjunction with the NGWA Ground Water Expo and Annual Meeting. More than $30,000 was raised for the NGWREF Len Assante Scholarship Fund at the December 2010 auction in Las Vegas. Auctions at the last nine Expos have raised a combined $330,750.

Among those donating items to the 2010 auction were the following companies and individuals.

Platinum level

- Baroid Industrial Drilling Products
- George E. Failing Co. (GEFCO)

Gold level

- Gregg Drilling and Testing Inc.
- Korea Groundwater and Geothermal Energy Association
- Pentair Water—Myers and STA-RITE

Silver level

- Len Assante, CWD/PI—Retired in Good Standing, and Joanne Assante
- Baker Water Systems—Campbell/Monitor
- Barrett Benefits Group
- Art Becker, MGWC, CPG, and Joann Becker
- Blake Equipment Co.
- Kathy Butcher, CMP
- Caribbean Well & Pump Service Inc.
- Dahlman Pump & Well Drilling Inc.
- Dutko Group
- Franklin Electric
- Freberg Environmental Insurance
- Geological Society of America
- Jack Henrich, MGWC, and Bobbi Henrich
- Industrial Test Systems Inc.
- Integrated Leadership Systems
- ITT Corp.
- J.B. Kenehan LLC
- Las Vegas Hilton
- Mantyla Well Drilling Inc.
- Kevin McCray, CAE
- Milby Co.
- Nancy Quinn Executive Coaching
- Paul Humes, CPA
- Peebles Creative Group
- Roger E. Renner, MGWC
- Roscoe Moss
- Vickie Ross
- SGS North American Drilling Division
- Wyo-Ben Inc.

Four Students awarded with NGWREF Farvolden Awards at 2011 NGWA Ground Water Summit

Four students presenting papers and posters at the 2011 NGWA Ground Water Summit in Baltimore, Maryland, were awarded Farvolden Awards from the Foundation by a grant from S.S. Papadopulos & Associates Inc.

The awards are given annually in honor of the late Dr. Robert Farvolden, a noted international groundwater scientist, professor, and mentor to young people. The awards are based on three criteria: the quality of the presentation, content (including contribution to groundwater science, engineering, management, or policy), and demonstrated insight on the topic.

The 2011 winners are as follows.

- Peggy Altman, Colorado School of Mines, "Biologically Enhanced Tetrachloroethene DNAPL Dissolution in an Experimental Fracture Network"
- Christopher J. Russoniello, University of Delaware, "Construction of a Watershed-Scale Model to Assess Submarine Groundwater Discharge to Indian River Bay, Delaware"
- Melissa Schaar, University of Nevada at Las Vegas, "E. Occurrence and Mobility of Uranium and Other Elements in the Grand Canyon Springs"
- Stephanie S. Wong, Baylor University, "Quantifying the Extent of Aquifer Reduction Due to Floodplain Sand and Gravel Mining"

S.S. Papadopulos & Associates make contributions to support Farvolden Awards

S.S. Papadopulos & Associates Inc. announced it will make contributions to fund NGWREF Farvolden Awards in 2012 and 2013—continuing its support of the awards presented to undergraduate and graduate students for outstanding poster and paper presentations made at the annual NGWA Ground Water Summit.

In addition to underwriting the Farvolden Awards in 2012 and 2013, S.S. Papadopulos will also provide $500 each of those years to NGWREF's Len Assante Scholarship Fund, which awards scholarships to high school graduate or full-time undergraduate students studying groundwater-related fields who are enrolled in a four-year college program or two-year well drilling associate degree program.

S.S. Papadopulos & Associates was established in 1979 to provide professional consulting services for groundwater issues. While groundwater hydrology and hydrogeology are the cornerstone of the firm's expertise, it has expanded to develop a recognized practice in contaminant studies, remediation, geochemistry, and surface water hydrology.

Scholarship students describe their groundwater commitments

"Happy Groundwater Awareness Week! This week I have sent letters to the editor of newspapers in both my hometown of Greensboro, NC, and Wilmington, NC, where I go to school. I have been posting about Groundwater Awareness Week on Facebook and talking to my friends about it. I am also drafting a letter to my district's representative, Brad Miller.

"I am very excited about this week, as it is something I strongly believe in. I will be going to NC State for a Master of Microbiology degree next year, and my faculty advisor works on groundwater bioremediation, so I am hoping to continue working with him in the field.

"I think it is very important for the public to be aware of issues concerning groundwater and their water supply. Most of the city water in Greensboro comes from streams, but I spoke to many people living in the county while working at the Water Resources Department. They all had wells, and we frequently emphasized to them the importance of getting wells checked for contamination. I think it is very important that the public be aware of the necessity of getting groundwater wells checked for contaminants, to protect their health.

"The best method of disseminating information about groundwater, in my opinion, would be email or letters. Communications in print tend to catch my attention more than any other type, and I know that many people often don't have time to attend meetings. Also, fliers posted in the city facility buildings, like the Water Resources Department, tend to catch people's attention."

— Aana Taylor-Smith, recipient of an NGWREF scholarship award

"I want you to know that I thoroughly enjoy reading the membership journal publications that you have sent as a part of my complimentary membership, and find the journal to be a terrific resource and complement to my studies and interests.

"While I was disappointed to miss the recent Ground Water Expo due to my fall semester finals schedule, I am happy to report that I finished my first semester here at Cal with a 3.89 semester GPA (two A-, two A's, and one A+ grade). I want you to know that the scholarship that I have received has been a significant help to me, and I am honored to represent your organization here at UC Berkeley."

— Taylor Dahlke, recipient of an NGWREF scholarship award

Glotfelty named 2012 McEllhiney Lecturer

Marvin F. Glotfelty, RG, cofounder and principal hydrogeologist with Clear Creek Associates, a groundwater consulting firm with offices in Arizona, California, and Virginia, has been named the 2012 McEllhiney Lecturer. His lecture is titled "Life-Cycle Economic Analysis of Water Wells—Considerations for Design and Construction."

Attendees to the presentation will be shown how seemingly more expensive initial water well costs may actually pay for themselves in the early life of the well, in addition to providing ongoing dividends in value and economics for many subsequent years.

They will learn how:

- The total cost of the well can significantly increase by using the least expensive "low-bid" approach to well construction in some cases
- Some well construction materials or methods that appear to be beneficial and cost-efficient may have "hidden" costs that can actually increase O&M costs or reduce the useful life of a well
- Analytical methods and techniques can maximize water production and water quality in both new and existing wells.

Several elements of well design/construction that impact the total (life cycle) cost of water wells—including screen type, construction material, well development method, and frequency of well cleaning—will be discussed.

Central America trip highlights 2011 NGWREF McEllhiney Lecture Series in Water Well Technology

McEllhiney Lecturer Tom Christopherson presented the lecture for the first time outside of the United States or Canada, when visiting El Salvador and Guatemala.

He says that he had a great turnout in El Salvador, and had the opportunity to meet national government officials, as well. The presentation was to the gathering of the Central American University hydrogeology students who are aided by a consortium of Canadian universities, an effort spearheaded by member David Bethune of the University of Calgary.

Bethune tells us there is a need for presentations like the McEllhiney Lecture in the Central America region as the region's dependence on groundwater is huge and the need for more direction in protecting the resource is dire.

Christopherson also made his presentation to a group of Guatemalan groundwater contractors invited to the presentation by Robert Schuett of DAHO.

The McEllhiney Lecture Series in Water Well Technology is supported by a grant by Franklin Electric Co.

Franklin Electric

Hassanizadeh named 2012 Darcy Lecturer

S. Majid Hassanizadeh, Ph.D., has been named as the 2012 Henry Darcy Distinguished Lecturer. A professor of hydrogeology on the faculty of geosciences at Utrecht University since 2004, and the senior adviser with the Soil and Groundwater Department of Deltares research institute, he's also held visiting faculty positions at the University of Notre Dame; the University of Bordeaux, France; EPF Lausanne, Switzerland; and Stuttgart University, Germany.

Hassanizadeh served as editor of *Advances in Water Resources* (1991-2001) and associate editor of both *Vadose Zone Journal* (2002-2009) and *Water Resources Research* (2004-2009). He is a member of the International Advisory Board of the *Journal of Hydrologic Engineering* (since 2004), and on the editorial boards of *Transport in Porous Media* (since 1989), *Journal of Porous Media* (since 2009), *Special Topics & Reviews in Porous Media* (since 2010), and *The Open Hydrology Journal and The Open Civil Engineering Journal* (the latter two since 2007).

In addition, Hassanizadeh is active as a session organizer or a member of various committees for the Netherlands Royal Academy of Arts and Sciences, Netherlands Organisation for Scientific Research, American Geophysical Union, Soil Science Society of America, European Geophysical Union, and International Association of Hydrological Sciences. He is a founding member and managing director of the International Society for Porous Media (InterPore). He has been published close to 200 times in journals, books, conference proceedings, and technical reports.

Hassanizadeh is a Fellow of both the American Geophysical Union (2002) and American Association for Advancement of Science (2007). He was awarded the honorary degree of Doktor-Ingenieur from Stuttgart University in 2008 and received the von Humboldt Prize in 2010.

Hassanizadeh's research focuses on flow and transport in porous media through theory development, experimental studies, and modeling work. His current research includes pore-network modeling and experimental studies of two-phase flow, pore-network modeling of adsorbing solutes in unsaturated soil, transport of colloids and microorganisms in variably saturated soil, and novel remediation methods for NAPL-polluted soils.

2011 Darcy Lecturer says hydrologic research appears alive and well

*Stephen "Steve" E. Silliman, Ph.D., **2011 Henry Darcy Distinguished Lecturer**, provides a recap of a portion of his lecture tour.*

Despite some rather cold temperatures (approximately -20°F in Rapid City) and late-season snow (quite beautiful at Waterloo), I have been warmly welcomed so far at more than 30 sites and have enjoyed the opportunity to become familiar with the wide range of education and research efforts being pursued throughout the United States and Canada.

The excitement among undergraduate and graduate students, faculty, and professionals in all aspects of our profession has been nothing less than inspirational. From pore-scale studies to characterization methods such as hydraulic tomography to integrated regional hydrologic models, the field is filled with brilliant students and faculty struggling with difficult but important questions in the hydrologic sciences.

I'm also impressed by the number of locations looking at the intersection of hydrologic science with the social and economic sciences—some of our most difficult future challenges will necessarily involve such wide collaborations. It's reassuring to see that many of our programs are addressing these challenges head on.

With respect to pursuing hydrologic studies in rural regions throughout the world, I'm thrilled to have met many from the new generation of students who are intrigued by the challenges and opportunities involved in working in collaboration with international colleagues. I've had the privilege of learning about many projects focused on rural hydrologic assessments in, among other places, Central/South America, Africa, and Asia. Many of these projects are taking advantage of the newest technologies and strategies, including sophisticated satellite imagery, multi-scale/integrated modeling, and interdisciplinary/cross-cultural collaborations. It's a pleasure to see this new generation focused on helping the world's poor through sustainable, culturally sensitive approaches to water resource development, protection, and sustainability.

The opportunity to visit with so many old and new colleagues has also raised the possibility to explore some challenging issues. Among these, one of the most interesting has been the challenges associated with encouraging graduate research projects involving hydrologic studies in rural communities. Such projects are subject to a healthy conflict among the critical need for these types of studies, severe limitations on resources which can be brought to bear, and the difficulty in advancing basic hydrologic science at a level suitable for work, say, at the level of a Ph.D. dissertation. Associated with this question is the degree to which those of us already in the profession have a responsibility to contribute to developing in-country expertise and intellectual capacity among our colleagues working in rural regions throughout the world.

Past Darcy Lecturer named among top U.S. women in science

Linda Abriola, Ph.D., dean of the School of Engineering at Tufts University and 1996 Darcy Lecturer in Ground Water Science, has been recognized in *American Women of Science Since 1900*, an encyclopedia focused on 500 of the 20th century's most notable American women scientists.

American Women of Science Since 1900 examines the pioneering, but sometimes overlooked, achievements of distinguished women in disciplines from genetics to computers to nutrition.

"I am truly honored to be recognized alongside such accomplished and pioneering women," Abriola said. "Science and technology are playing an increasingly important role in our society, yet women are still significantly underrepresented in so many engineering and science fields. It is crucial for young women to understand that they can be leaders in this space; that they achieve both fulfilling personal lives and successful professional careers as engineers and scientists."

"Organic Liquid Contaminant Entrapment and Persistence in the Subsurface: Interphase Mass Transfer Limitations and Implications for Remediation" was the title of the Darcy Lecture presented by Abriola. The lecture presented an overview of collaborative research conducted at the University of Michigan during a five-year period to elucidate and quantify the processes controlling interphase mass transfer in multiphase subsurface environments.

Abriola's lecture was heard by more than 4000 people at 33 locations in the United States, Canada, Switzerland, Germany, France, and England.

Darcy Lecture fundraising campaign progresses toward goal

More than $13,500 has been donated to the Darcy Lecturers for the Darcy Lecture Fundraising Campaign since it was launched in April 2010. The campaign goal is $25,000 with a target date of December 1.

Past Darcy Lecturers in Ground Water Science Jim Butler, Ph.D., University of Kansas (2007), David Hyndman, Ph.D., Michigan State University (2002), and Richelle Allen-King, University of Buffalo (2003) are spearheading the endowment campaign. All three made $1000 gifts to the lecture series' endowment fund to get it started.

Matching gifts have been made by Warren Wood, Ph.D., an early advocate for the creation of the Darcy Lecture Series and a member of the Darcy Selection Committee for several years, Art Becker, MGWC, CPG, of SGS Environmental and NGWA president, and NGWA and NGWREF Executive Director Kevin McCray, CAE.

"The Darcy Lecture Series is the scientific essence of the NGWA and NGWREF missions," Becker said. "Science is critical to educating the world about groundwater issues and resources. "Everyone in our profession benefits from the Darcy Lecture and should support its funding."

If you would like to contribute to the Darcy Lecturers for the Darcy Lecture Fundraising Campaign, contact Kevin McCray via e-mail to kmccray@ngwa.org, by phoning 614 898.7791, or by writing to him c/o NGWREF, 601 Dempsey Rd., Westerville, OH 43081, USA.

NGWREF's Water: H2O=Life Exhibit educates on importance of groundwater

Thanks to a grant from NGWREF, wells and groundwater are an integral part of a traveling exhibit on water that is touring the world's leading science museums, including Ohio's Center for Science and Industry, nearby to NGWREF headquarters in Westerville.

The groundwater portion of the exhibit features "Porous Stones," an exhibit component intended to help dispel the common misperception that groundwater occurs largely as underground lakes, rivers, and "veins" of water. Visitors are encouraged to trickle water onto various rock samples to observe that some have sufficient porosity and permeability to permit water to enter and flow through them.

The 7000-square-foot exhibit, Water: H2O=Life, opened November 2007 at the American Museum of Natural History in New York City, where it ran through May 27, 2008. After New York, the exhibit so far has been to the San Diego Natural History Museum, the Science Museum of Minnesota, Chicago's Field Museum, the Great Lakes Science Center in Cleveland, and was at the Royal Ontario Museum in Toronto (March 12-September 5, 2011).

Other destinations outside of North America include the Singapore Science Center; Instituto Sangari of Sao Paulo, Brazil; and the National Museum of Australia in Canberra. The organizers of the exhibit, the American Museum of Natural History and the Science Museum of Minnesota, expect more than three million people to see the exhibit during its several-year run. Additional stops are being explored by the exhibit's organizers, as well.

The exhibit, which focuses on all sources of water, features live animals, hands-on exhibits, and immersive dioramas.

Science device added to Foundation's museum

Robinson Noble Inc., a groundwater consulting firm in the Pacific Northwest, recently contributed to the Foundation's museum collection a 1969 Stevens Type F Water Level Recorder. As you know, these devices were used to create real-time water level records.

They worked by attaching a float to one end of beaded wire line and a lead weight to the other end. The wire fits into the pulley. As the float moves up and down with changing water levels, it turns the pulley which, in turn, turns the drum with the chart paper. Various gear arrangements can

be set on the drum so that one rotation equals different amounts of water level throw. The water levels are recorded as the drum rotates by a pen which is attached to the clock. The pen movement across the drum can be varied by a set of gears. This unit is set with a seven-day clock gear set and a 1:5 chart-to-water level ratio gear set.

The museum is not actively seeking new contributions, but the scale of this device fitted available display space. It has also been added to the Foundation's virtual museum hosted at www.NGWA.org.

1995 Darcy Lecturer Hsieh Named U.S. Government's 2011 Employee of the Year

Paul A. Hsieh, Ph.D., the 1995 Darcy Lecturer in Ground Water Science, was named the U.S. government's 2011 Federal Employee of the Year, an honor awarded to a federal employee whose professional contributions exemplify the highest attributes of public service.

A research hydrologist of the U.S. Geological Survey, Hsieh was honored for providing critical scientific information to convince federal officials that the containment cap on the ruptured Deepwater Horizon oil well in the Gulf of Mexico was working, thereby helping end the environmental disaster.

Hsieh relied on a modified version of his reservoir modeling software to do complex calculations. After hours of analysis, Hsieh concluded the cap would hold and was not leaking beneath the Gulf surface, a decision that was accepted on July 16. As a result, the cap remained in place, and the well never spilled another drop of oil.

"Paul's model provided the confidence for the government team to keep the cap and stack closed," said Rear Adm. Kevin Cook, director of prevention policy, U.S. Coast Guard. "It was a real game changer."

"Paul was the one person who had the piece to the puzzle," Cook added. "He had credibility earned over years as a scientist. I don't think that it could have been done by just anyone."

USGS Administrator Marcia McNutt said she had full faith in Hsieh's evaluation.

"Paul performed in the heat of the moment using this incredibly complex, detailed model. It not only fit the pressure data and the shape of the curve as the pressure rose, but also showed that the shape of the rise in pressure was consistent with the integrity of the well. That was the deciding factor," McNutt said.

While not an expert on oil, Hsieh said there are many parallels to his work on water issues.

"Water and oil are both fluids. Oil seeps through the ground more slowly, but you can apply the science of water to oil," said Hsieh. "Working on the oil spill is something I never expected."

His 1995 Darcy lecture, "A Multidisciplinary, Multiscale Investigation of Fluid Flow and Solute Transport in Fractured Crystalline Rocks: Finds from the Mirror Lake Site, New Hampshire," was heard by more than 5,000 persons at 57 locations in the United States, Canada, Germany, France, Spain, the United Kingdom, and South Africa.

Hseih received a B.S. in civil engineering from Princeton University, and an M.S. and Ph.D. in hydrology from the University of Arizona. Since 1997, he has worked as a hydrologist in the research program of the U.S. Geological Survey and at the time of the lecture was stationed in Menlo Park, California.

Director of development enhances NGWREF's fundraising efforts

Len Ford has been engaged to assist the Foundation in creating a comprehensive development program.

As the Foundation's director of development, Ford's activities include steps to strengthen the NGWREF Board of Directors and conduct a fundraising feasibility study, which is now under way. The study is a prelude to a proposed Phase I major gifts (capital) campaign directed to the NGWREF "family" and others who share concern for water resources.

The feasibility study will test potential fundraising support for current NGWREF projects and proposed new initiatives. A preliminary case for support outlining the various projects and a projected $5 million goal was adopted by NGWREF. The feasibility study will be completed in late summer and a comprehensive report provided to the Foundation. Following receipt of the report, the Foundation will determine next steps and the launching of a campaign.

Ford is also committed to assisting the Foundation in expanding the annual giving program, online giving, and the development of a planned giving program.

Ford has been a grant writer for more than 40 years, and has worked directly in the development field and in fundraising consulting for nearly 30 years. His experience includes the conduct of feasibility and development studies and the planning and management of major gifts (capital) campaigns. Ford not only brings strong management skills to major gifts programming, but is a skilled writer with considerable experience in the development of campaign promotional materials, including brochures and audiovisual presentations.

Planned gifts an option to support the aims of NGWREF

NGWREF is recognized by the IRS as a 501(c)(3) public educational foundation. Contributions are deductible as charitable gifts.

There are various methods of planned giving in which the use of tax, financial, and estate planning techniques enables a donor to make a substantial gift commitment to benefit NGWREF and at the same time receive meaningful tax and financial benefits for him or herself.

By using planned giving techniques, the gift is often greater than the donor may have previously considered because the

charitable deduction and possible returns may dramatically reduce the net cost of the gift. This increases the donor's personal satisfaction while providing the Foundation added benefit.

Outright gifts

1. *Cash:* The most frequently used asset for all forms of charitable gifts.
2. *Marketable securities:* Appreciated securities may be given with substantially reduced after-tax cost to the donor.
3. *Real estate:* Due to historically rapid escalation in values and the capital gain exposure of the owner, real property is quite frequently used to make a planned (or charitable) gift.
4. *Tangible personal property:* Special rules apply about the appraisal of such property, but with the rapid appreciation in collectibles, such property is increasingly used for charitable gifts.
5. *Life insurance:* Life insurance policies that are no longer needed for family security or for their original purpose form an excellent basis for establishing a planned gift and, when transferred irrevocably, result in tax deductions approximating replacement value. A new life insurance policy based on the more recent interest-sensitive insurance will create a much larger gift than imagined, and payment of premiums through a charitable organization are tax deductible also.

Gifts of income and remainder interests

1. *Charitable gift annuity:* The donor receives a fixed amount for life based on age, with a charitable deduction.
2. *Pooled income fund:* The donor receives a lifetime income from an investment fund composed of the donor's gift pooled with other gifts; income is variable based on pooled funds that may fluctuate and it is taxable.
3. *Charitable remainder annuity trust:* The donor receives a fixed amount of income based on the asset's initial fair market value and beneficiary's needs, with a percentage minimum. The allowable charitable deduction is generally for a percentage of the initial gift amount, and there is no capital gains tax if appreciated securities are used. NGWREF receives the remainder (whatever is left when the trust ends).
4. *Charitable remainder unitrust:* The donor receives a variable amount of annual income based on a fixed percentage of the changing market value of assets. While there is a percentage minimum, the actual percentage is based on the needs of the beneficiary. The charitable deduction is generally for a percentage of the gift amount.
5. *Revocable charitable trust agreement:* As yearly income, the donor receives the total net earnings during the life of the trust. There are no income tax savings or deductions as the gift is not "completed" during the donor's lifetime.
6. *Charitable lead trust:* Established to pay income to a charitable institution for a number of years, after which the principal reverts to the donor or heirs when the trust ends.

Gifts by will

1. *Outright bequests:* Donors of modest means, as well as the wealthy, can make gifts from their estates by will. This can be done when the will is written or revised, or by the addition of a codicil to an existing will. An outright bequest is one that passes at the time of estate settlement directly to the Foundation for its immediate use. It could be a definite amount of money, a fraction or percentage of the total estate, a fraction of or all the residuary estate, or specific property.
2. *Bequests through testamentary trusts:* Many estate planning objectives can be accomplished through the testamentary gift of a charitable remainder. This is especially useful when the testator wishes to benefit our Foundation by legacy, but is first obligated to provide for members of his or her family or other individuals during their lifetimes. A testamentary trust accomplishes both of these objectives.
3. *Contingent bequests:* In drafting a will, it is usually desirable, after naming the primary beneficiaries, to specify NGWREF as the final contingent beneficiary.

If you would like to explore a planned giving option with NGWREF, contact Kevin McCray via e-mail to kmccray@ngwa.org, by phoning 614 898.7791, or by writing to him c/o NGWREF, 601 Dempsey Rd., Westerville, OH 43081, USA.

national ground water research and educational foundation

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national ground water research and educational foundation

National Ground Water Research and Educational Foundation Inc.

There are four ways to contribute to NGWREF:

Phone with credit card
800 551.7379 or 614 898.7791

Fax completed contribution form to 614 898.7786

Mail completed contribution form to National Ground Water Research and Educational Foundation
601 Dempsey Rd.
Westerville, OH 43081 USA

Online contributions accepted at the Foundation's site on www.NGWA.org

❑ I believe in NGWREF's mission to conduct education, research, and other charitable activities to enhance the future effectiveness of the groundwater professions and to maximize the impact of groundwater for society.

Enclosed is my tax-deductible charitable contribution of:
❑ $25 ❑ $50 ❑ $100 ❑ $500 ❑ $1,000

❑ Len Assante Scholarship Fund
❑ Ground Water Research Fund
❑ Developing Nations Fund
❑ 21st Century Fund (general fund)
❑ Darcy Lecture Series in Ground Water Science Fund
❑ McEllhiney Lecture Series in Water Well Technology Fund

I am making this year's contribution by:

❑ Check ❑ American Express ❑ Discover ❑ MasterCard ❑ Visa

My credit card number is: _____ My credit card expires on: _____

My signature to authorize my contribution to NGWREF: _____

❑ I wish to learn more about the National Ground Water Research and Educational Foundation and planned gifts. Please contact me.

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