

Water Harvesting and Sustainable Design Information Resources and Links

Contents

- A. General Rainwater Harvesting Resources
- B. Rainwater Harvesting with Earthworks Resources
- C. Rainwater Harvesting with Cisterns Resources
- D. Greywater Resources
- E. Water Issues and Protecting the Right to Clean Water for All Citizens of the Earth
- F. Books about the People and Water and How They Shape Each Other
- G. Permaculture, General Works
- H. Household Water Usage and Water Conservation
- I. Meteorological and Climate Resources
- J. Watershed Resources
 - Identifying Watersheds
 - Watershed Community Organizing and Watershed Awareness
 - Designing Urban Landscapes and Retrofitting Cities as a Series of Functioning Miniature Urban-Forest Watersheds
- K. Sun Angles and Passive Solar Designs
- L. Solar Rights
- M. Integrated Design Patterns
- N. Composting Toilets
- O. Green Home Tours and Water-harvesting Models for Public Sites
- P. Sustainable Communities
- Q. Community Tree Planting
- R. Plant Identification
- S. Ethnobotanical uses
- T. Eating Locally
- U. Gardening/Farming
- V. Landscaping with Native Plants in the Southwest
- W. Water-Harvesting Groups to Join
- X. Groups Offering Workshops in Rainwater Harvesting and Permaculture, Information Sources
- Y. Source of Loans for Water-Harvesting Projects
- Z. Firms/Designers Specializing in Dryland Water Harvesting, Permaculture Design, or Integrated Design

A. General Rainwater Harvesting Resources

Publications

Rainwater Harvesting for Drylands, vol. 1: Guiding Principles to Welcome Rain Into Your Life and Landscape, by Brad Lancaster. Rainsource Press, www.HarvestingRainwater.com, 2006. This excellent book enables you to assess your on-site resources (rainwater, topsoil, sun, plants, and more), gives you a diverse array of strategies to maximize their potential, and empowers you with guiding principles to create an integrated, multi-functional water harvesting plan specific to your site and needs.

City of Tucson Water Harvesting Guidance Manual, edited by Ann Audrey Phillips. Available from City of Tucson, Department of Transportation, Stormwater Section, PO Box 27210, Tucson, Arizona 85726. Available online: www.ci.tucson.az.us/water/harvesting.htm. A great guidance manual providing basic information and design ideas for developers, engineers, designers, and contractors of commercial sites, public buildings, subdivisions, and public rights-of-way.

Stormwater as a Resource: How to Harvest and Protect a Dryland Treasure, by David Morgan and Sandy Trevathan. A collaboration between the City of Santa Fe and the College of Santa Fe, 2002. Available from www.nmenv.state.nm.us/swqb/Storm_Water_as_a_Resource.pdf. This booklet is a brief, clear, and concise guide for harvesting rain and snow on your property.

Harvesting Rainwater for Landscape Use, 2nd ed., by Patricia H. Waterfall and Christina Bickelmann. Cooperative Extension, College of Agriculture and Life Sciences, University of Arizona, 2004. Order from Arizona Department of Water Resources, Tucson Active Management Area, 400 W. Congress, Suite 518, Tucson, AZ 85701; phone: 520-770-3800; website: www.water.az.gov. Available online: www.cals.arizona.edu/pubs/water/az1344.pdf. Good basic guide with calculations for estimating water needs of landscape vegetation.

Forgotten Rain: Rediscovering Rainwater Harvesting, by Heather Kinkade-Levario. Granite Canyon Publications, 2004. This Arizona-focused guide has many detailed

illustrations of various cistern and filtration systems, plus case studies of Arizona water harvesting sites.

A Water Harvesting Manual for Urban Areas: Case Studies from Delhi, from the Centre for Science and Environment, www.cseindia.org, 2000. A very accessible guide encouraging community and household-based water harvesting in India.

Making Water Everybody's Business: Practice and Policy of Water Harvesting, from the Centre for Science and Environment, www.cseindia.org, 2001. A great book documenting numerous water-harvesting projects in India.

Dying Wisdom: Rise, Fall, and Potential of India's Traditional Water Harvesting Systems, edited by Anil Agarwal and Sunita Narain. Centre for Science and Environment, www.cseindia.org, 1997.

Training Course on Water Harvesting for Improved Agricultural Production, Food and Agricultural Organization of the United Nations, 2003. This CD-ROM focuses on “runoff farming systems” for improved production of crops, trees and rangelands species in drought-prone areas. www.fao.org.

The Negev: The Challenge of a Desert, 2nd ed., by Michael Evenari, Leslie Shanan, and Naphtali Tadmor. Harvard University Press, 1982. A study of ancient and recreated water harvesting and runoff agriculture in the Negev desert.

The Collection of Rainfall and Runoff in Rural Areas, by Arnold Pacey and Adrian Cullis. Intermediate Technology Publications, 1986. A dry, but informative resource with a worthy emphasis on recognizing local needs and utilizing local resources.

The Water Harvester: Episodes from the Inspired Life of Zephaniah Phiri, by Mary Witoshynsky. Weaver Press, 2000. Address: Weaver Press, Box A1922, Harare, Zimbabwe.

Online Resource (in addition to above)

www.rainwaterharvesting.org. This site belongs to the Centre for Science and Environment (CSE), one of India's leading environmental NGO's. Although its primary focus is on rainwater harvesting in India, there is much information pertinent to rainwater harvesting around the globe.

Videos

Harvest of Rain. Centre for Science and Environment, www.cseindia.org, 1995. Traditional water harvesting systems of India are featured in this 48-minute video.

B. Rainwater Harvesting with Earthworks Resources

Publications

Rainwater Harvesting for Drylands, vol. 2: Water-harvesting Earthworks, by Brad Lancaster. Rainsource Press, www.HarvestingRainwater.com, May 2006. A thorough guide describing how to create and use diverse water harvesting earthworks and their numerous variations. Many case studies are featured along with tips on how to integrate your earthworks with multiple on-site resources and challenges so they do far more than harvest water. Includes a chapter on integrating the harvest of greywater. More than 225 illustrations and photographs.

Drylands Watershed Restoration: Introductory Workshop Activities, by Ben Haggard. Sol y Sombra Foundation, 1994. A wonderful resource about water harvesting earthworks and how you could set up workshops on the subject, although hard to find nowadays.

An Introduction to Erosion Control, by Bill Zeedyk and Jan-Willem Jansens. Earth Works Institute, Rio Puerco Management Committee, Quivira Coalition, May 2004. Basic how-to guide for simple and effective erosion control strategies that harvest soil and water.

An Introduction to Induced Meandering: A Method for Restoring Stability to Incised Stream Channels by Bill Zeedyk. Earthworks Institute/Ouivira Coalition. July 2004. An illustrated field guide to simple riparian restoration concepts and techniques.

Water for Every Farm – Yeomans Keyline Plan by Ken B. Yeomans, 1993. Keyline Designs, P.O. Box 3289, Southport, Queensland, 4215 Australia. A dry, but valuable resource covering farm, road, and subdivision design around keyline water harvesting principles; contour fields; forests and cultivation; and erosion control.

Porous Pavements by Bruce K. Ferguson, CRC Press, 2005. The comprehensive guide to porous pavements.

“Dynamic Water Storage,” by Tim Murphy. *Permaculture Drylands Journal*, #30, summer 1998, pp. 22–24.

Alternative Irrigation: The Promise of Runoff Agriculture, by Christopher J. Barrow. Earthscan1999. Earthscan Publications Ltd., 120 Pentonville Road, London, N1 9JN, UK. An introduction to strategies of runoff agriculture used around the world.

Semiarid Soil and Water Conservation by H.J. Finkel, CRC Press, 1986. Good practical guide with engineering calculations.

Policy and Practice in the Management of Tropical Watersheds by H.C. Pereira, Westview Press, 1989. Good information and case studies.

A Landscaper’s Guide to Mulch by the Alameda County Waste Management Authority and the Alameda County Source Reduction and Recycling Board. 777 Davis Street, Suite 100, San Leandro, CA 94577. Email: acwma@stopwaste.org. Web: www.stopwaste.org. A great guide put out by a California County which illustrates how governmental departments and private businesses are successfully using mulch to reduce costs and reduce waste.

A Landscaper's Guide to Grasscycling by the Alameda County Waste Management Authority and the Alameda County Source Reduction and Recycling Board. 777 Davis Street, Suite 100, San Leandro, CA 94577. Email: acwma@stopwaste.org. Web: www.stopwaste.org. A great guide for those who just can't break the lawn addiction. At least reduce the size of your lawn and then read how a different mowing technique can help save water and maintenance by putting your grass clippings back into the soil rather than tossing this resource into the garbage.

On-line resources

Raingardens – A Household Way to Improve Water Quality in Your Community by the University of Wisconsin Extension offices, 2002. Available for free at <http://cleanwater.uwex.edu/pubs/raingarden/gardens.pdf>

www.raingardens.org

Stormwater BMP Design Supplement for Cold Climates by Deb Caraco and Richard Claytor, Center for Watershed Protection, 8391 Main Street, Ellicott City, MD 21043. www.cwp.org. This document is specific to stormwater control strategies, rather than water harvesting. Nonetheless, much of the info can be applied to water-harvesting earthworks.

Videos/DVDs

Harvest Rain, by the Fundacion San Bernardino. Contact Valer Austin: vaustin@elcoronadoranch.net. Highlights the dramatic success of constructing check dams in the watersheds of El Coronado Ranch, Arizona

C. Rainwater Harvesting with Cisterns Resources

Publications

Rainwater Harvesting for Drylands, vol. 3: Roof Catchment and Cistern Systems, by Brad Lancaster. Rainsource Press, www.HarvestingRainwater.com, October 2006. This volume presents guidelines specific to cistern systems, helps you select the best non-toxic materials for your system, and size it for maximum efficiency. Numerous case studies are given describing various systems and how, through integrated design, their tanks do far more than just store water.

Rainwater Collection for the Mechanically Challenged, 2nd rev. ed., by Suzy Banks with Richard Heinichen. Tank Town Publishing, 2004. Tank Town Publishing, 1212 Quail Ridge, Dripping Springs, Texas 78620; phone: 512-894-0861; website: www.rainwatercollection.com. An entertaining resource on various cisterns and how you could plumb them into your home with gravity feed or mechanically pressurized systems.

Rainwater Catchment Systems for Domestic Supply: Design, Construction, and Implementation, by John Gould and Erik Nissen-Petersen. Intermediate Technology Publications, 1999. Intermediate Technology Publications, 103/105 Southhampton Row, London, WC1B 4HH, UK; website: <http://www.itdgpublishing.org.uk/>. An excellent review of rainwater harvesting practices around the world. It presents case studies which will help anyone intending to design or construct a rainwater catchment system.

Texas Guide to Rainwater Harvesting, 3rd ed., by Wendy Price Todd and Gail Vittori. Texas Water Development Board in Cooperation with the Center for Maximum Potential Building Systems, 1997. For a printed copy write to Conservation, Texas Water Development Board, P.O. Box 13231, Austin, Texas 78711-3231. Available online at www.twdb.state.tx.us/publications/reports/RainHarv.pdf. A great, easy to read resource on harvesting rainwater in cisterns. Water quality, basic system set up, and case studies are all covered. A short video covering cistern basics is also available.

Water Storage: Tanks, Cisterns, Aquifers and Ponds for Domestic Supply, Fire and Emergency Use, Plus How to Make Ferrocement Water Tanks, by Art Ludwig. Oasis Design, www.oasisdesign.net, 2005. A great overview and how-to on numerous water storage options.

Ferrocement Water Tanks and Their Construction, by S. B. Watt. Intermediate Technology Publications, 1978. A very practical resource emphasizing low-tech methods of ferrocement cistern construction, and mention of unstabilized adobe cisterns.

Guidelines on Rainwater Catchment Systems for Hawaii, by Patricia S. H. Macomber. College of Tropical Agriculture and Human Resources, University of Hawaii at Manoa, 2001. Available online at www2.ctahr.hawaii.edu/oc/freepubs/pdf/RM-12.pdf. An informative guide documenting the use of various tanks, and providing a good overview of harvested rainwater quality and treatment and filtration options.

Guidance on the Use of Rainwater Tanks, 2nd ed., enHealth Council of the National Public Health Partnership. Government of South Australia, 2004. ISBN 0 642 82443 6; order from website. www.dh.sa.gov.au/pehs/publications/publications.htm. Good deal of information and management tips on maintaining cistern water quality.

Sustainable House, by Michael Mobbs. Choice Books, 1998. How a family of four renovated their inner-city Sydney, Australian home to make it almost entirely self-sufficient in electricity, water, and waste disposal.

The Rainwater Technology Handbook – Rainharvesting in Building by Klaus W. Konig, Wilo-Brain, 2001. Examples of water harvesting tank systems throughout the world and statements from their designers.

“The Secrets Of Low Tech Plumbing,” by John Vivian. *Mother Earth News*, June/July 1995, pp. 34–90. Now available on the *Mother Earth News* website: www.motherearthnews.com/top_articles/1995_June_July/The_Secrets_of_Low_Tech_Plumbing. Information on simple rain catchment, water ram pumps, solar pumps, and old fashioned water conservation.

Online Resources (in addition to above)

www.watertanks.com. A good quick reference for availability and prices of pre-manufactured water tanks. You may find a local distributor is more convenient and cheaper without the shipping, but this website is good to start the search of what is available.

<http://www.harvestingwater.com/rainwatr.htm> This is a great website documenting Ole Ersson's permitted potable rainwater harvesting system in Portland, Oregon. Includes diagram of the system and components used. The system cost \$1,500 and harvests 27,000 gallons per year.

Videos

Rainwater Collection for the Mechanically Challenged. Tank Town, 1999. Tank Town, PO Box 1541, Dripping Springs, Texas 78620; phone: 512-894-0861; website: www.rainwatercollection.com. An entertaining and informative 37-minute video on the design and installation of household rainwater systems providing potable water.

Water quality of harvested water

"Microbiology of Rainwater Cistern Systems: A Review by Dennis J. Lye, *Journal of Environmental Health Science Health*, A27, 8, 2123-2166, 1992.

"Contaminations of Potable Roof-Collected Rainwater in Auckland New Zealand" by G. Simmons, V. Hope, G. Lewis, J. Whitmore, and W. Gao, *Water Research*, 35, 6, 1518-1524, 2001.

"Bacteriological Quality of Rainwater in Roof and Ground Catchment Systems in Botswana" by J. E. Gould and H. J. McPherson, *Water International*, 12, 135-138, 1987.

"Variations in Rainwater Quality From Roof Catchments" by M. I. Yaziz, H. Gunting, N. Sapri, and A. W. Ghazali, *Water Research*, 23, 6, 761-765, 1989.

"Is Rooftop Runoff Really Clean?", TRS, *Watershed Protection Techniques*, 1,2, 84-85, 1994.

D. Greywater Resources

Publications

Greywater and Your Detergent, prepared by the Office of Arid Land Studies in cooperation with the Soil, Water and Plant Analysis Laboratory, University of Arizona, sponsored by Tucson Water (phone: 520-791-4331). A handy pamphlet comparing the performance of various detergents dissolved in greywater used to irrigate a landscape.

Create an Oasis with Greywater: Your Complete Guide to Choosing, Building and Using Greywater Systems, by Art Ludwig. Oasis Design, 1994–2000. Oasis Design, 5 San Marcos Trout Club, Santa Barbara, CA 93105-9726; website: www.oasisdesign.net. Presents a wide array of greywater-harvesting options.

Branched Drain Greywater Systems: Reliable, Economical, Sanitary Distribution of Household Greywater to Downhill Plants Without Filtration or Pumping, by Art Ludwig. Oasis Design 2000-2002. Oasis Design, see above for address; website: www.oasisdesign.net. My favorite greywater book and system.

Greywater Guidelines, by Val L. Little. To obtain a copy (hardcopy or downloadable pdf), see <http://watercasa.org/pubs/graywaterguidelines.html>. Arizona greywater guidelines.

Water from the Sky, by Michael Reynolds. www.earthship.com. This book has wonderful examples of rooftop rainwater harvesting systems that recycle the used rainwater (greywater) through planting beds in greenhouses before using it yet again for the flushing of toilets in the homes from which the rainwater was originally harvested.

Online Resources

www.greywater.com. Great resources for greywater, including various systems and greywater volume estimates.

www.oasisdesign.net. Art Ludwig's website, probably the most comprehensive web resource for greywater, and you'll find plenty more info relating to water and ecological design.

E. Water Issues and Protecting the Right to Clean Water for All Citizens of the Earth (including Wildlife)

Publications

Killing the Hidden Waters: Slow Destruction of Water Resources in the American Southwest, by Charles Bowden. University of Texas Press, 1977. A well written book on how various cultures in the U.S. Southwest have decided to use our water and other resources, and what effect that has had on the people and the environment.

Keepers of the Spring: Reclaiming Our Water in an Age of Globalization, by Fred Pearce. Island Press, 2004. An excellent resource documenting both the mistakes of inappropriate western engineering schemes that make fresh water scarcer, and the successes of indigenous traditional water harvesting schemes that lead to fresh water abundance.

Cadillac Desert: The American West and Its Disappearing Water, by Marc Reisner. Penguin Books, 1993. A very well written book on water policy, politics, and use in the American West. A video series based on the book is also available.

Water Follies: Groundwater Pumping and the Fate of America's Fresh Waters, by Robert Glennon. Island Press, 2002. A great book on the consequences of our country's growing dependence on our dwindling groundwater resources.

Desert Waters: From Ancient Aquifers to Modern Demands, by Nancy R. Laney. Arizona-Sonora Desert Museum, 1998. A good short and concise publication on our water situation in the Southwest with tips on how to reduce our water use.

Blue Gold: The Global Water Crisis and the Commodification of the World's Water Supply, by Maude Barlow. International Forum on Globalization Special Report, 1999. Online summary and ordering information at ifg.org/bgsummary.html. This is a very clear and concise report on the state of our fresh water resources and how we can protect and enhance them.

Blue Gold: The Fight to Stop the Corporate Theft of the World's Water, by Maude Barlow and Tony Clarke. The New Press, 2002. An important book on the world's growing fresh water crisis, the corporate assault on the water "commons," and how ordinary citizens all over the world are taking back control, becoming the "keepers" of the fresh-water systems in their localities.

Last Oasis: Facing Water Scarcity, by Sandra Postel. Worldwatch Institute, 1997. A great book looking at the mismanagement of the world's water resources, and how we can promote more sustainable use of that water through conservation and a water ethic.

Water Wars: Privatization, Pollution, and Profit, by Vandana Shiva. South End Press, 2002. An excellent book examining the international water trade, damming, mining, and aquafarming, Shiva exposes the destruction of the earth and the disenfranchisement of the world's poor as they are stripped of their right to a precious common good.

"Troubled Waters," by Sandra Postel. *The Sciences* (March/April 2000). A look at the world's fragile supply of fresh water.

YES! A Journal of Positive Futures, no. 28, Winter 2004. This issue is devoted to water issues including access to fresh water as a human right, protecting watersheds, indigenous water conservation, and more.

The World's Water, 2004-2005, The Biennial Report on Freshwater Resources, by Peter Gleick. Island Press, 2005. Gives a global overview of water use with use by country, dams by country, etc.

Online Resources

www.citizen.org/cmep/water. The Water for All Campaign of the national non-profit public interest organization, Public Citizen.

F. Books about the People and Water and How They Shape Each Other

Publications

The Secret Knowledge of Water: Discovering the Essence of the American Desert, by Craig Childs. Sasquatch Books, 2000. A wonderful book about the author's endless search for water in the desert. Incredible adventures lead to his discovery that the desert is nothing but water.

The Desert Smells Like Rain, by Gary Paul Nabhan. North Point Press, 1982. A graceful and humane tour of the Tohono O' Odham and how they live in the beautiful Sonoran desert.

Cultures of Habitat: On Nature, Culture, and Story, by Gary Paul Nabhan. Counterpoint, 1997. A wonderful book celebrating how people and nature can coexist and enhance one another.

Online Water Facts

www.h2o4u.org/facts.html. Fascinating water facts

ct.water.usgs.gov/EDUCATION/trivia.htm. More water facts.

G. Permaculture, General Works

Publications

Introduction to Permaculture, by Bill Mollison. Tagari Publications, 1988. A smaller, more readable version of the *Permaculture: A Designer's Manual* without the drylands emphasis.

Permaculture: A Designer's Manual, by Bill Mollison. Tagari Publications, 1988. The permaculture Big Book with a good emphasis on drylands, and an even better emphasis on how to incorporate water harvesting into an efficient, holistic system.

Gaia's Garden: A Guide to Home-Scale Permaculture, by Toby Hemenway. Chelsea Green Publishing Company, 2001. While not dryland specific, this book clearly describes how you can work the integrated design of permaculture into your backyard garden and landscape.

Permaculture: Principles and Pathways Beyond Sustainability, by David Holmgren. Holmgren Design Services, 2002. A more cerebral and very worthwhile book based on the co-ordinator of permaculture's extensive practical experience offering a deeper understanding of permaculture concepts.

Magazines

The Permaculture Activist. See www.permacultureactivist.net for subscription information.

Videos

Global Gardener. Bullfrog Films, 1991. Order from: Bullfrog Films, P.O. Box 149, Oley, PA 19547; phone. 1-800-543-3764. Travel the world to see how permaculture approaches to sustainable agriculture have turned wastelands into food forests in the Tropics, Drylands, Cool Climates, and the Urban environment.

H. Household Water Usage and Water Conservation

Publications

Handbook of Water Use and Conservation, by Amy Vickers. WaterPlowPress, 2001. Ordering: call 866-367-3300 or online at www.waterplowpress.com. The most thorough reference on water use and conservation.

Water Efficiency for Your Home: Products and Advice Which Save Water Energy, and Money, 3rd ed., by John Woodwell, Jim Dyer, Richard Pinkham, and Scott Chaplin. Rocky Mountain Institute, 1995. Available online: www.rmi.org/images/other/Water/W95-36_WaterEff4Home.pdf

Online Resource

www.h2ouse.org. This user-friendly website provides water use rates for household appliances, and recommended conservation strategies.

I. Meteorological and Climate Resources

Online Resources

www.wrh.noaa.gov. This is the United States National Weather Service's website. Locate the weather stations closest to your site and find out their elevations. Download data from those stations that are most like your site.

ag.arizona.edu/azmet. Arizona Meteorological Network. Evaporation rates, prevailing winds, soil temperatures, and minimum/maximum temperatures are listed for various sites. For other states contact your local agricultural extension service for similar meteorological networks.

Miscellaneous

The U.S. National Forest Service compiles data for remote weather stations, though the data is not as comprehensive nor standardized as the above two resources. However, for rural sites a Forest Service weather station may be closer to a given site than one monitored by other agencies.

Local airports, since they collect and record climatic data.

Rain gauge from a hardware or garden store with which to begin keeping precipitation records for your site.

J. Watershed Resources

Identifying watersheds

Publications

Watersheds: A Practical Handbook for Healthy Water, by Clive Dobson and Gregor Gilpin Beck. Firefly Books, 1999. A beautifully illustrated book providing an overview of the fundamentals of ecology from the simple concept of a watershed to the biological intricacies of a wetland ecosystem and its implications on the environment.

Online Resources

cfpub1.epa.gov/surf/locate/map2.cfm. "Surf Your Watershed," a website of the Environmental Protection Agency (EPA). Here you can locate the regional watershed of which your town or site is a part, and get information about that watershed, though this website lacks the detail to show you the boundaries of smaller watersheds.

Maps and Aerial Photographs

mapping.usgs.gov. United States Geological Survey (USGS) topographic contour maps, sometimes called "topo maps," can be very helpful in determining watershed boundaries since they illustrate the changing elevation of a landscape.

Urban environments: You can often obtain detailed topo maps, or aerial photos with superimposed contour lines, from government agencies. The departments of transportation, mapping, or flood control are usually a good place to start.

Watershed Community Organizing and Watershed Awareness

Publications

“Basins of Relations: Restoring a Watershed State of Being,” by Brock Doleman.
Permaculture Activist, no. 47, Summer 2002, pp. 8–12.

“A Watershed Runs through You,” by Freeman House. *YES! magazine*, no. 28, Winter 2004.

Getting in Step: Engaging and Involving Stakeholders in Your Watershed, by Charlie MacPherson, Barry Tanning, and Emily Fallasli of Tetra Tech, Inc. U.S. Environmental Protection Agency, 68-C-99-249, 1998. To get a copy contact Charlie MacPherson at 703-385-6000 or email Charlie.macpherson@tetratech-ffx.com. This guide provides the tools needed to effectively engage stakeholders to restore and maintain healthy environmental conditions throughout their watershed through community support and cooperative action.

Getting in Step: A Guide for Conducting Watershed Outreach Campaigns, prepared by Tetra Tech, Inc. U.S. Environmental Protection Agency, EPA 841-B-03-002, December 2003. For copies of this guide and its companion video contact: National Service Center for Environmental Publications, Phone 1-800-490-91981 website www.epa.gov/ncepihom. This guide is an update of the 1998 publication “Getting in Step: A Guide to Effective Outreach in Your Watershed.” This updated version includes more specific information on how to work with the mass media to conduct an outreach campaign.

Starting Up: A Handbook for New River and Watershed Organizations, compiled by Katherine Luscher. River Network, 1996. For copies visit www.rivernet.org or phone 503-241-3506. This 440-page handbook is based on the experience of dozens of veteran leaders in the river and conservation movements with articles laying out the critical moves every newly forming organization needs to thrive and grow.

How to Start a Watershed Awareness Program, by the Aquatic Outreach Institute.
available from the Watershed Project Store; phone 510-231-5655; website:
www.thewatershedproject.org

Stormwater Strategies: Community Responses to Runoff Pollution, by Peter H. Lehner, George P. Aponte Clarke, Diane M. Cameron, and Andrew G. Frank. Natural Resources

Defense Council (NRDC), May 1999. One hundred case studies of successful projects around the U.S. that simultaneously improve runoff quality and the environment, have economic advantages, and additional community benefits.

“Stormwater Management: Use It or Lose It,” by Tim Murphy. *Sustainable Living in Drylands*, no. 5, Winter 1988/89, A great wake-up call to the value of our stormwater runoff, and how we can use it as the local resource it is.

Stormwater: Asset Not Liability, published by the Los Angeles and San Gabriel Rivers Watershed Council. Phone: 213-367-4111.

Stormwater Journal keeps you updated on issues related to stormwater control and lessening stormwater runoff pollution. Subscription information: www.stormh2o.com

International Erosion Control Association (IECA) and its publication the *Erosion Control Journal* keep you updated on erosion control strategies pushed by regulators and the industry. Membership and other information: www.ieca.org

Programs

Occidental Arts and Ecology Center’s WATER Institute, 15290 Coleman Valley Road, Occidental, CA 95465. Phone: 707-874-1557. Website: www.oaec.org. This organization offers the four-day residential training program, “Basins of Relations: Starting and Sustaining Community Watershed Groups.”

Designing Urban Landscapes and Retrofitting Cities as a Series of Functioning Miniature Urban-Forest Watersheds

Publications

Second Nature: Adapting LA’s Landscape for Sustainable Living, edited by Patrick Condon and Stacy Moriarty. Metropolitan Water District of Southern California, 1999. A great resource of a group in Los Angeles creating cross-jurisdictional and cross-disciplinary

connections between the people and institutions responsible for the infrastructure, planning, and ecology of Los Angeles in order to view the city as a living watershed. Concepts such as passive rainwater harvesting and multiple-use landscaping are presented that could help improve the sustainability of the City and the watershed. Contact the organization at:

TreePeople, 12601 Mulholland Drive, Beverly Hills, CA 90210; website:

www.TreePeople.org/trees

Product Specification for the Transagency Resources for Economic and Environmental Sustainability Project, by John Stokes Associates, Inc., 1998. Prepared for TreePeople, Beverly Hills, CA. This is the Cost-Benefit Analysis for the T.R.E.E.S. Project, a program in Los Angeles. See *Second Nature*, above.

Online Resources

TreePeople website: www.TreePeople.org/trees/

K. Sun Angles and Passive Solar Designs

Publications

The Passive Solar Energy Book, by Ed Mazria. Rodale Press, 1979. Out of print, but available from amazon.com, powells.com, and others. Excellent.

Sun, Wind, and Light: Architectural Design Strategies, 2nd ed., by G. Z. Brown and Mark DeKay. William Stout Architectural Books, 2000. A pattern book illustrating passive heating and cooling strategies for a diverse array of contexts ranging from individual homes to high rises to whole towns. Highly recommended.

The Food and Heat Producing Solar Greenhouse, by Bill Yanda and Rick Fisher. John Muir Publications, 1980.

Effective Shading with Landscape Trees, by William B. Miller and Charles M. Sacamano. University of Arizona College of Agriculture, Cooperative Extension bulletin 188035/8835, March 1990.

Other

Your site's latitude: Look at a globe, atlas, or topographic map, or google "what is the latitude of (your town, state, country)"

Solar Ovens/Cooking

Sun Ovens International, Inc. www.sunoven.com. They make the Global Sun Oven®, the most efficient solar oven I've used.

Solar Cookers International. www.solarcookers.org. A great organization/resource for making and using your own solar oven.

L. Solar Rights

New Mexico's solar rights: For information contact the Energy Conservation and Management Division, NM Energy, Minerals and Natural Resources Department, 1220 S. Saint Francis, Santa Fe, NM 87505; phone: 505-476-3310; website: www.emnrd.state.nm.us/ecmd/html/solar.htm

M. Integrated Design Patterns

A Pattern Language: Towns, Buildings, Construction, by Christopher Alexander, S. Ishikawa, M. Silverstein. Oxford, 1977.

An Introduction to Permaculture, by Bill Mollison. Tagari Publications, 1988.

Sun, Wind, and Light: Architectural Design Strategies, 2nd ed., by G. Z. Brown and Mark DeKay. William Stout Architectural Books, 2000

The Hand-Sculpted House: A Practical and Philosophical Guide to Building a Cob Cottage, by Ianto Evans, Michael G. Smith, and Linda Smiley. Chelsea Green Publishing, 2002.

Designing and Maintaining Your Edible Landscape—Naturally, by Robert Kourik. Metamorphic Press, 1986.

N. Composting Toilets

Publications

The Humanure Handbook – A Guide to Composting Human Manure 3rd by Joeseph Jenkins, 1999. Jenkins Publishing, distributed by Chelsea Green Publishing, PO Box 428, White River Junction, VT 05001. A very informative, exhaustively researched, and entertaining book that will have you turning turds into tomatoes in no time.

The Composting Toilet System by David Del Porto and Carol Steinfeld. Center for Ecological Pollution Prevention, P.O. Box 1330, Concord, Mass 01742-1330. 1999.

Lifting the Lid – An Ecological Approach to Toilet Systems by Peter Harper and Louise Halestrap, New Society Publications, 2001. This book covers information on potential insect infestations of composting toilets and strategies to deal with them that are missed by the other books.

Liquid Gold – The Lore and Logic of Using Urine to Grow Plants by Carol Steinfeld. Green Frigate Books, 2004. A welcoming introduction to the beneficial reuse and recycling of urine in household landscapes. A fecal-less first step to composting human waste.

The Toilet Papers by Van der Ryn. Capra Press, 1978. A guide and resource for composting toilets.

On-line resources

www.omick.net. A wonderful website highlighting the on-going exploration of some practical aspects of simple, land-integrated living. David and Pearl offer the best dryland composting toilet information and workshops I've come across.

O. Green Home Tours and Water-harvesting Models for Public Sites

Green Home Tours

Tour other sites to learn from their successes and mistakes.

American Solar Energy Society National Solar Home Tour. Search the website under "tour": www.ases.org

National Association of Home Builders Green Building Program. Search the website under "green building program": www.nahbrc.org. This program can put you in contact with local green builder programs, some of which organize tours.

Models for Public Sites

Akash Ganga Chennai Rain Centre. <http://akash-ganga-rwh.com/RWH/WaterHarvesting.html>. An urban rainwater harvesting demonstration site in Chennai, India.

“Rainwater Harvesting: Success Story from Chennai India,” report by Ram Krishnan presented at the ARCSA Conference in Austin, Texas, August 21-23, 2003. Order proceedings from www.arcsa-usa.org.

TreePeople website: www.TreePeople.org/trees/. Features water-harvesting demonstration sites in Los Angeles, California.

Seattle, Washington Public Utilities SEA Streets Project. Website: http://www.ci.seattle.wa.us/util/About_SPU/Drainage_&_Sewer_System/Natural_Drainage_Systems/index.asp. Progressive multi-use water harvesting/beautification/flood control strategies in the public rights-of-way.

P. Sustainable Communities

Superbia!: 31 Ways to Create Sustainable Neighborhoods, by Dan Chiras and Dave Wann. New Society Publishers, 2003. Presents a number of easy ways to improve existing communities.

Designing Sustainable Communities: Learning from Village Homes, by Judy Corbett and Michael Corbett. Island Press, 2000. An inside look at the development of Village Homes, a unique example of sustainable design in a community. This 60-acre residential and business development includes extensive common areas, community gardens, narrow streets, pedestrian and bike paths, solar homes, and in terms of rainwater harvesting—an innovative ecological drainage system.

Q. Community Tree Planting

Publications

The Simple Act of Planting a Tree – Healing Your Neighborhood, Your City, and Your World by TreePeople with Andy and Katie Lipkis, Jeremy P. Tarcher, Inc., 1990. A comprehensive guide to sharing a dream, galvanizing a community, and getting the job of creating urban forests done.

On-line resources

www.DesertHarvesters.org A website on creating sustainable neighborhood and street orchards in the southwest U.S. and how to process the bounty.

R. Native Plant Identification in the Southwest U.S.

Publications

Shrubs and Trees of the Southwest Deserts by Janice Emily Bowers, Southwest Parks and Monuments Association, 1993. Great guide for the low desert with clear line drawings.

Shrubs and Trees of the Southwest Uplands by Francis H. Elmore, Southwest Parks and Monuments Association, 1976. Another great guide for higher elevations than the Tucson valley.

A Field Guide to the Plants of Arizona by Anne Orth Epple, Falcon Press, 1995. Many color photos.

Botany In a Day - Herbal Guide to Plant Families 4th Edition by Thomas Elpel, HOPS Press, 2000. A guide for identifying native and exotic plants. Rather than by teaching you the plants individually it teaches you to learn patterns of plants so you can easily figure out the plant's family and potential uses.

Organizations

Look for a native plant society in your state

Arizona Native Plant Society

www.anps.org

S. Ethnobotanical Uses of Plants Including Cooking, Eating, Medicinal Use, and More

Native Plants

*Food Plants of the Sonoran Desert*_by Wendy Hodgson, University of Arizona Press, 2001.

An amazing resource!

*Medicinal Plants of the Desert and Canyon West*_by Michael Moore, Museum of New Mexico Press, 1989. One of the best for identification and use of our native medicinal plants.

*American Indian Cooking: Recipes From the Southwest*_by Carolyn J. Niethammer, University of Nebraska Press, 1999.

*The Tumbleweed Gourmet – Cooking with Wild Southwestern Plants*_by Carolyn J. Niethammer, University of Arizona Press, 1987. How to do it all in your kitchen.

*Handbook of Indian Foods and Fibers of Arid America*_by Walter Ebeling, University of California Press, 1986. Great out of print resource.

*Wild Plants and Native Peoples of the Four Corners*_by William Dunmire and Gail Tierney, Museum of New Mexico Press, 1997.

*Guide to Wild Foods and Useful Plants*_by Christopher Nyerges, Chicago Review Press, 1999.

The Prickly Pear Cookbook by Carolyn Niethammer. Rio Nuevo Publishers, 2004.

Ethnobotanical uses of native exotic plants with a bent on cooking and eating

Cornucopia II - A Source Book of Edible Plants by Stephen Facciola, Kampong Publications, 1998. Very comprehensive guide telling you what parts of 1,000s of wild plants and rare cultivars are edible and where you can find nurseries that grow and sell them.

You Can Have Your Permaculture and Eat it Too by Robin Clayfield, Earthcare Education, 1996. A permaculture book for gardeners and cooks.

The Neighborhood Forager - A Guide for the Wild Food Gourmet by Robert Henderson, Chelsea Green Publishing, 2000. The art of foraging in your neighborhood is beautifully described.

The Permaculture Book of Ferment and Human Nutrition by Bill Mollison, Tagari Publications, 1993. An eclectic book teaching you to process and store your own food and how to make your own ingredients.

Fruits of the Desert by Sandal English, the Arizona Daily Star, 1981. Many recipes for native plants and exotic edibles commonly found in and around Tucson, AZ.

T. Eating Locally

Coming Home to Eat – The Pleasures and Politics of Local Foods by Gary Paul Nabhan, W.W Norton & Co., 2002. A great book based around a year in the life of the author in

which the ingredients for 4 out of every 5 meals had to come from food produced within 250 miles of his home.

U. Gardening/Farming

Food From Dryland Gardens by David Cleveland and Daniela Soleri, Center for People, Food and Environment, 1991. This incredible book has been out of print, but is again available on CD and available from ECHO (Educational Concerns for Hunger Organization) www.echonet.org

Desert Harvest - A Guide to Vegetable Gardening in Arid Lands by Jane Nyhuis, Growing Connections, 1982. Best simple gardening guide for the low desert of southern Arizona.

Growing Food in the Southwest Mountains 3rd Edition by Lisa Rayner, Flagstaff Tea Party, 2002.

Designing and Maintaining Your Edible Landscape Naturally by Robert Kourik. Metamorphic Press, 1986. A comprehensive and integrated guide on growing vegetables, fruits, flowers, and herbs for ornamental and culinary purposes. The emphasis is on California climates, but the concepts are broadly applicable.

Farming with the Wild: Enhancing Biodiversity on Farms and Ranches by Daniel Imhoff. Sierra Club Books, 2003. Profiles over 35 farming and ranching sites in the U.S. that are compatible with wild nature. Over 200 color photos.

V. Landscaping with Native Plants in the Southwest U.S.

Native Plants for Southwestern Landscapes by Judy Mielke, University of Texas Press, 1993. This book is very clear with color photos and useful information. A number of plants are featured here that you won't find in other native landscaping books.

W. Water-Harvesting Groups to Join

American Rainwater Catchment Systems Association: www.arcsa-usa.org

International Rainwater Catchment Systems Association: www.ircsa.org

The International Rainwater Harvesting Alliance: www.irha-h2o.org

X. Groups Offering Workshops in Rainwater Harvesting and Permaculture, Information Sources

Magazines/Journals

Permaculture Activist. Information on courses and events, as well as subscription information at www.permacultureactivist.net. Permaculture and related courses around the world.

The Last Straw: The International Journal of Straw Bale and Natural Building. www.thelaststraw.org. Lists natural building and sustainable building events and workshops.

Organizations

Drylands specific

Sonoran Permaculture Teaching Guild: www.sonoranpermaculture.org

Permaculture Institute, USA, Casa Las Barrancas Farm, PO Box 3702, Pojoaque, NM 87501, USA. Phone/Fax: 505-455-0270. Email: pci@permaculture-inst.org

Ecoversity, 2639 Agua Fria, Santa Fe, NM 87505. Phone: 505-424-9797. Website: www.ecoversity.org

Earthworks Institute, 1413 Second St., Suite 4, Santa Fe, NM 87505. Phone: 505-982-9806. Website: www.earthworksinstitute.org

Non-Drylands Specific

Occidental Arts And Ecology Center (OAEC) and OAEC's Water Institute, 15290 Coleman Valley Road, Occidental, CA 95465. Phone: 707-874-1557. Website: www.oaec.org. OAEC and the WATER Institute conduct many fine workshops including "Watershed Basins of Relations: Starting and Sustaining Community Watershed Groups."

Permaculture Institute of Northern California, PO Box 341, Point Reyes Station, CA 94956. Phone: 415-663-9090. Website: www.permacultureinstitute.com

In Mexico

Alternativas, Tehuacan, Puebla, MEXICO. Website: www.alternativas.org.mx. Email: info@alternativas.org.mx

Y. Source of Loans for Water-Harvesting Projects

Permaculture Credit Union. Office location: 4250 Cerrillos Road, 2nd floor, Santa Fe, NM 87507. Mailing Address: PO BOX 29300, Santa Fe NM 87592-9300. Phone: 1-866-954-3479 or 505-954-3479. Fax: 505-424-1624. Website: www.puonline.org. Email: perma@pcuonline.org

Z. Firms/Designers Specializing in Dryland Water Harvesting, Permaculture Design, or Integrated Design

This is only a partial list of designers and implementation firms doing such work. Those listed helped me with my book through their review of the text and sharing their work and knowledge.

Santa Fe Permaculture, 551 W. Cordova Road #458, Santa Fe, NM 87505. Phone 505-424-4444. Website: www.sfpermaculture.com

Regenesis Group. Ecological resources for communities, designers, and development professionals. Website: www.regenesigroup.com.

San Isidro Permaculture, 1517 Camino Sierra Vista, Santa Fe, NM 85705. Phone: 505-983-3841, 505-501-GROW. Email: sanidroperm@hotmail.com

Earthwrights Designs, 30 Camino Sudeste, Santa Fe, NM 87508. Phone: 505-986-1719. Email: ezentrix@aol.com.

Rocky Brittain, architect. Phone: 520-884-8226.

Heather Kinkade-Levario. Phoenix, Arizona. Website: www.forgottenrain.com

David Confer, integrated systems consultant. Phone: 520-991-3737.

David Omick, sustainable systems/appropriate technology designer. Website: www.omick.net

Art Ludwig, of Oasis Designs, greywater and sustainable systems, designer/author. Website: www.OasisDesign.net

Peter Pfeiffer, of Barley and Pfeiffer Architects, 1800 W. 6th St., Austin, Texas 78703. Phone 512-476-8580. Website: www.barleypfeiffer.com. Designs swimming-pool-style below-ground sprayed-concrete tanks.

Overland Partners/Architects, 5101 Broadway, San Antonio, Texas 78209. Website: www.overlandpartners.com. Designed the water-harvesting system for the Wildflower Center in Austin, Texas.

Steve Kemble, of Sustainable Systems Support, 3063 N. Camino de Oeste, Tucson, AZ 85745. Phone 520-743-3828. Spearheaded a student-built ferrocement cistern project for East Campus high school in Douglas, Arizona.