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# RAIN

NOVEMBER 1977

VOL. IV, NO. 2

ONE DOLLAR



Ancil Nance

## CALIFORNIA :

Beyond the Bottom of the Barrel

*More than two years ago we were involved in the planning of both the National Center for Appropriate Technology and California's Office of Appropriate Technology, as well as trying to get RAIN on its feet as support for a decentralized grassroots a.t. network. We're far enough down the road now to begin to see the different nature and effects of each of these institutions. What do we get for our money from each? What can each do and how rapidly, how thoroughly and how effectively? What are the restraints on each? Perhaps a dozen states are in the process of trying to set up offices as a result of California's success—without having been prodded by federal funding or bureaucracies. And hundreds of local projects have sprung up assisted only by grapevine knowledge of what other folks are doing, with neither help nor hindrance from any institution. Actions need to happen on all levels, federal as well as local, state or bioregional. We're learning what belongs where.*

*We turned this issue over to Gigi Coe of OAT to give us all a report on what it's like to try to affect things through the morass of the second largest bureaucracy in the country. Read between the lines. It's time that a.t. get into politics (more on that next issue) and OAT's experience is valuable both for what they can and cannot do or say.*

*This issue is also a closer look at what's going on in one region of the country. In the future we plan to be working with other state and local a.t. groups to focus on happenings in other regions. —TB*



**.A.T.—**

The Office of Appropriate Technology was established by executive order on May 12, 1976. We are a division of the Office of Planning and Research in the Governor's Office.

Policy is set by a steering committee of three members. Sim Van der Ryn, the State Architect, is Chairman of the Steering Committee. The other members are Bill Press, Director of the Office of Planning and Research, and Wilson Clark, Assistant to Governor Brown for Issues and Planning. The Steering Committee serves to chart our course as well as defend our interests when necessary.

## Appropriate Technology and

*Kirk Marckwald, Director of the California Office of Appropriate Technology since January 1977, has brought living reality to the chaos of ideas and brought OAT home to itself. Turning untried, often spacy, ideas into usable substance in a state government as large as California's requires supreme political tact and insight. One is forever balancing on the tightrope of the rules and budgets of bureaucracy, the policy directives of the OAT steering committee, the hopes of the conscientious and politically aware OAT staff and the needs of the citizenry, all to produce human-scale changes which will endure beyond the next election. Kirk's good-humored effectiveness in the stormeye of the transition we are all now making may even lead California's legislature and line agencies towards making a home for OAT among them. We need more Kirks. —LJ*

Despite our successes during the past 18 months, some nagging, possibly unanswerable questions remain. Can any state or other public entity which has traditionally fostered a "more-of-the-same" approach to problems serve as a catalyst to promote change which will ultimately mean a radical re-ordering of priorities in the projects the state undertakes? Are fundamental institutional change and tangible demonstrations of that change possible? By what criteria should we choose our projects? How should we concentrate our limited energies, and money? How can we build the lateral support both within the government and, more importantly, outside it, to promote our programs?

### The Power and Politics of the Governor's Office

What are the pros and cons of being in the governor's office? The support which OAT has received from the governor and his staff has encouraged other agencies to seek us out and listen. Our location in the governor's office has been more than a terrific moral boost; it has awakened many citizens to the innovations which the state is encouraging.

The political support of the governor's office has opened doors as the office began to develop and flourish on its own.

It has allowed our staff to work cooperatively with existing line agencies to begin to reexamine and rethink how projects are designed and where money is spent. An ongoing challenge is to throw off the impression that because our office remains small and some of our programs call for radically different solutions to California's problems, that OAT essentially is a "toy" of the Brown administration.

There is only one way this impression can be overcome. When our programs are subjected to the scrutiny of the legislature, other agencies, or members of the press they must show a high quality of work and follow through, must have had the support and endorsement of clients and constituencies inside and outside of government and, above all, must have communicated that there are practical choices and alternatives to high levels of resource consumption.

### Project Criteria

There are probably a hundred times as many projects OAT might sponsor as we can, given time and money constraints. How, then, does OAT choose to support certain activities?

To date we have picked projects as they have come along and as staff members were able to support them. We are now beginning to evolve a basis for making these decisions. Some of the considerations are:

- *Change.* Does a project promote another "bandaid" solution which treats a symptom without a commitment to change basic attitudes about resources and natural energy balances?
- *Benefits.* Who will benefit from the project? The easier the project is to do, the more likely it is to affect exclusively middle and upper income persons. The more ambitious and comprehensive a project, the less likely it can be accomplished (for either political or logistic reasons), or that our office can have an impact on the process.
- *Follow-through.* Can we follow through on a project, or pass it on to an agency which will? While it is novel and fun to start a Bicycle Program in Sacramento, the program brings with it many routine tasks such as building support among

# Bare Bones

Although these are excellent circumstances for us and our work, they are by no means a ticket to Easy Street. We remind ourselves regularly that those who are born by the stroke of a pen are dissolved by the stroke of a pen, and spend as much time hustling program funds and support as would any independent, non-governmental organization. Kirk Marckwald, OAT's Director, estimates that at least a third of his time is consumed in taking care of our basic survival needs, which include finding money, writing proposals, planning budgets, and defending us before public and state scrutiny.

Our total budget for the fiscal year 1977/1978 is approximately \$332,000. The major share of this comes from the California Energy Research Conservation and Development Commission (\$175,000) and Federal Title II Public Works Act funds (\$150,000). The remainder comes from the State Water Resources Control Board, the Department of Water Resources, and the Office of the State Architect. These funds cover both our projects and our operating funds.

These are the bare bones. I hope this issue of *RAIN* gives you an idea not only of what we do, but also the vision and values that underlie our day-to-day tasks. —GC

## State Government

facility managers, arranging for maintenance and repair of the bikes and coordinating the details with Fleet Administration so they are able to take it over, administer it and give it the long-term commitment it needs. One of our greatest tasks is to create projects which are solid enough to withstand bureaucratic inertia and planned carefully enough so they can be administered within state regulations.

### In What Basket Shall We Place Our Eggs?

OAT's work falls into three broad categories—educational programs, demonstration programs and institutional reform.

Our educational activities, which presently include an information center and publications, seminar series, regional meetings and the New Possibilities Show, are the core of our programs. They allow us to reach a wide variety of people, to decentralize information and to work to bring about the change in perceptions and attitudes which is essential if any of our visions are to reach beyond the ears of the upper middle class who can afford to change, or the "saved" who see our activities as an affirmation of their own choices.

While almost everyone agrees that educational programs are essential, oftentimes the choice between projects which center on institutional reform versus those which demonstrate new technologies has divided the house. Institutional reform and demonstration projects in some ways represent contradictory methods of dealing with a problem. Demonstrations are by their nature product-oriented, innovative, novel, fun and visible. Yet it is often hard to judge if the project has really changed anything, and just when change may begin to emerge, one must shift the center in order to follow through on it. Alternatively, institutional reforms are process-oriented, routine, mechanical, invisible, and while changing a law, code or regulation can have long term effects, there is a danger of becoming too comfortable with the slow pace of change. Playing the insider's game means using the system which you are trying to change to change itself. One can, through familiarity, become too complacent to critically examine the real effects of our efforts.



Further, as insiders, we can be catalysts for change. But it will take more than us. The line agencies in California will ultimately determine the long-range effectiveness of our programs, and it is they who must be convinced of their importance.

The requests for grant monies represent a special problem. OAT is administering a small appropriate energy technologies grants program. We are doing it because many of the people who contact this office desperately need money and because, in most cases, there truly is little money available to finance small-scale technological development. At the same time, we must begin to work with people to discover alternative, local ways to finance their projects, small business or research. Otherwise, it will be easy for people to become dependent on OAT or other state sources, and thereby sacrifice their own self-reliance.

### Is there a Forest Beyond These Trees?

A final dilemma. In the midst of the complexity and confusion of state government we must keep our instincts tuned to the big picture—the need for economic justice, self-determination and self-reliance, the role of mega-corporations in appropriate technologies, equitable use of land and resources, etc.—rather than be swallowed up in minutiae and "bureaucratic noise" (thanks to Scott Mathews for the term). One way to do this is to spend more time visiting people throughout the state and see what their concerns are, rather than perpetuate the tunnel vision of Sacramento.

These dilemmas and unanswered questions aren't just philosophical water torture. They are our reflections of some of the problems OAT and others face as we seek to translate visions of the future into concrete programs and policies in the current political and economic systems. Do write and share your observations with us. —Kirk Marckwald

# NEW OAT HAPPENINGS: Briefly

## Rural Wastewater Alternatives Report

This report, which covers the design and use of compost, drum and pit privies, greywater systems and other on-site systems, has been accepted by the State Water Resources Control Board and will be available about November 15th. Write us if you want to receive a copy.

## ERDA Appropriate Technology Grants

In last month's RAIN, Lee mentioned the ERDA Appropriate Energy Technology Grants program. OAT will be administering the program for the State of California. We will be conducting technical and peer review of all California proposals and making recommendations to ERDA on which proposals should be funded. For further information and to get an application (submission deadline Nov. 21), call ERDA at (415) 273-7910.

## Conference: California Celebrates Detritus

We are thinking about sponsoring a conference on terrestrial and aquatic detritus (bacteria, composting, earthworms, shellfish, etc.). Its goal would be to provide a forum for scientists, policymakers and business persons to see what's happening on the decomposer side of the food chain. Should we do it? Further ideas, contact Ty Cashman at OAT.

## OAT STAFF

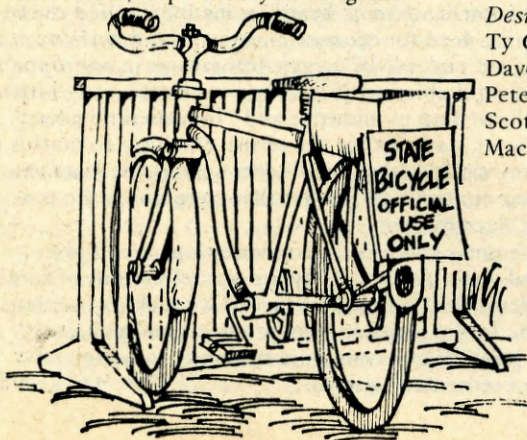
Kirk Marckwald, Director  
 Diane Winner, Projects and Administration  
 Wade Rose, Legislation and Agency Programs  
 Gigi Coe, Publications and Information  
 Dave Rozell, Solar Technician Training  
 Judy Michalowski, Program and Grants  
 Claire Barrett, Drought Tolerant Garden  
 Rosemary Menninger, Community Gardens Coordinator  
 Stephanie Pincetl, Library  
 Bob Judd, DOE (ERDA) Appropriate Energy Technology Small Grants Program  
 Mitch Culliver and Ann Wilsnack, The New Possibilities Show  
 Doris Nash, Support  
 Betty Jo Hilgers, Support

### Work Study and Interns

Joyce Hochmuth-Nowell, Aquaculture  
 Ron Mandella, Garden  
 Robbie Welling, Library  
 Kathy Morris, The New Possibilities Show  
 Terence Lott, Capitol Bicycle Program

### Design Task Force

Ty Cashman  
 Dave Rozell  
 Peter Calthorpe  
 Scott Mathews  
 Mac Walker



## Integrated Design Task Force

OAT is currently establishing a six to eight person design task force to assist state agencies in developing capital outlay projects which integrate resource and energy savings technologies into their design and will demonstrate integrated design and resource conserving technologies. We will complete three projects—an aquaculture project at Sonoma State Hospital, the preliminary development plan for Salt Point State Park, and an integrated shelter and life support hostel at Natural Bridges State Park (the Energy Commission will do two others)—during the next four months and then decide on what's next. Any ideas?

## Jobs

We are looking for a person who is available immediately to analyze state agencies' resource and energy conservation budgets and programs, and two persons to handle project management and administrative responsibilities for our design group and our office. We are especially interested in hearing from minority applicants.

Also, over the next few months there may be some limited opportunities (two or three positions) for people to serve as interns or work/study persons. Write to us for details.

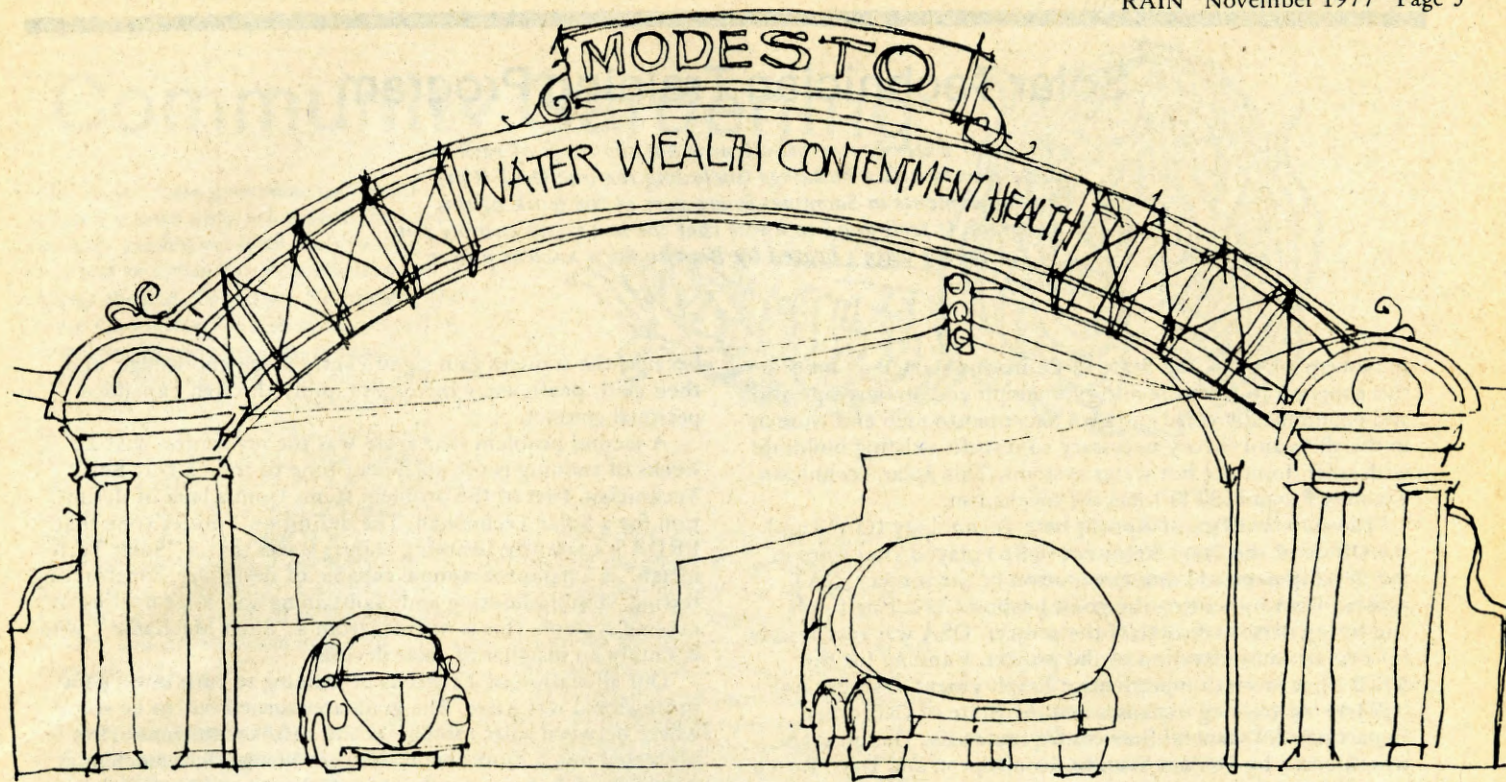
## OAT PUBLICATIONS LIST

1. **Appropriate Technology and State Government** .75  
 Sim Van der Ryn, June 1976
2. **What Is Appropriate Technology?** .75  
 S. Van der Ryn and J. Yudelson, June 1976
3. **Criteria for Appropriate Technology** .25  
 L. Nelson and J. Yudelson, June 1976
4. **Appropriate Technology for Homestead Design: An Introductory Bibliography** .75  
 J. Yudelson, April 1976
5. **Big and/or Little: Search is on for the Right Technology** .25  
 Wilson Clark, July 1976, reprinted with permission from *Smithsonian* magazine
6. **Suitability of On-Site Wastewater Disposal Systems Along the California Coast** 1.25  
 Dr. J. T. Winneberger, February 1976
7. **Coastal Water Conservation Practices** 1.75  
 P. Warshall and P. Ferraro, February 1976
8. **Central Valley Atlas of Community Resources** 1.50  
 November 1977
9. **Rural Wastewater Disposal Alternatives**  
 November 1977, available from the Water Resources Control Board. Write to OAT for information.
26. **Community Gardening in California** 1.50  
 Rosemary Menninger, July 1977

### Project Information Sheets (free)

10. Solar Technician Training Program
11. Drought Tolerant Garden
12. Capitol Bicycle Program

Please order publications by number from:  
 Office of Appropriate Technology  
 1530 10th Street  
 Sacramento, CA 95814  
 916/445-1803



**Central Valley: Atlas of Community Resources**, in English and Spanish, \$1.50 from:

Office of Appropriate Technology  
1530 10th Street  
Sacramento, CA 95814

This atlas is an introduction to a bioregion and the community resources available to the people who live there. It is a survey, not a source list, and for that reason it may seem incomplete. Why? Listings, atlases or catalogues compiled by a state agency, or any outside group, can easily become a crutch or an excuse for a community not to seek further. Nothing can take the place of community self-help and self-reliance. Our goal in compiling this information was to make the atlas an overview of community resources and document the ways by which people are organizing to improve the quality of their lives.

Why a bioregional, rather than a city or county atlas? Political boundaries are rarely useful when identifying what it is that shapes patterns of living. Cultures and communities are defined far more by climate, geography, topography, economic base and ethnic heritage than by voting districts. People who live within a bioregion tend to share common values and experiences. An atlas which identifies resources which have grown out of common experiences is more likely to be useful than one which does not.

Our atlas focuses on community and human resources. There are other equally important resources, especially natural resources, which deserve to be integrated into a community sourcebook. What is the best stone for stonemasonry? Where is the best surplus produce found? All of these a community might explore for itself.

Early in the project, the atlas staff (Ken Kaji, Jim Grossfeld, Nina Byrne and Andy Reicher) began to understand the importance of identifying access points, or making existing resources commonly known, without falling into the trap of the tourist who thinks s/he knows everything. For that reason the atlas focuses on case histories of community organizations, and techniques for building networks and of creating community sourcebooks. —Gigi Coe

#### The New Possibilities Show

Inspired by the work of Kye Cochran, AERO, and the New Western Energy Show (see October *RAIN*), OAT has developed and is sponsoring its own travelling exhibit of appropriate technologies. The show has been booked up since it first went on the road in May and still is drawing crowds of skeptics as well as believers.

The schedule for the remainder of 1977 is:

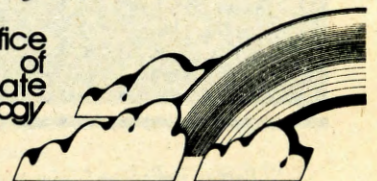
- November 3-6: Energy Fair, Anaheim Convention Center, Los Angeles, California
- November 9: Fullerton Public Library, Fullerton, California.
- November 14-16: Los Angeles Farmer's Market, Los Angeles, California
- November 17-19: UCLA, Westwood, California
- November 28, 29, 30: Stanford University, Palo Alto, California

#### Capitol Bicycle Program

It happens every day: A busy state employee rushes to the state motor pool, checks out a car, speeds eight blocks to deliver a handful of memos to another office. Expensive? Yes. Efficient? No. Saves time? Not really—too many one way streets in downtown Sacramento.

So, OAT started a state bicycle program which provides bikes to state agencies and employees in much the same way that the motor pool provides cars. To date, 45 bikes are being loaned out. Bicycle blocks have been set in front of all major state buildings to help make parking easier. Demand for the bicycles continues to grow as people begin to realize that, in the flat, broad streets of Sacramento, bicycling is the most sensible and fun way of getting around. —GC

Office  
of  
Appropriate  
Technology



## Solar Technician Training Program

*The solar water heaters which now dot the roofs of various state-owned office buildings (including the one OAT is in) and apartments in Sacramento are part of the work of this program. It feels good to know that the hot water coming out of the faucet wasn't heated by Rancho Seco nuclear power plant. —GC*

In November 1976, the State of California started an innovative program to train previously unemployed, underemployed and economically disadvantaged Sacramento men and women in the skills and theory necessary to retrofit existing buildings with solar domestic hot water systems. This Solar Technician Training Project (STTP) was the mechanism.

The state's Office of Appropriate Technology (OAT) and the Office of the State Architect (OSA) played vital roles in the development and implementation of the project. OAT assisted OSA by writing the grant proposal, securing funds and hiring personnel to staff the project. OSA was responsible for overall administration of the project. Funding for the STTP came from Comprehensive Employment Training Act (CETA) for training expenses and the State of California Department of General Services for materials. The program was directed by Jo Ann Trujillo; Ron Lipton and Dave Rozell were the training supervisors.

During the 11 months the STTP was in operation, 18 men and women graduated from the two 22-week sessions. Training included solar energy theory and applications, domestic hot water plumbing and soldering, electrical skills in basic wiring and basic carpentry.

Each training session was divided into two periods. The first period (10 weeks) was spent teaching the solar theory and applications and developing the necessary plumbing, electrical and carpentry skills needed for the second phase.

The second phase (12 weeks) the training consisted of on-the-job training, which was actual design and construction of the solar retrofits. Seven systems were completed, including three apartment buildings, two small office buildings, the STTP workshop and a thermosyphon demonstrator located in a nearby community garden.

During the year this program has been in operation many people have asked us what we've learned and how we would change it. Here are some of Dave Rozell's observations:

The staff necessary to undertake such an ambitious training project should have been increased to one supervisor/instructor for every five or six trainees. This added expense is justified

because the trainees gain significantly more knowledge, and their skill proficiency increases rapidly through expanded personal contact.

A second problem that arose was the realization that 22 weeks of training is not sufficient time to train a true Solar Technician. Part of the problem stems from a lack of definition for a Solar Technician. The definition I prefer (one that ERDA is currently bantying about) states that a "Solar Technician" is a paraprofessional capable of designing, constructing, testing, troubleshooting and maintaining any solar heating or cooling system. This is distinct from a "Solar Mechanic," who is simply an installer of solar devices.

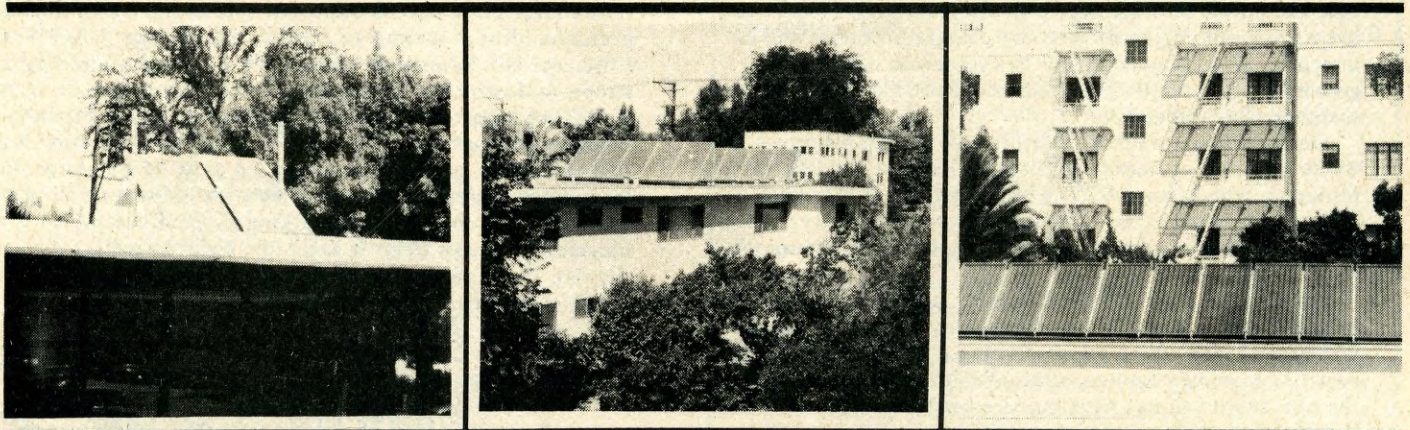
Our allocation of 22 weeks of training to turn out a paraprofessional was naive. The graduates turned out to be somewhere between solar mechanics and solar technicians. They possessed much more theoretical knowledge than mechanics would need, but not nearly enough theory and troubleshooting experience to serve as solar technicians. A period of 10 to 14 months of concentrated training or, as an alternative, a two-year junior college program will be required to graduate a true technician.

We learned another valuable lesson by restricting the size and scope of our projects. More benefit can be derived from designing and building several small solar systems than one or two large systems. Because solar retrofits are site specific, each is different and offers a new set of parameters for the trainee to design for and evaluate.

The project did offer many rewards. First, 18 individuals learned the impact of energy consumption and production on their lives and ways they might regain control of this aspect of their lives. Secondly, the trainees had a strong desire to take the knowledge and skills they acquired and apply them to the benefit of low- and fixed-income communities. Thirdly, 10 of the 18 have already found employment as a direct result of having completed the STTP.

We hope that the lessons we have learned will help other groups to open job opportunities to people who historically have been left out of the mainstream of technological development.

—Dave Rozell



Left to right: OAT solar hot water heaters installed on state office building, state-owned apartments and Governor Brown's apartment.

# Community Gardening

*Not many state governments have a person whose only job is to assist community gardeners. With the growing interest in urban food production, most states should. Rosemary Menninger, the state Community Gardens Coordinator, is helping garden organizers tap into state resources which they might not otherwise know about. She will be writing a bi-monthly newsletter, California Green, which will keep garden organizers informed about where money can be found, where institutional support might be, and what is new at the state and local levels. Rosemary's report, titled Community Gardening in California and reviewed in the October RAIN, will be reprinted and sold through OAT. —GC*

Community gardening has mushroomed in California in the past two years. Cities which started out with one or two experimental gardens now have extensive community garden programs involving schools, hospitals, housing projects and even city parks. Many programs are now run out of the local Parks and Recreation Departments, while others are grass-roots projects started by volunteers whose efforts have been bolstered with local funds and CETA positions funded by the U.S. Comprehensive Employment Training Act.

The appeal of community gardening varies with the gardener—whether the incentive is food, recreation, therapy or education, a harvest yields all of these and more. Neighborhoods have been energized by community gardens, as people see their own efforts changing the environment around them.

In San Francisco, the residents of a senior citizens' housing project, most of them Chinese who had recently been relocated by urban renewal, felt they had little control over their own lives. A few of them started a garden across the street, and eventually some 100 of the residents joined in. Various public officials, impressed with the peoples' initiative, soon began visiting the garden, among them the mayor and the U.S. Secretary of the Interior. Now the officials are asking the gardeners if there is anything they need. "More compost" is usually the response.

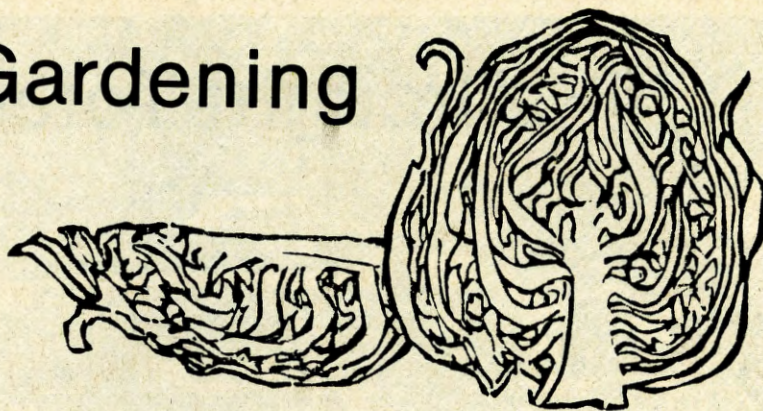
Now California has a Community Gardens Coordinator. The process of establishing this job took two years. First, the Governor's Office of Planning and Research agreed to fund a study of state resources available to community gardens. This study concluded that for

the most part, resources are found in funding programs whose guidelines include gardening but that do not mention it specifically; for example, nutrition programs for the elderly, recreation for the handicapped, environmental education programs and funds for the beautification of housing projects. Other resources listed are state-supported service groups whose interests encompass community gardening. The FHA-Hero clubs of home economics students could, for example, sponsor gardens on school grounds.

Once this resource report was published, it served as a proposal to the Governor's Office to create a staff position to help gardening programs tap these resources and to help state agencies start new gardens through their various programs. A year after completing the report, I was hired as the California Gardening Coordinator.

The gardens that can benefit most from state resources are those connected with an institution of some kind. Hospitals, schools and community service agencies are beginning to include gardening in their activities, and some are already giving plots to residents of the surrounding neighborhood. Neighborhood gardens are best helped from the local level; but institutional gardens, once started, can often qualify for state and even federal assistance to expand their community outreach.

A garden connected to an existing organization does not have to develop its own and, therefore, often evolves with fewer power struggles and greater security than many neighborhood gardens experience. In fact, the continuity of institutional gardens can be longer than the life of the sponsoring organization itself. In Ukiah, California, a garden which was started as part of a teen center was not abandoned when the teen center closed. Instead, the garden became a senior citizens' garden, as the facility changed to a clubhouse for the elderly, but many of the original gardeners continued to participate.



Tapping institutions may be the second phase in the growth of community gardening in America. The initial effort was grassroots organizing, bringing gardening programs into some official sanction; this process has taken about five years, with astounding success. In California, more than 50 towns and cities have community gardening programs, and the Gallup Poll reports that 10 percent of America's gardeners are involved in a community garden.

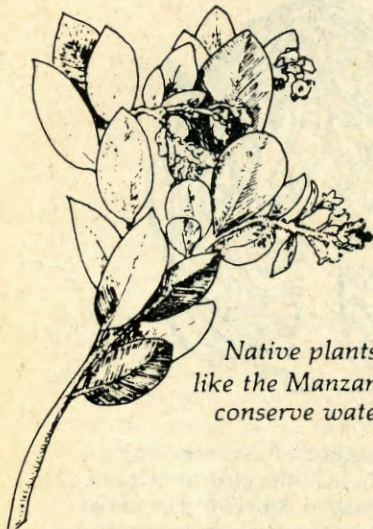
The next phase may take just as long and, once again, volunteers are playing an important role. But they are a different kind of volunteer; they are really more like moonlighting hustlers. Institutional gardens are usually initiated by a member of the existing staff. Often a local gardening program talks a staffperson into the idea, but it takes someone on the "inside" to get it going. More often than not, the person finds that heading up the garden is more fun than working indoors, and convinces an administrator to allow some time for this. So the institutional garden gets land, water and a part-time coordinator without an ounce of fund raising.

One of the major tasks of the Office of Appropriate Technology's gardening effort, besides helping gardening leaders find state funding and assistance, is to encourage state-supported institutions of all kinds to sponsor community gardens. For example, Folsom Prison would like a garden, but they need guards; volunteers from a nearby church have offered to guard. Security is the main problem, but the church people teach gardening and save the prison the cost of a garden supervisor. In various cooperative efforts, institutional land can be the proving ground for community gardening programs because it capitalizes on bringing people together. Psychiatric patients, neighborhood residents and students from a nearby school can all have garden plots on a hospital's grounds. Such dramatic models would show that people come together in a unique way around growing food. It is a basic human endeavor.

— Rosemary Menninger



# Drought-Tolerant Gardens



Native plants, like the Manzanita, conserve water.

Here we are again learning from nature what our place is on earth. During the drought it has become apparent to the Western population that we are living out of tune with the environment. Most of California has a Mediterranean climate where water annually becomes a precious element to plant and animal life.

We have not always been so frivolous with our landscape as we are today. Early Spanish settlers, who came from a climate similar to California's, had a sense of what would survive—they brought fig, olive and citrus. But with Eastern wealth came the means and desire to recreate the English-style landscape of green lawns and exotic plants. Many familiar plants were imported from high rainfall areas such as tropical South America or Eastern Europe. Now we find ourselves, dependent on modern technology, searching for ways to save existing vegetation. Change can begin with setting new priorities for the use of water, creating a landscape ethic, and educating people about gardening in a Western climate.

The Office of Appropriate Technology, in cooperation with the California Department of Water Resources, is working to bring about some of these changes. A prototype of water and energy conserving landscaping has been created in downtown Sacramento. This drought-tolerant demonstration garden shows what can be done around an urban home, apartment or condominium. Planting areas include a rock garden, flower bed, shrubs, trees, vegetable garden, orchard, ground covers and native plants, all of which show that drought-tolerant landscapes can be attractive, colorful and productive. Vegetable gardens and orchards do not have to be abandoned in a drought year: we show methods of managing home food production which allows control over the amount of water consumed. Plant spacing and selection, the proper use of

fertilizers, biological pest control, mulching, as well as innovative water use techniques such as drip irrigation systems, are an integral part of the program.

At the site, a gazebo—a symbolic house—serves as the information center, rest area and protection from weather. Brochures tell about the use of household greywater on plants, composting and tips for saving water in the landscape. A resource bibliography and a plant list are available, as well. Next to individual plants are signs which tell their size, exposure, flower color or use.

Our intention in constructing the garden was to use locality available, inexpensive materials, and work on a simple yet ecologically sound scale. This way the results can be easily adopted by visitors to their own gardens. By hand cultivating the planting areas, we became intimately familiar with soil characteristics at the site and were able to prepare the soil as needed. Compost piles are helping to replenish the soil with nutrients while increasing the water holding capacity of the soil. Keeping the watershed within the site is important, so all ground construction materials used are permeable (such as the pathways of decomposed granite and wood chips from city tree prunings).

Fall or early spring planting gives the plants a chance for good root growth with the help of seasonal rains and moderate temperatures. Some of the plants which have been quite successful are the annually flowering cosmos (*Cosmos bipinnatus*), California

poppy (*Eschschlozia californica*) and purple flowered nierembergia (*Nierembergia hippomanica caerulea*). Ground covers include prostrate germander (*Teucrium chamaedrys 'Prostratum'*), which forms a dark green carpet with lavender flowers, and the silver-leaved blue fescue (*Festuca glauca*). There is a hedge of Italian buckthorn (*Rhamnus alternus*), a lawn of Tall Fescue (*Alta fescue*), and many shrubs such as the aromatic Mexican sage (*Salvia leucantha*).

A variety of irrigation systems are incorporated in the garden to meet the needs of specific planting sites. The vegetable garden, orchard and shrub beds are irrigated by a highly efficient drip system which saves up to 40 percent of water used by conventional sprinkler systems. Drip irrigation, along with mulching, can drastically reduce water run-off and evaporation.

Because droughts occur in cycles, normal rainfall will return. However, the lessons of the drought should not be forgotten. Enduring changes must come about to ensure the future survival of our cities and environment. Local planning commissions should be encouraged to modify existing landscape policies. They have the ability to influence the design of public parks and create ordinances for energy and water conserving private landscapes. Schools and nursery associations are always in contact with the public and have a responsibility for continuing education in these areas.

—Claire Barrett



### Resources for Water-Conserving Landscapes

There are many books, media presentations and fact sheets on how to conserve water in the landscape—a sure indication that people cherish their gardens. Information on how to create a water-conserving garden is available through public utility districts and the California Agricultural Extension Service. Local nurseries and botanic gardens are also good sources of information about local growing conditions and plants for your area. The following resources will give you an idea of what is available.

*Easy Gardening with Drought-Resistant Plants*, Arno and Irene Nehrling, 1968, \$3.50 from:

Dover Publications, Inc.  
150 Varick Street  
New York, NY 10014

The most complete publication available. Published in response to the eastern drought of 1966, it offers sound information for any garden, from soil improvement techniques, water guidelines, landscape design, to an extensive guide of drought resistant plants.

### Sunset

Lane Publishing Co.  
Willow and Middlefield Roads  
Menlo Park, CA 94025

The trend-setting magazine of the Western states offers practical suggestions for gardening, from landscaping with rocks to recently introduced plants. See specifically the issues: "Drip Irrigation," July 1976, "Frugality with Garden Water," June 1976, "Looking Good . . . Unthirsty," Oct. 1976, "Water Short Gardening . . . Here Are Some Guidelines," April 1977.

*Native Plants for California Gardens*, L. W. Lenz, 1956, published by:  
Rancho Santa Ana Botanic Garden  
Claremont, CA 91711

This book will give you an understanding of plant communities, propagation and species that can be adapted for home gardens. Now out of print, you may be able to find it at local libraries, botanic gardens, or through the publisher.

### Nurseries and Seeds

Berkeley Horticultural Nursery  
1310 McGee Avenue  
Berkeley, CA 94703  
Natives, bulbs, seeds.



Yerba Buena Nursery  
19500 Skyline Blvd.  
Woodside, CA 94062  
A source of interesting native species.

Theodore Payne Foundation  
10459 Tuxford Street  
Sun Valley, CA 91352  
Natives, seeds.

California Native Plant Society  
2380 Ellsworth  
Berkeley, CA 94704  
Local chapters hold annual plant sales.  
A good source of information.

R. L. Hudson, Seedsman  
P.O. Box 1058  
Redwood City, CA 94063  
An extensive list of native and exotic seeds.

Clyde Robin Seed Co., Inc.  
P.O. Box 2855  
Castro Valley, CA 94546  
Native plant and wildflower seeds.

Hortica Gardens  
P.O. Box 308  
6309 Green Valley Road  
Placerville, CA 95667  
Seeds and seedlings.

### Gardens Which Display Drought-Tolerant Plants:

University of California at Davis  
Arboretum  
Davis, CA 95616

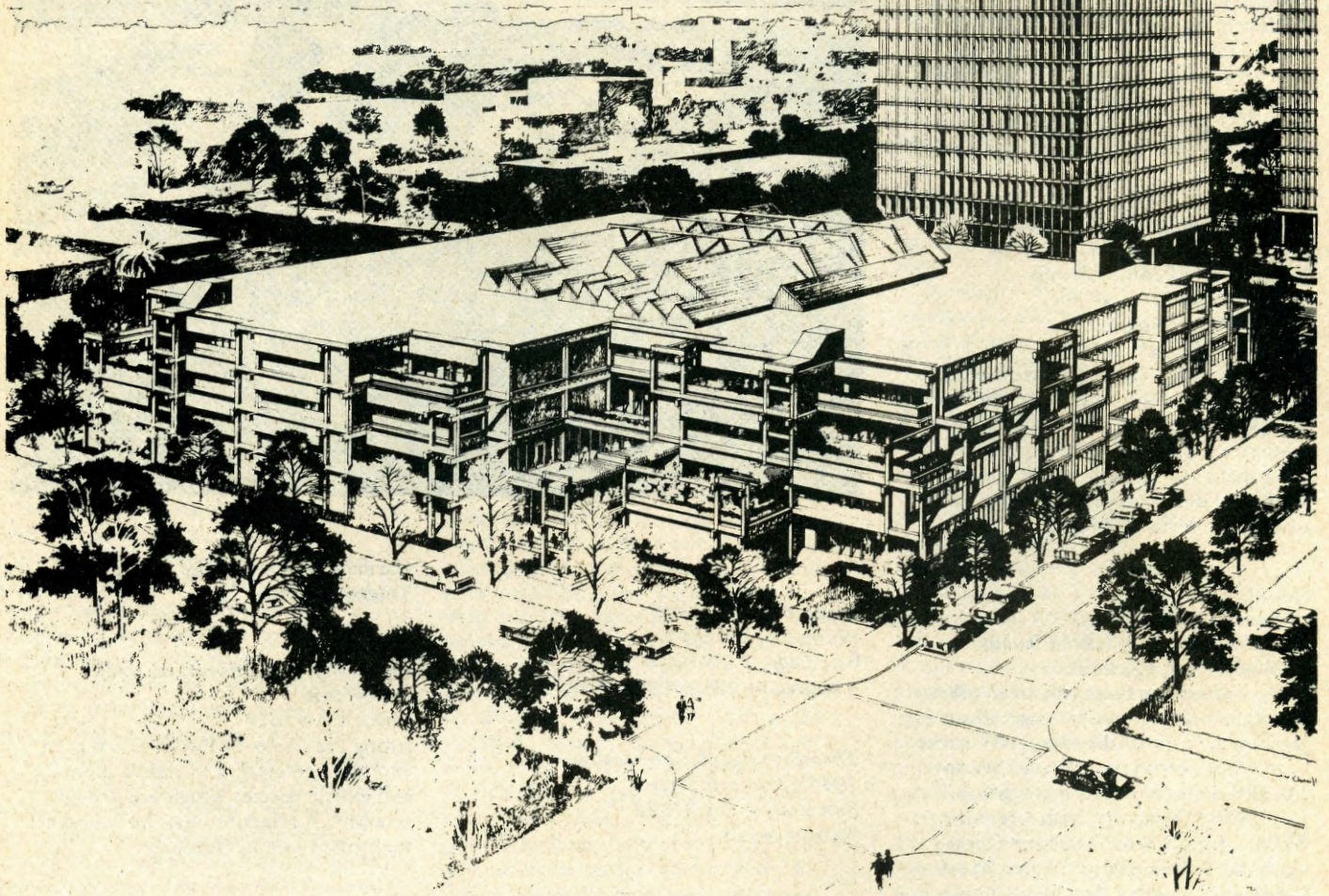
Along the banks of Putah Creek is an extensive collection of native plants and exotic species which are drought tolerant. A selection may be found at their plant sale in October.

Santa Barbara Botanic Garden  
Santa Barbara, CA 93105  
Here is a magnificent display of drought-tolerant plants which thrive in coastal conditions. Leaflets are available on a wide variety of subjects—from the propagation of native species to the water economy of plants.

Rancho Santa Ana Botanic Garden  
Claremont, CA 91711  
This is an active center for research and propagation of California native plants. The garden trails lead you through natural settings of California vegetation.

Strybing Arboretum, Hall of Flowers  
Golden Gate Park  
San Francisco, CA 94122  
A native plant and redwood grove are among the elaborate displays of vegetation. Weekly lectures and the spring plant sale are open to the public.

*Design a state office building that is humane, ecologically sound, and 100 percent passively heated, cooled and lit. A big order from the crazy new State Architect—can't be done. Well, it's out for bid now. It's not 100 percent passive, but close enough to show it is possible. Good job. —TB*



## “SITE ONE”

Energy conserving building design has almost become synonymous with solar design in many people's minds. Although solar design often can offer significant energy savings, in many cases there are more appropriate natural energy sources to be tapped. A detailed study of the local climate and building type can reveal alternatives which are unique and often multifaceted. An important quality of environmental design is that it is case-specific for user-oriented, climate-responsive systems, and shuns general panaceas, be they solar-, fossil- or nuclear-driven. That is not to say that solar designs do not often share these qualities, but that solar energy should be just one of many natural energy options to be considered while integrating the needs of the future occupants and the specific opportunities and drawbacks of the site and micro-climate.

The basic objective of the energy design of a new four-story city-block-size California State Office Building, (Site 1) is to reduce dependence on non-renewable fuel resources while enhancing the users' comfort.

In Sacramento's sunny and mild climate, the primary energy design problem for large office buildings such as Site 1 is

cooling. Given this condition, three general design strategies were employed to achieve the energy conserving goals. The first strategy employed the natural coolness of Sacramento's summer nights coupled with the thermal mass of the building's concrete structure. Much like a passive solar system working in reverse, this innate "thermal mass" is used to absorb some of the heat given off by lights and people during the day and store it until nightfall. As the outside temperature drops below that of the warm thermal mass, the building's ventilation system begins to flush out the building with cool night air, a process that may continue until dawn. Human comfort is 40 percent dependent on the temperature and humidity of air, 40 percent dependent on the temperature of the surrounding materials (called the mean radiant temperature) and 20 percent dependent on air speed. At the same time that the concrete structure of Site 1 is holding air temperature down by absorbing excess heat, its cool surface is also reducing the mean radiant temperature, thereby significantly increasing human comfort.

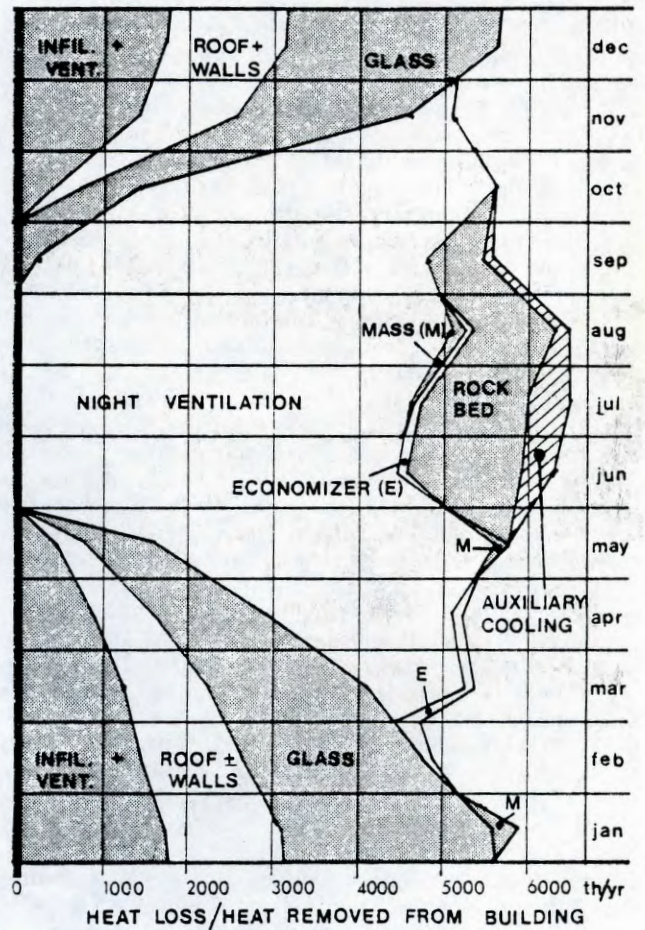
The second strategy employed a combination of shading, lighting and insulating techniques to reduce energy demand. A major design problem was regulating the sun's heat; allowing it to penetrate the building in winter and eliminating it in summer. On the south facade this is simply achieved by trellis projections which shade the high summer sun but don't obscure the low winter sun. The east and west shading is more difficult because the sun's angle is nearly a perpendicular to the windows morning and afternoon year 'round. Rather than permanently obscure the view out of these windows, fabric shades were designed to protect the window when necessary and roll up when no longer needed. As well as preserving the views east and west, the shades add color and lightness to the building's interior.

Another important energy conserving strategy is a more efficient interior lighting design achieved by a combination of task lighting and low level ambient lighting averaging about two watts a square foot. Most traditional office designs consume between four and six watts per square foot. In Site 1, the artificial lighting is supplemented by natural daylight. Simple reflective venetian blinds in clerestorys are used to cut out the unwanted light, which often becomes a source of glare, while casting indirect, useful light onto the ceiling. Finally, energy demand is reduced by better insulation throughout the building and double-glazed windows in all exterior walls.

The final strategy employs a large central atrium which is used simultaneously as a vestibule, a preheater and cooler for building ventilation, a light source, a focus for clear building circulation, and a dining and resting place. The atrium's temperature is controlled by adjusting the amount of direct sunlight entering the skylights with its operable louvers, or by using night air to cool its mass. Its four levels of balconies provide an interesting and pleasant circulation, an alternative to the gloomy, often labyrinthine corridors of most state office buildings. At the same time the atrium provides daylighting and views for the interior offices, it affords space for dining, gatherings and special events. The functioning of such an atrium space perhaps best exemplifies the goals of environmental design. It integrates many user amenities, provides a focus to the building and conserves energy.

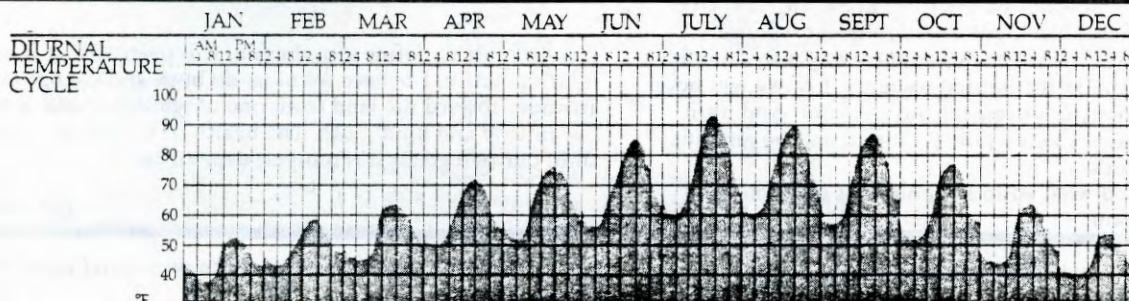
The integration of multiple concerns is the primary objective of good design, and no design option should be considered, no matter how energy efficient, if it forces the subjugation of user needs or even pleasures to the latest technological fad. Solar design can result in architecture which is just as oppressive and monumental as most high rise monoliths if it is considered an end in itself. As with any conceptual system, appropriate technology can obscure the problem with its own abundant solutions. The Site 1 office building responds to a variety of conditions and requirements with what will hopefully be an integrated diversity of solutions. It is this diversity and site-responsiveness which will make energy conserving design produce humane environments.

—Peter Calthorpe



To offset the heat load in the summer months, night ventilation with the typically cool night air provides for approximately 80 percent of the cooling needs.

The cool night coastal breezes provide an appropriate, natural energy sink for absorbing heat from large buildings in Sacramento.



● Study how a society uses its land and you will come to some pretty reliable conclusions as to what its future will be.

—E. F. Schumacher

Our future, based on those criteria, will be—like the land's—an impoverished one. We clearcut our virgin redwoods, allowing irreplaceable topsoil to wash down the hillside and be carried away forever by winter rains. We gouge out the earth to extract coal. We terrace the foothills to release geothermal steam for one quick energy fix. We ignore the contour or character of the land in planning, or planting, most buildings. We pave as much as 60 percent of our cities to accommodate the land-hungry automobile. And, in this sophisticated year of the Lord 1977, we still convert our best croplands and orchards to condominiums.

Why do we so abuse the earth?

One reason, of course, is that there has always been so much land in this country. As noted in Frederick Jackson Turner's seminal essay on the frontier in American history, and further documented in David Potter's classic *People of Plenty*, the restless American pioneer always knew there was another valley, another forest, another meadow just over the horizon. There was little incentive to do otherwise than move in, exhaust the land, and move on. George Washington, himself a farmer and close to the land, gives early evidence of this "frontier mentality" in his letters: "We cut down more wood, if we have any, or move into the western country."

As America moved westward, the General Land Survey set the tone by establishing the rectangular, grid pattern as the basis for dividing frontier lands. The same pattern was applied indiscriminately to most cities: four intersecting straight lines, permitting easy-to-merchandise land parcels, quick sales and limitless expansion onto surrounding agricultural lands.

Another reason is that the great majority of Americans have, by birth or by choice, alienated themselves from the land and sought refuge in the cities, where appreciation of the land can never be the same. Even more unfortunate for this nation, as Wendell Berry movingly relates in *A Hidden Wound*, is the fact that too many of those who stayed behind on the land turned over the thousands of menial tasks by which the land is maintained—and by which we develop a closeness to the land—to people they considered their racial inferiors: black slaves, Chinese laborers, or migrant workers. People who, of course, lacked the means to own the land and thereby earn the only "ticket" required for admission to Western society.

A third reason is that we now have in hand greater tools of destruction than ever before in human history. For the first time our technological capacity for destruction exceeds the land's physical capacity for renewal. Compare the years of primitive manpower that would be required to equal the change to the landscape wrought in one day by one 20th century American on one earthmover. The degree of difference is staggering. I know it is considered heretical among naturalists, but I believe that the easy availability of such tools of destruction—more than any basic philosophical difference—has made contemporary Americans more destructive of the land than their native American predecessors or other "primitive" peoples who are universally praised for their gentle treatment of the good and generous earth.

I believe, with Schumacher, that "before our policies with regard to the land will really be changed, there will have to be a great deal of philosophical, not to say religious, change."

In other words, unless we in this country begin to think of, or deal with, the land as the limited resource it is, we will never develop any closeness to, or respect for, the land. And until that happens, there will be no policy change, and no amount of planning will work.

In short, we need what Aldo Leopold first called a "land ethic" for this nation.

The land ethic is really an extension of the ethics governing our behavior toward our neighbors and toward our communities. The notion of ethics colors humankind's naturally selfish behavior with a touch of respect for other human beings and cooperation as a member of the community. Leopold writes, "The land ethic simply enlarges the boundaries of the community to include soils, waters, plants and animals, or collectively, the land."

Don't think that the land ethic is too esoteric or too complex for decision-makers today to deal with. In fact, the best expression of the land ethic in this country is also the most simply stated. It was adopted by the Humboldt County, California, Board of Supervisors in August 1972: "We, the people of the County of Humboldt, recognize and acknowledge our total dependence upon the land and accept our obligation to use the land in a manner which will sustain and benefit man and all other living things." Not a bad beginning—nor end!

Last year, the Office of Planning and Research assembled 150 land managers—developers, farmers, realtors, elected officials, environmentalists, state and federal bureaucrats—to discuss the wisdom of a land ethic for California. The conclusions of their two-day deliberations reflected an amazing consensus: "This is the land ethic. First, the land is the basis of all life. Second, that land is a very valuable, a very limited and an irreplaceable resource. Third, that we as temporary stewards on the land have a responsibility to care for the land, to nurture it, and to turn it over to those who follow us in better condition than we found it."

One further example, lest I appear too radical. The *Code of Ethics* of the National Association of Realtors begins: "Under all is the land. Upon its wise utilization and widely allocated ownership depend the survival and growth of free institutions and of our civilization."

The land ethic, then, is one of *reverence, respect* and *responsibility*.

**Reverence:** for the life-giving, almost divine nature of the earth; its beauty, its bounty, its mystery, its blessings, its unique role in the well-being and survival of all living things. It is no surprise that the most common trait of all primitive peoples is worship of the earth.

**Respect:** a healthy respect for the ability of the earth, properly cared for, to sustain a nation for centuries; or, neglected or abused, to topple an entire civilization in decades. The barren rim of the Mediterranean is stark proof that proper or improper use of the land is one of the most powerful forces shaping history. Carter and Dale's *Topsoil and Civilization* should be required reading for every elected official, if not every landowner.

**Responsibility:** for the tremendous heritage that is ours, over which we exercise temporary stewardship, making the daily decisions—in our private lives and in our public institutions—that will determine what shape the land will be in for generations that follow.

It is difficult to define a land ethic. It is more difficult to put it into practice. I believe we must do both and change our attitudes toward the land from one of ignorance and abuse to one of care and kindly use. The health of the people and the land, our two greatest resources, depend on it.

—Bill Press

*Bill Press is a person whose head is in the right place. As director of the Office of Planning and Research in the Govern-*

*nor's Office, he can be counted on to push good ideas and programs.*  
—LdeM



Ancil Nance

# As Our Land Is

*After all anybody is as their land and air is.  
Anybody is as the sky is low or high,  
the air heavy or clear  
and anybody is as there is wind or no wind there.  
It is that which makes them and the arts they make  
and the work they do and the way they eat  
and the way they drink  
and the way they learn and everything.*

—Gertrude Stein

Over a year ago, OAT began to catalog various on-site wastewater treatment devices and explore their health implications (more on this in next month's RAIN). During this time, we discovered some small towns which were having centralized chemical waste treatment systems foisted upon them by the local politicians, engineers and developers. We are now beginning to gather information to help towns develop plans for alternative biological waste treatment systems which are far cheaper, less polluting, and a much more ecologically sound way to go. —GC



# Biological Treatment of Wastewater

Joyce Hochmuth-Nowell and Wade Rose

In the early nineteen hundreds, America turned away from decentralized sewage treatment and toward centralized collection, treatment and disposal of wastes to sewers. Cheap energy and a growing ability to engineer and build large public works consolidated an approach to wastewater treatment which valued nuts and bolts over more natural processes. Treatment methods developed in Northern Europe that used prodigious amounts of energy treating sewage in the smallest space and the least time possible became the ideal processes. The glittering, complex hardware of physical and chemical centralized treatment plants boosted the Sanitary Engineer out of the muck and into the more acceptable world of mathematical formulas and stainless steel pipes.

If central treatment plants were well operated, which was and is not often, they offered a fairly good way to clean up the polluted waters according to three basic standards: Biological Oxygen Demand (BOD), Suspended Solids (SS), and Fecal Coliform Counts. However, those three methods of measuring treatment effectiveness (how much oxygen the wastewater needed to oxidize nutrients, how many solid particles were suspended in the water and how many coliform bacteria existed) are inadequate in light of the pollutants we now know exist in "treated" wastewater.

Another serious blow to the old methods of treatment has been the increasing cost of energy. Activated sludge treatment is the most efficient means of conventional treatment. It is also the most energy intensive. Mechanized treatment requires constant energy inputs to make pumps, grit chambers, primary and final clarifiers, trickling filters, sludge digesters and so on, work. Delivering the wastes to the treatment plant often requires more energy than the treatment itself. New standards of water quality and increasing energy costs are requiring new approaches to wastewater treatment.

Treatment methods which require more time and space than old methods but rely on natural processes show great promise in bringing better water quality at less cost and less environmental impact.

Biological treatment which relies on a mixture of bacteria, protozoa, algae, invertebrates and aquatic animals to break down wastes cannot only treat wastewaters but can produce resources as well: safely reusable water and food.

Literature on biological methods of wastewater treatment is becoming available. Here are some of the sources which contain good information.

*Economic Assessment of Wastewater Aquaculture Treatment Systems*, (EPA-600/2-76-293), Upton B. Henderson, 1976, from:

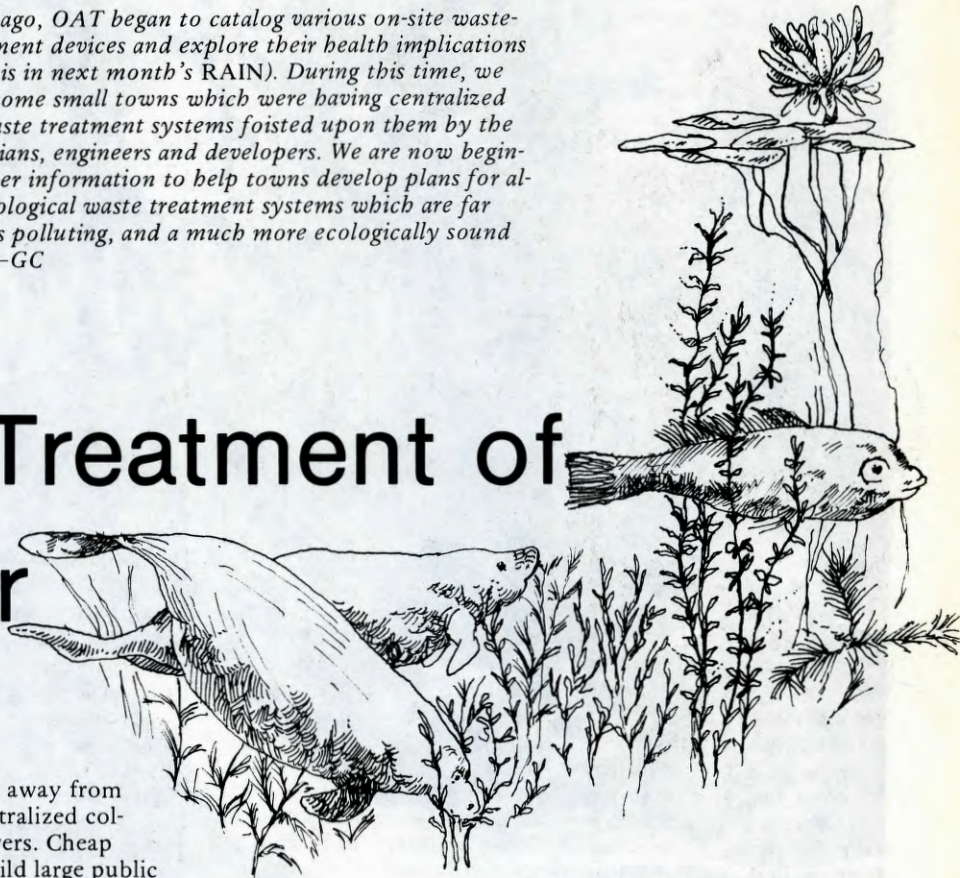
National Technical Information Service  
Springfield, VA 22161

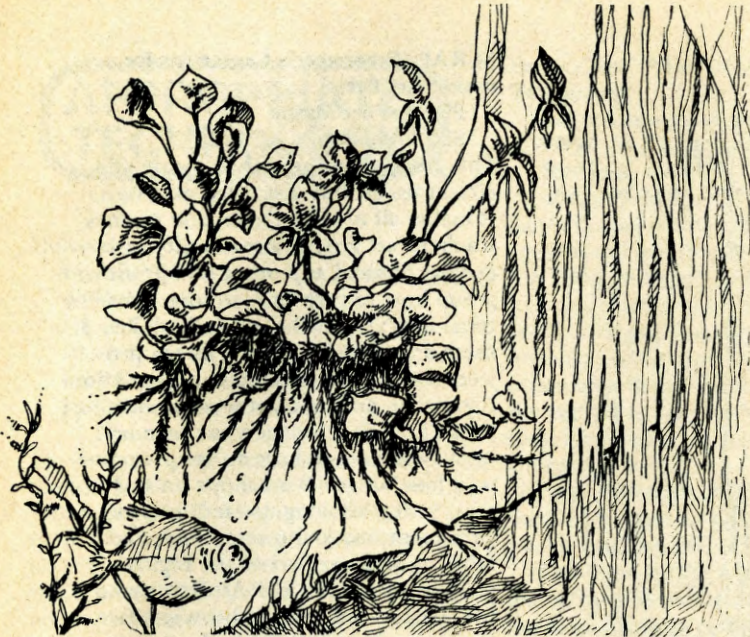
This is an update economic analysis which compares aquaculture to conventional systems. The study concludes that at many water quality levels aquaculture is cheaper than conventional treatment. The volume's appendix gives schematic presentations of 15 different aquaculture treatment strategies.

*Review of Current Interest and Research in Water Hyacinth-Based Wastewater Treatment*, R. K. Markarian, et al., 1977, (Report No. BCL-OA-TFR-77-1) from:

Battelle Columbus Labs  
505 King Avenue  
Columbus, OH 43201

This report serves as a who's who directory of individuals and institutions working in water hyacinth-based aquaculture. The author's conclusions from the nine groups surveyed are that: (1) hyacinth treatment can be a low-cost way to meet stringent effluent requirements and that (2) within three years systems may be available on a widescale commercial basis.





In California, two enterprising people, Steve Serfling and Dominic Mendola of Solar Aqua Systems (P.O. Box 88, Encinitas, CA 92024), have developed an aquatic system which uses a series of "aqua-cells" to purify water in a hot-house environment. Sewage is pumped into the first aqua-cell, where water hyacinths take up and metabolize the nitrogen, phosphorus and other nutrients. In another cell, the water is given an ozone treatment to kill bacteria. The water then flows to other aqua-cells, where fish and freshwater shrimp and other aqueous plants, such as duckweed, continue to absorb pollutants. The water quality produced is determined by the detention time in the various cells. An effluent comparable to conventional secondary treatment is easy to produce using this system. A longer detention time will produce superior quality effluent.

In Humboldt County, California, the City of Arcata proposes to build a municipal wastewater treatment process which would treat sewage through oxidation ponds, fresh water marshes, a retention lake, and finally use ozonation as a bacteria kill to avoid the use of chlorine. A capstone on the treatment train would be a salmon farm, which would use wastewater to raise fish. Seven years of study using the traditionally treated Arcata sewage water has proven the potential for salmon rearing in local wastewater.

To the south, the City of San Diego wants to build a large demonstration project which would use an aquaculture treatment train similar to the one developed by Solar Aqua Systems. This water reclamation approach could develop into a major sewage recycling system which would recapture 60 percent of the water used by the city.

## Wastewater Management

If decentralized wastewater treatment systems are going to provide the services which centralized public systems have traditionally provided, then a management structure has to be created specifically designed for the needs of the small-scale systems. In California, OAT has developed a centralized management structure for decentralized wastewater treatment facilities, an On-Site Wastewater Management District.

In early August of 1976, OAT began to study the issue of individual, on-site, wastewater treatment systems (primarily septic tanks and drainage fields) vs. centralized collection and treatment—sewers. An on-site system is similar in major respects to a central sewer: wastes are collected, treated and disposed. But, there is one major difference: where sewers are publicly managed and maintained, on-site systems are usually built and forgotten, at least until something goes wrong. No matter how simple the devices, they cannot be expected to work forever without some upkeep and maintenance. The problem becomes one of determining how to provide for the proper maintenance and operations of on-site systems so that they could be expected to work indefinitely.

In February of 1977, SB 430 was introduced before the California Legislature by State Senator Peter Behr. Developed by OAT and others, the legislation creates a public entity empowered to properly design, construct, maintain, monitor and operate either publicly owned or privately owned on-site wastewater disposal systems.

By providing all of the services that a sewer district would, an On-Site Wastewater Management District's purpose is to insure all of the wastewater disposal systems within its boundaries are maintained and in good working order.

The key change this legislation creates is that now, 14 of the 17 public entities which are authorized to operate and maintain sewers may, if they choose, operate on-site systems as an extension of or an alternative to their wastewater treatment facilities.

The bill passed the legislature and was signed by Governor Brown earlier this fall. Write to OAT for copies of the law.

—Wade Rose

*Biological Control of Water Pollution*, Joachim Tourbier and Robert W. Pierson, Jr., 1976, \$20 from:

Center for Ecological Research in Planning and Design  
Department of Landscape Architecture and Regional  
Planning  
University of Pennsylvania  
3933 Walnut Street  
Philadelphia, PA 19174

Perhaps the best overview (and possibly most expensive) of current work in biological controls. This excellent sourcebook includes work on drinking water quality, aquifer recharge, biological treatment methods, the legal status of natural treatment methods and more.

*Natural Sewage Recycling Systems* (BNL 50630), Maxwell M. Small, Jan. 1977, from:

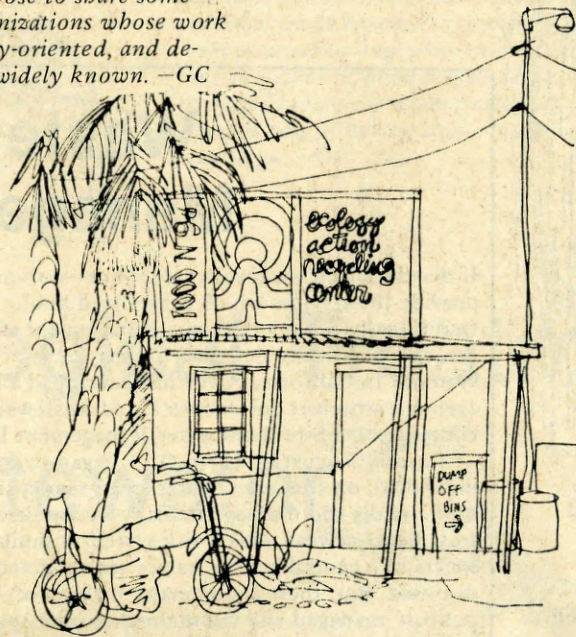
Brookhaven National Laboratory  
Environmental Control Technology and Earth Sciences  
TID 4500  
Upton, NY 11973

This paper reviews efforts at Brookhaven to utilize natural systems (especially marsh/pond systems) to produce potable water from sewage.

The study (technically written and supported by charts, diagrams) centers on a system in New York state which has been working with continuous municipal flows since 1975.



*Lots and lots of good things are happening in California. Rather than re-view people and projects which are already familiar, I chose to share some resources and organizations whose work is solid, community-oriented, and deserves to be more widely known. —GC*



# RECYCLING

**Encore!**  
2179 Allston Way  
Berkeley, CA 94704  
415/548-2220

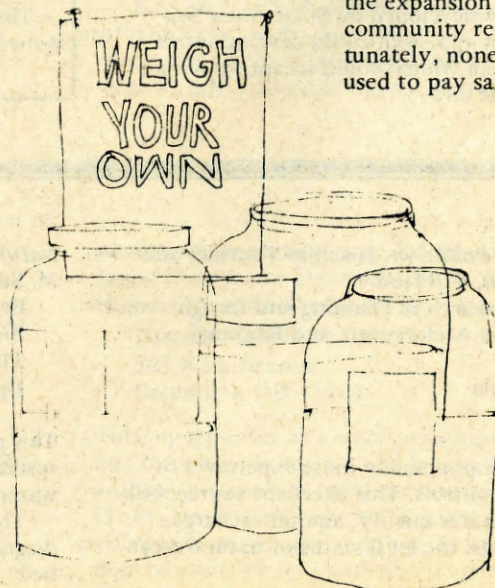
These people are showing that it is possible to survive rather healthily on the throwaways of our society. Healthily at this point means earnings of \$200,000, and the employment of seven people to collect, wash and sell used wine bottles to California wineries. They estimate that 60 percent less energy is used in washing and reusing bottles than in making new glass from recycled cullet or raw materials. Encore! is buying bottles at 25 to 35 cents per case, washing them, and distributing them to wineries at \$1.25 to \$1.75 per case. Profits from the program go to further develop their efforts and to support the Berkeley Ecology Center. Looks like everyone comes out ahead on this one.

**Conservatree Paper Company**  
2749 Hyde Street  
San Francisco, CA 94109  
415/673-8662

Not all paper which is called "recycled" is made from consumer waste. Much of it is millbroke, or scraps from the floors of mills, and is essentially virgin fiber. No paper mill in California makes recycled paper which actually has been recycled. At Conservatree you can count on getting the finest quality paper, made of 100 percent post-consumer waste, which is priced competitively.

**Ecology Action**  
P.O. Box 3895  
Modesto, CA 95352  
209/529-8587

In 1971, Ecology Action found that the six recycling centers they had set up around Modesto were almost always too full, so they decided to experiment with curbside pick-up routes for newspapers, brown bags, unsorted metal cans and mixed glass. Almost half of the people in the experimental routes participated, and soon routes were set up throughout the city. Now, nearly 30 percent of Modesto is recycling through Ecology Action's curbside pick-up program, and they are expanding the service to Turlock.



**SCRAP (Scrounger's Center for Re-usable Art Parts)**

Pier 3, Fort Mason  
San Francisco, CA 94123

This group does more than locate and collect usable but discarded materials. It makes all of it available, and teaches teachers, art groups, community organizations and any other non-profit group how to turn the scrounged material into art. At the Art Lab on Pier 3, there are exhibits of some of the projects which have been made. Instruction is given on how to use the scrap material, how to scrounge your own material, and how to have an art program on a low budget. Workshops on such areas as rug hooking, tie and dye, environment, mask and ceremony, and fabric murals are part of the regular program. Both the SCRAP Depot and the Art Lab are open to browsers five days a week during regular hours.

**Solid Waste Management Board**  
1709 11th Street  
Sacramento, CA 95814

The Solid Waste Management Board has just completed a list of all the recycling groups in California. Information includes contact persons, materials accepted, hours and days they are open, and additional comments such as availability of pick-up service and how they want the materials separated. The final printing of this will be out soon, so we don't yet know the price. If it's not free, it won't cost very much. It is a much needed list, which should be not only helpful to people who need to find a place to recycle, but also to existing groups who want to share skills and techniques.

Also, in January 1978, under a new law signed by the governor (SB650), the SWMB will have funds available for the expansion of or the creation of community recycling centers. Unfortunately, none of these funds may be used to pay salaries or wages.

## APPROPRIATE TECHNOLOGY

### University of California

Institute of Appropriate Technology  
4455 Chem. Annex, UCD  
Davis, CA 95616  
916/752-7166  
Paul Craig, Acting Director  
Judith Painter, Assistant to the Director

From a sizable research budget of 64.1 million dollars, the University of California has finally designated \$190,000 to do research in appropriate technology. Of this sum, 80 percent will go out in grants of \$10,000 or less to students and faculty who are researching small-scale, more user-oriented technologies which rely on renewable resources and encourage self-reliance. The center has been located, appropriately enough, in Davis, a town which is already famous for its conservation and energy consciousness.

People who are interested in funding their research through UCIAT should contact Judith Painter, at the above address. The request for proposals should be out by early November. Funding will start in late November and continue until all the money is spent.

### Intermediate Technology—Los Angeles c/o Jack DeSwart 2310 Glencoe Venice, CA 90291

This group is one of the waves that was created by the visit of E. F. Schumacher this year. They introduce themselves in this way: "The Intermediate Technology Group of Los Angeles is made up of individuals, young and old, who feel the necessity to upgrade the quality of human life by participating in the educational project of exploring and applying alternative systems of living. This requires being consciously responsible for the kinds of technology we participate in and for the ramifications of our individual and collective actions." When visiting with these people earlier this year, I was surprised at the number and quality of projects that are going on in a part of California which most a.t. types just write off. Right now, ITLA is in the process of organizing itself and focusing on specific projects. It will be interesting to see what approaches they develop in trying to deal with Los Angeles.

ITLA is a membership organization; monthly flyers and a quarterly newsletter are sent to members. Write to Jack for further information.

### Santa Clara Office of Appropriate Technology

Santa Clara Planning Department  
70 W. Hedding Street  
San Jose, CA 95110  
408/299-2880

Santa Clara County was once a rich agricultural valley; it is now known as the "Silicon Valley," the heart of the nation's electronics industry, and is faced with problems in transportation, housing and energy just like any other urban area in California. In addition to the toll taken by the drought, agricultural land and open space is rapidly disappearing. To begin to deal with some of these problems, Santa Clara County decided to start an Office of Appropriate Technology (OATS).

This year, a CETA proposal to fund the office was written and accepted by the local Manpower Board and the County Board of Supervisors. Eleanor Young, a senior planner, works with five staff members: Lionel Hodge, Howard Simon, John Dawson, Dennis Oberto, and Richard Wenn, who work in Community Liaison, Food Distribution, Housing, Energy and Communications, respectively.

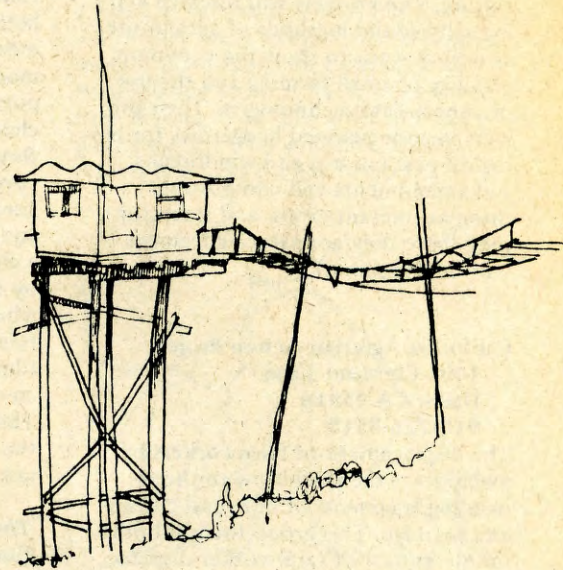
The OATS staff is beginning to provide information, technical assistance and research services to communities in Santa Clara County. Plans for the future include an educational center to make access to these services easier.

Other projects of the Santa Clara OATS staff include:

- A program which focuses on energy, water conservation and urban food production. The staff is holding meetings in people's homes to assist neighborhoods in the planning of gardens, weatherization of homes, and the use of solar energy.
- A sourcebook will be published which will identify resources in appropriate technology in the county. A "home grown" conference is scheduled for February 1978 to look closely at the county and plan ways to support local economies related to decentralized energy and food production.
- The establishment of a solar energy information center in cooperation with San Jose State University, and a food co-op with the Northern California Public Interest Research Group.
- Technical assistance to local farmers' markets and community gardens, and a study of local community gardens' successes and failures.

OATS is coordinating their work with other projects in Santa Clara County: the Food Bank, which provides free food to persons in need and has established community gardens for handicapped people; the Saratoga Community Garden, which is an apprentice

training center in urban food production as well as an education and demonstration center for the local community; and Sunrise, a non-profit food store which even delivers. In addition, the San Jose Parks and Recreation Department is active in community gardens, and the Santa Clara County Board of Supervisors is in the process of establishing an Agricultural Preserve. All of these projects are important steps in reclaiming what was once considered the richest agricultural valley in the world. —Richard Wenn, Howie Simon



### Farallones Institute

Rural Center  
15290 Coleman Valley Road  
Occidental, CA 95465  
707/874-3060

Urban Center/Integral House  
1516 Fifth Street  
Berkeley, CA 94710  
415/525-1150

Some new developments at Farallones: the Urban Center is planning month-long Home Conservation courses, which will be offered six times yearly. Workshops and seminars are being held on On-Site Recycling Systems, Passive Solar Design, Small Scale Agriculture, Urban Pest Management, the Politics of Appropriate Technology, and more.

The Rural Center is conducting three one-day workshops in Whole Life Systems. The last one will be on November 13, for those who can make it. Something new and good is always happening at Farallones: See *Rainbook* for more of what they have done, or contact them in person.

## AGRICULTURE · FOOD

**The Student Farm Project**  
Plant Sciences Department  
University of California  
Davis, CA 95616

**Project Coordinator: Dan Cohen**  
Five years ago, students at Davis started working to get a student farm. Just recently they were given 20 acres where they will conduct experiments in both urban gardening and small scale agriculture. The projects will research ecologically sound methods of agriculture, as well as work to show the economic viability of small farming and the use of appropriate technologies. Their projects include planned hedgerows for biological pest control and windbreaks, soil amendments and composting, drought tolerant crops, and intercropping (here they are planting legumes with non-legumes).

**California Agrarian Action Project**  
1007 Chestnut Lane  
Davis, CA 95816  
916/756-8518

The displacement of farmworkers by machines is the final blow to the remaining fragments of our rural culture and heritage. This group focuses both on the impact of farmworker displacement and the research priorities which allow that to happen. Mechanization research at the University of California at Davis receives \$1.8 million annually. In the last two years, 11,000 farmworkers were displaced by the electronic tomato sorter, a product of that research. By 1980, the total number of workers without jobs due to this machine will amount to 24,000. This fall and winter the CAAP will be traveling around the state with an exhibit to focus attention on this crucial issue. You can contact them to find out when they will be in your area.

**Northern California Food Co-op Directory, Southern California Food Co-op Directory, Food Co-Op Bibliography and Guide for California, Form a Buying Club in California, free from:**  
The Department of Consumer Affairs  
1021 O Street  
Sacramento, CA 95814

Just about everything you will want to know about buying clubs and food cooperatives. Ann Evans, who is the consumer cooperative specialist with the Department of Consumer Affairs, has pulled together these extraordinarily thorough guides. The directories were compiled to help stimulate direct marketing, help newly formed co-ops find other co-ops in their area to use as models and share skills and moral support, and to facilitate collective purchasing among co-ops. *How to Form a Buying Club* explains the basics, and covers all the essentials such as book-keeping, ordering, distribution, finding equipment and the legalities of forming a club. All this information is supported by the *Co-Op Bibliography and Guide*, which annotates co-op histories, general references, technical training programs, films, directories, periodicals and other co-op related educational material. These publications are an example of the "highest and best use" of people's tax dollars.

***The Harvest Comes Home*, documentary film, 16mm, 18-1/2 minutes, free loan from:**

Department of Consumer Affairs  
Division of Consumer Services  
Attn: Charlotte Nyheim  
1020 N Street, Room 588  
Sacramento, CA 95814

A film on direct marketing, which tells the story of alternative mechanisms for consumer control over the food delivery system. It describes the small, independent farmer's position in the agricultural economy, and touches on buying clubs, food co-ops, farmers' markets, community canneries and producer, wholesaler and retailer food systems.

### Earthwork

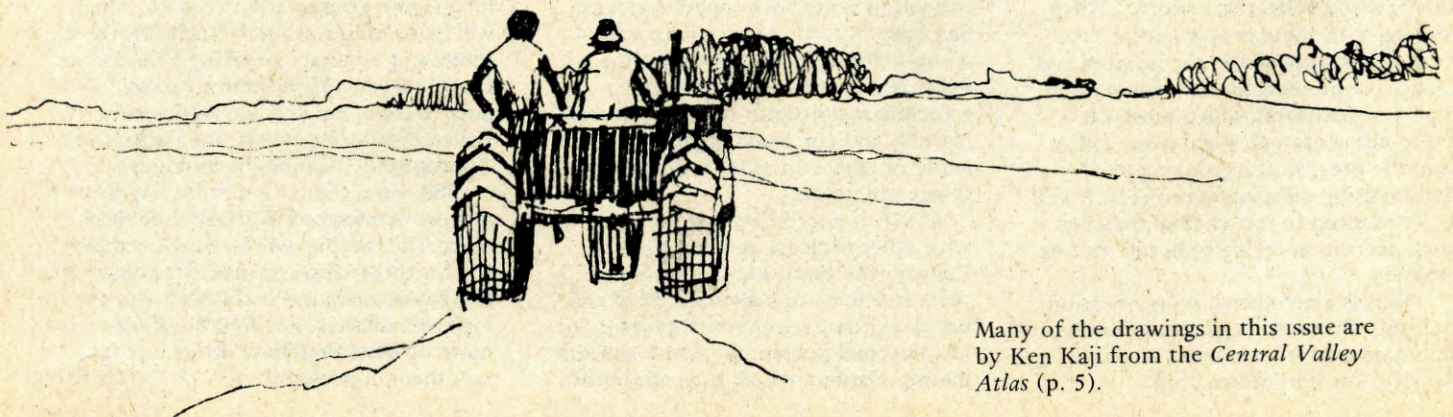
1499 Potrero  
San Francisco, CA 94110  
415/648-2094

There are some groups which can be mentioned again and again. This is one. Earthwork not only has an extensive library of their own, but also houses the files of the San Francisco Food System and the libraries of the Center for Rural Studies and the National Coalition for Land Reform. The Buying Club/Community Store Resource Center contains all the information one could want to start a buying club or cooperative and has resource people who can talk to groups who are starting clubs and stores. Earthwork is now publishing a community calendar of films, lectures, television shows, workshops and benefits for and about food and land issues in and around the Bay Area. A visit to Earthwork is recommended. If that is not possible, write for more information about their various projects.

### Norcal Worms

Sonoma County Farm Bureau  
970 Piner Road  
Santa Rosa, CA 95406  
707/544-5575

The Northern California Worm Growers Association (Norcal Worms), the marketing organization for 65 worm growers, was started nearly a year ago to help small worm growers expand their markets. Located in and managed by the Sonoma County Farm Bureau, Norcal advertises for the growers, takes orders and arranges for the shipping of worms. Membership is limited to 65 growers whose operations range in size from small (20 bins) to large (100 bins). Orders are rotated to give each grower an equal opportunity to sell. Harvesting usually takes place on weekends, and worms are shipped air freight collect each Wednesday. Norcal does not have a coordinator at this time, but the Farm Bureau is helpful and will answer all questions.



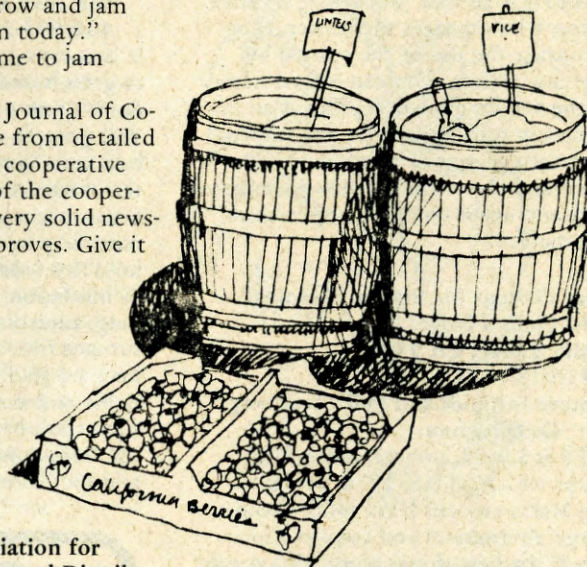
Many of the drawings in this issue are by Ken Kaji from the *Central Valley Atlas* (p. 5).

**Jam Today, \$4 for 6 issues from:**

**P.O. Box 195  
Davis, CA 95616**

"The rule is, jam tomorrow and jam yesterday—but never jam today."  
"It must come sometime to jam today," Alice objected.

This is the California Journal of Cooperation. Articles range from detailed discussions of running a cooperative business to the history of the cooperative movement. It is a very solid newsletter which steadily improves. Give it your support.



**The International Association for Education, Development and Distribution of Lesser Known Food Plants and Trees**

**P.O. Box 599  
Lynwood, California 90262**

Most of the people in the world are fed by approximately 20 crops—far less than the 150 different species of food plants which have successfully been cultivated. This makes a large portion of the population dependent on precariously few crops. The National Academy of Science's report titled *Underexploited Tropical Plants with Promising Economic Value* (Rainbook, p. 159) states in the introduction, "These plants are the main bulwark between mankind and starvation. It is a very small bastion."

The group above (is an acronym even possible?) is working to promote the cultivation of some of these plants and trees. Among their goals are: to acquaint the public with these plants through local chapters, promote their use in parks and in home gardens, establish a seed bank to provide a source for these plants and trees, and develop information about their nutritional and economic value. Write for information about their work or becoming a member of the association. Membership brings you their newsletter, *Good and Wild*.

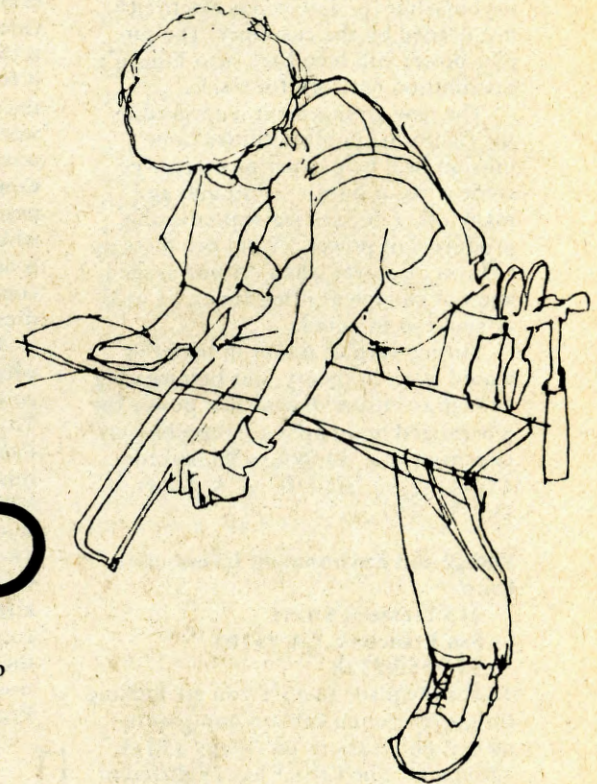
**Pacific Horticulture, \$5/year from:  
Pacific Horticultural Foundation  
Hall of Flowers  
Golden Gate Park  
San Francisco, CA 94122**

Published quarterly, this journal carries timely articles on western horticulture. One recent series was on drought gardening. It is a good complement to *Horticulture*, which tends to emphasize the east.

**Treepole**

**California Conservation Project (CCP)  
1745 Selby Avenue, No. 18  
Los Angeles, CA 90024  
213/474-3784**

Established in 1973, the California Conservation Project is a private, non-profit group conducting programs of environmental education, smog-tolerant tree reforestation (through the use of thousands of volunteers) of the forests of Los Angeles and San Bernardino counties and generally increasing the public's awareness of their effects on and responsibility for a healthy environment. The group is currently operating a forestry nursery in Coldwater Canyon which they want to make into a Community Environmental Education and Participation Center. These folks have been making it on their own and deserve your support. Who wouldn't like to plant a few trees for the future?



## ECONOMICS

**Community Organizing Ownership Project  
6529 Telegraph Avenue  
Oakland, CA 94609  
415/653-6555**

Committed to bringing economic control back into the community, this group has published a number of excellent sources on pension funds, community control and ownership, energy policy, public utilities cooperative housing and more. Ed Kirshner, director of COOP, describes their work as erecting a mirror around the community, so that people's resources and money are reflected right back. This is particularly important in communities which are, as he describes Oakland, "export economies." "The Public Works," their newsletter, is available for \$5/year for individuals and \$10/year for institutions. Write for their publication list also.

**Public Interest Economic West  
1095 Market Street, Suite 604  
San Francisco, CA 94103  
415/626-1650**

This group is in the business of linking public interest groups or community organizations with economists. A sample of the kind of work done by their Clearinghouse is an economic analysis for the Powder River Resources Council in Wyoming on the impact of a coal-fired plant on a small community. Their Education group conducts workshops such as the ones held on property and school taxes following the recent Serrano court decision.

## ENERGY

**Southern California Edison**  
 P.O. Box 800  
 Rosemead, CA 91770  
 213/572-1888  
 Gerry Braun

Do-it-yourself types who want to install a wind generator or other solar device to generate their own electric power will have an easier time of it, thanks to an experimental service, says Southern California Edison Co., Rosemead.

A residential or small commercial customer now can hook homemade power into the Edison grid with a special coupler. When the customer's generator doesn't produce enough voltage to keep the lights bright, the coupler will automatically draw on Edison's supply.

As a bonus, Edison will credit the do-it-yourselfer for any excess electricity not needed by the customer. The surplus power will feed back into Edison's distribution network for resale.

The new arrangement, approved by the California Public Utilities Commission, will help experimenters overcome a major hurdle: windmills and many other devices are unpredictable producers of power. "Wind can blow up a storm of power when it's not needed and not enough at other times," a utility spokesman noted.

Storing surplus power in batteries would work in theory, but batteries big enough to ensure dependable power for a becalmed household are prohibitively expensive (e.g. \$4,000 to \$6,000 for a four-person family). —*L.A. Times*, Oct. 11, 1977

### Energy and Environment Information Center

215 Fremont Street  
 San Francisco, CA 94105  
 415/556-7328

This is the place to go if you are looking for governmental or even non-governmental publications on energy and environment. The Center has 19 different data bases in their Recon computer system. Abstracts are available for all DOE publications, some EPA publications, selected works of international groups, plus they subscribe to the National Technical Information Services' energy category (category 97), which gives you access to all energy publications at NTIS. One of their data bases is an Energy Directory which is a guide to both government and non-government groups which are doing energy work. They are beginning to develop a series of abstracts on appropriate technology projects and organizations. Printouts are made overnight and are sent from the main terminal at Oak Ridge.

Tennessee. A final bonus is that they can make some of those expensive but informative newsletters such as *Nuclear Week* or *Energy Daily* available.

And it is all free. According to Mike Lopez, who manages the center, they discourage the use of the system by large institutions who can afford to pay for the service elsewhere. This is an information retrieval system for students, non-profit groups or anyone who is concerned about energy and the environment and needs complete, up-to-date information.

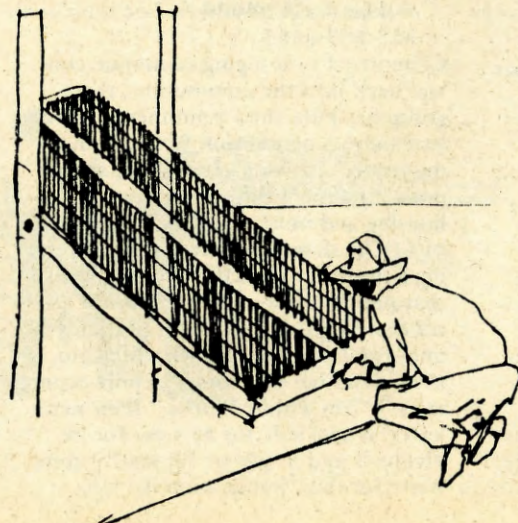
### Marin Citizens for Energy Planning

80 Lomita Drive  
 Mill Valley, CA 94941  
 415/383-4231

Steve Schmidt and Phil Greenberg,  
 Co-Directors

MCEP is a local, private, non-profit groups which, in late 1976, began to help Marin citizens learn more about energy alternatives and conservation. One of the best things about this group is that it doesn't try to do everything; it focuses on the needs and interests of the people of Marin. In addition to their work in the community and the weatherization program, which they manage for Community Action Marin, they have published the *Marin Energy Examiner*, which takes a close look at how energy is used and how it can be saved in the county. Write for it at the above address—it's free.

Phil Greenberg recently compiled what looks like a very useful and usable guide to energy programs in California. Titled *Energy Policies and Programs of California Cities and Counties: A Survey*, this reference tool is available from MCEP for \$6.50 (individuals, libraries, state agencies) or \$3.50 (non-profits). The money goes to support MCEP's work, so pay if you can. If you can't afford this, ERDA is making a few copies available at no charge through the Energy and Environment Information Center, 215 Fremont Street, San Francisco, CA 94105.



### Citizens' Home Energy Conservation Project

Santa Clara County  
 1460 Koll Circle  
 San Jose, CA 95112  
 408/993-3020

It is always good to know where to go to get a home ready for winter if you don't think you can afford the cost. This group has weatherized over 660 homes in Santa Clara County since it was started in February of 1976. In order to qualify for their services, you must be part of a low income household (by federal standards). In addition to insulation, caulking, weatherstripping, adjusting furnaces and replacing furnace filters, the people who work here are glad to come look at your home and share general conservation tips. Their project is funded through the Community Services Administration and the Federal Energy Administration.

## SOLAR

The two chapters of the International Solar Energy Society in California are:

### Northern California Solar Energy Association

P.O. Box 1056  
 Mountain View, CA 94042

### Southern California Solar Energy Association

City Administration Building  
 202 "C" Street  
 San Diego, CA 92101

Both put out a newsletter which covers current topics in solar energy. The Southern California chapter makes a variety of publications available, including the Western Regional Solar Energy Directory, various fact sheets and a mailing list of members.

### SolarCal

c/o California Public Policy Center  
 304 S. Broadway, Room 224  
 Los Angeles, CA 90013

Sponsored by the Campaign for Economic Democracy, Solarcal could be a public solar energy corporation that would finance low- and middle-income consumers and small solar entrepreneurs through direct loans or loan guarantees. It would also certify solar manufacturers. This public corporation, which would facilitate solar implementation and avoid the monopolistic shadow of the banks and utilities, could be funded in a variety of ways and would encourage a labor-intensive, decentralized solar energy industry in California.

This group is also proposing a resolution which would create a cabinet-level position to focus and foster solar energy development in the state.

**The Solar Office**  
**Alternatives Division**  
**Energy Resources Conservation and**  
**Development Commission**  
**1111 Howe Avenue**  
**Sacramento, CA 95825**  
**916/322-6316**

In a brief two years, the California Energy Commission has grown from an idea to a megabureaucracy of over 400 employees. There are, however, sections within it which are communicative, responsive to people's needs, and do good work. The Solar Office is one of these. There are 16 people here who work in the areas of solar applications, technical development, state and local government policy, and state uses of solar energy. The material which they have developed emphasizes low- (or modest-) cost uses of solar energy which give you the best return on your resource dollar. Rarely do they slip into the solar-as-cure-all fantasy world. Some of their publications are:

*The California Solar Information Packet and Manufacturers List.* Free. The Solar Packet is geared for the person who is interested in solar energy but doesn't know where to turn. Basic concepts are explained, and there is a good discussion of passive use and the importance of conservation, as well as a now-updated manufacturers list.

*California Sunshine.* This publication (which will be available in December) is a more detailed analysis of solar energy. Included are sections on climate, orientation, and a variety of solar alternatives. There will be a charge for this book.

*Solar for Your Present Home.* A detailed manual on solar retrofit. They will charge for this one too.

*Solar Retrofits for the San Francisco Bay Area: How to Choose Practical Uses of Solar Energy for your Present Home or Business.* This manual was pulled together for ERCDC by the Berkeley Solar Group. It is written to guide the interested person through the various decisions s/he would have to make in deciding if solar is applicable to their structure. It is clearly written and contains information which is specific to the Bay Area. The book will be available in December. It will be interesting to see how useful a manual of this sort actually is to people who don't tend to read a lot, or who are just inquisitive but not sold on solar.

Other projects of the Solar Office: They are now compiling a Wind Energy Information Packet, which will cover basic information and include a manufacturers list. With the passage of AB 1558 into law in September, they are beginning to work with licensing of systems and with solar businesses and contractors.



Two groups which are working in Sacramento to promote solar energy are:

**Solar Energy Advocates**  
**P.O. Box 846**  
**Sacramento, CA 95814**  
**916/446-4559**

SEA watches solar legislation in Sacramento and publishes useful notes in a newsletter.

**SUNRAE**  
**c/o Ed Maschke**  
**P.O. Box 915**  
**Goleta, CA 93017**

or

**Alan Mirviss**  
**1124 Menlo Avenue**  
**Davis, CA 95616**

SUNRAE (Solar Use Now for Resources and Employment) is a lobbying and information group which is promoting solar development in the state. Alan is their lobbyist in Sacramento and has worked on a number of solar related bills. SUNRAE publishes a handy newsletter which follows state solar issues. Subscriptions are \$10 per year.

**Solar Legislation in California**

In September, Governor Brown signed two important pieces of solar legislation. These bills should not only stimulate solar businesses in the state but will also give the consumer a tax advantage for choosing solar energy. Here is a description of the bills. The Solar Office at the Energy Commission can answer questions from both consumers and businesses about the bills.

*AB 1558* (Gary Hart, Dem., Santa Barbara).

Starting January 1, 1978, residents of California may deduct from their

state income tax 55 percent of the installation of a solar energy system in their home. The deduction may not exceed \$3,000. Additional items which can be included in the deduction if they are installed at the same time as the solar system include ceiling, wall and floor installations, as well as water heater jackets and water conserving fixtures.

For commercial or industrial units, the cost must be in excess of \$6,000 to qualify for the tax credit. If they qualify for the credit, the deduction will be \$3,000 or 25 percent of the cost of the system, whichever is greater. A commercial or industrial taxpayer with expenditures of \$100,000 for building a solar system would receive a \$25,000 credit.

Condominium owners who install solar energy systems will be eligible to receive a credit in proportion to the number of households serviced by the equipment. The bill, unfortunately, does not include solar greenhouses, attached or unattached. The provisions of the bill remain in effect until January 1981.

The Franchise Tax Board has determined that if solar equipment is installed on a building other than a single-family dwelling (duplexes, multiplexes, etc.), and the cost of installation and equipment is less than the \$6,000 required to qualify for the total tax credit in that category, the tax credit formula for single-family dwellings will apply.

*AB 1512* (Vic Fazio, Dem., Sacramento)

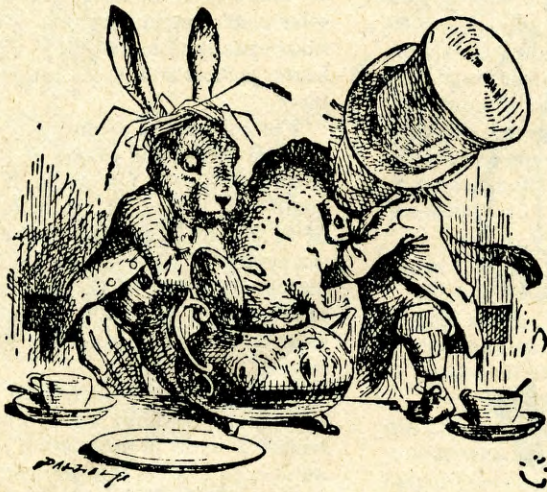
This bill goes hand in hand with AB 1558, and establishes guidelines for the installation of solar systems. It requires that the Energy Resources Conservation and Development Commission:

1. establish regulations for the testing, inspection, certification, sizing and installation of solar devices;
2. prepare and disseminate material describing prototype housing which uses solar heating and cooling;
3. prepare a manual of design types, costs, performance and evaluation procedures for various climatic conditions in California, and;
4. authorizes the Energy Commission to enforce these regulations.

Hopefully, AB 1512 will not be an opportunity for the Energy Commission to establish regulations which will "deliver" the solar market to large manufacturers. The guidelines are in preparation now and should be flexible enough to discourage sude shoe solar salespeople but encourage innovators and small businesses. If you have opinions about this, write to Richard Maullin, ERCDC chairman, or the Solar Office, c/o ERCDC, 1111 Howe Ave., Sacramento, CA 95825.

Sim has been helping new ideas become realities for a long time. I first knew of his "Outlaw Building" courses when he was teaching architecture at UC Berkeley. He has also been known as "Captain Compost," designing privies, and as one of the founders of Farallones Institute. His current incarna-

tion is as the California State Architect, where, acting as an enlightened bureaucrat, he is pushing the mammoth California system to be responsive to the changes that are coming along. His is a special and important role. —LdeM



My original idea for OAT was simple enough. Most government departments promote bigness, centralization, wastefulness and dependency. Why not, then, especially with Jerry Brown as governor, have an agency whose mission is to promote smallness, coherence, decentralization, conservation and a greater degree of self-reliance? In short, a Department of Right Livelihood that could, within government, increase an awareness of what must be done to permit a transition to a society that can sustain us while cheap fossil fuels dry up, highly entropic institutions falter, and a centralized economy propped up on cheap energy, high taxes and low-value dollars continues to slide.

Certainly this is not a view calculated to warm the heart of the boosters of more-at-any-price, or the technofreaks with their latest dangerous diversions, whether they be breeder reactors or space colonies. On the other hand, in spite of our love of gadgets, the liberal dream of everything for everyone without responsibility and the frontier ethic of more to be run out of nature, I believe most Americans know the merry-go-round ride will soon be over. Unfortunately, the elite who are normally in charge of the carousel are not looking forward to being displaced, and they persist in announcing new lights at the end of the tunnel, new hubris-filled diversions from the biological reality that governs all.

So I saw OAT as an advocate, a gadfly, a David poking at some over-stuffed Goliaths. It hasn't all worked out that way. We have been an advocate for various forms of appropriate technology as you will see in this issue of *RAIN*. Yet California, the seventh largest government in the world, with 22 million people, is far too large for a handful of people to make direct contact with people out there, or to do as much as we need to about the maze of situations that need attention.

The most important things the office can do is create a pattern and spread a vision and some new possibilities that local governments and groups can pick up. Most important is creating good working models of appropriate technology and following through on the projects we choose to do. Just being in Sacramento provides encouragement for a lot of people, but we can be here too long, for it is easy to be co-opted by the very tendencies we wish to transcend. The first year and a half we stressed diversity, carrying out a variety of small projects and starting a communication network around the state and within state government. The style has been low profile, through direct communication in small groups rather than the creation of media images and the promotion of large events.

## GET THE RIGHT ROCK

There is a Zen saying: "Move the right rock and you start an avalanche." As I see it, now is the time for the appropriate technology movement to find the right rock. For the first time in several generations, the culture has no powerful shared image of the future. Materialism and technology do not offer a vision. The notion of bucolic self-sufficiency—the image that created the suburbs 30 years ago and which sparked to the back to the land movement of the past 10 years—is not relevant to our urban society. No image of the future moves Americans.

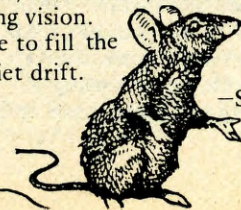
Yet the outline of image is there, and our task—OAT's task in the coming year—can be to give it form and substance. Our diverse skills need to focus on the complex task of bringing into being urban neighborhoods that are truly self-reliant communities that declare their autonomy from the inefficient and alienating monoculture of today's life support systems. We *can* have neighborhoods that raise much of their own food by recycling streets into gardens and returning organic wastes to soil productivity for food and fiber. We *can* restructure our housing and transportation to reduce the need for fossil fuels by 90 percent, reserving petroleum and electricity for their highest potential uses. The home and the local community can become the locus of employment, aided by advanced information processing and communications technology. Resources can be managed on the basis of ecological boundaries rather than through arbitrary political and economic dependencies. The array of tools, knowledge and human energy to create integral neighborhoods exists today. What is needed is a lens to focus what we know in order to create some working examples which in their fully developed form can be whole systems of such mythic and logical elegance that they will replicate themselves. This is the challenge for OAT in the coming year: to bring into being an integral neighborhood bringing together design in its fullest human sense.

Many of the first steps have been taken. In Washington, D.C., the Institute for Local Self-Reliance has experimented with bringing urban food raising and cottage industries into an inner city neighborhood. The Farallones Institute in Berkeley has developed a very complete model of the potential for a whole system at the household scale. New Alchemy Institute at Cape Cod and Prince Edward Island have brought habitation, energy and food production to a new level of synthesis. Paolo Soleri continues to refine his vision of the new ecological city. The awareness of middle America's do-it-yourselfers of the potential of localized food and energy production has been raised by mass circulation magazines such as *Popular Science*, *Popular Mechanics* and *Organic Gardening and Farming*. What we need now are functioning examples that capture people's imaginations and turn their own skills towards building a decent human, solar-based, biotechnic society.

That is the continuing vision.

I hope it will emerge to fill the vacuum of today's quiet drift.

—Sim Van der Ryn



**GOOD THINGS**

*The Compleat California Consumer Catalogue*, Janice Lowen Agee, Editor, 1977, \$1.50 from:

Department of Consumer Affairs  
Publications Section  
P.O. Box 20191  
Sacramento, CA 95820

Another best use of the taxpayer's dollar. This book just won the National Consumer Journalism Award and deserves it. Organized from A (advertising, airlines, appliances, automobiles) to W (warranties, water), this book covers consumer tips on a vast range of items. Planning to sink some money into a gravesite? Fly-by-Night Charters never got off the ground but took off with your money? Sent a dress to the cleaners that came back looking like a blouse? This is the book to go to if you have problems to solve or if you want to avoid them in the first place. Literally hundreds of tips on how to spot fraud and potential rip-offs. A sound investment.

*Consumer Resource Guide: A Selected Bibliography*, 1977, \$1.50 from:

Department of Consumer Affairs  
Publications Section  
P.O. Box 20191  
Sacramento, CA 95820

From the introduction of this bibliography: "By acquiring knowledge of the marketplace, consumers can begin to protect themselves against abusive prac-

tices which exist within our complex economic system. Information is essential not only in making rational buying decisions, but also in taking action to promote changes in a system which is too often unresponsive to consumer needs." The DCA has a national reputation for its effectiveness and responsiveness to consumer needs, and this bibliography is part of their effort to keep Californians well-informed. A broad range of subjects is included which are notable because of the care and perspective with which the selections were made.

**Public Media Center**  
2751 Hyde Street  
San Francisco, CA 94109  
415/885-0200

Many public interest groups do not have the skills to pull together any kind of media campaign, no matter how simple or complex. This non-profit organization specializes in providing professional writing, design, film/audio production skills and resources to people who don't have the know-how and can't pay top dollar. Contact them if you have a media campaign in mind.

**Urban Development Strategy for California**  
Office of Planning and Research  
1400 10th St.  
Sacramento, CA 95814

California's proposed Urban Development Strategy is this state's first attempt to articulate a state land use policy. It is also the first attempt by any state in the country to deal comprehensively with the problem of cities. The report proposes that future urban development decisions be made which will:

- Renew and maintain existing urban areas, both cities and suburbs
- Fill in vacant land within urban areas served by streets and sewers
- When and where necessary, to build outside existing areas, build immediately adjacent to those areas, to avoid leapfrogging.

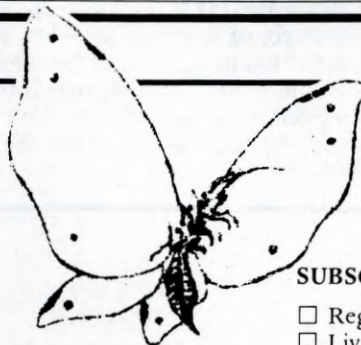
This draft policy statement represents a comprehensive approach revitalizing our urban areas, which should be interesting to people outside California as well. Extensive public hearings were held throughout California this summer to review the strategy, and it is now being revised for submission to Governor Brown. Write to OPR for a free copy.

RAIN's office is at 2270 N.W. Irving, Portland, OR 97210. Ph: (503) 227-5110.

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Typesetting: Irish Setter Printing: Times Litho

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The stage is bare now. We are between theories. We are in the last period of the fossil fuel era—and the so-called nuclear era is already aborting.

What we miss is something as simple as a vision of how we will live in the future.

No one sees the future; we have no clear images—as a culture, as a nation, as the Western world.

When the stage is empty there is unprecedented opportunity.

When the stage of the future is unoccupied, when there is not one strong vision of which we are all in the process of working out, we don't have to fight *against* either the established vision or the rebels. There is no enemy. The empty stage is the *rarest* of opportunities. Then build a future, make it work, and let the world steal it.

—Ty Cashman

**New Ways to Work**  
457 Kingsley  
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New Ways to Work is a work resource center which helps people better their work environment. They offer counseling to people who are interested in innovative work options such as job sharing and participatory decision making. Recently they started exploring the uses of appropriate technologies in the workplace. This December, they will be publishing a handbook called *Innovative Work Places of the Bay Area*, which is a guide to new places, new spaces and new styles of work.

**The San Francisco Study Center**  
1095 Market Street, Suite 620  
San Francisco, CA 94103

The Study Center assists the Clearinghouse of PIE West, as well as raising funds for their work, assists groups with publications, and does research on local and state government. The Study Center Newsletter (\$15/year) is an especially good source of information on the activities of public agencies in San Francisco. The aim of the newsletter is to keep public interest groups well informed and better able to affect the system.

**Antioch College West**  
Environmental Studies Program  
Jerry Yudelson, Director  
1161 Mission Street  
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Antioch College West is now offering accredited masters degree programs in Ecosystems Management (which Helga Olkowski of the Farallones Urban Center coordinates), Appropriate Technology (Lynn Nelson will be coordinating this with an emphasis on solar design), Environmental Planning, Environmental Horticulture, and Environmental Education. For those who are degree oriented, this looks like an excellent way to work for one.

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