

THE PERMACULTURE ACTIVIST

A Quarterly Voice for the Permaculture Movement in North America

Permaculture Definitions

Permaculture is PERMANENT CULTURE or PERMANENT agriCULTURE.

Permaculture is a philosophy of working with, rather than against nature; of protracted and thoughtful observation rather than protracted and thoughtless labor; and of looking at plants and animals in all their functions, rather than treating any area as a single-product system.

from *Sustainable Living in Drylands*:

Permaculture: the use of ecology as the basis for designing integrated systems of food production, housing, appropriate technology, and community development.

Permaculture is built upon an ethic of caring for the earth and interacting with the environment in mutually beneficial ways..

From Maritime Permaculture Institute:

Permaculture (permanent agriculture) is a new word coined by ecologist Bill Mollison, of Tasmania, Australia, to describe the conscious design of agriculturally productive ecosystems which have the diversity, stability and resilience of natural ecosystems. It is a harmonious integration of people into the landscape, done in such a way that the land grows in richness, productivity and aesthetic beauty. Permaculture is more than just a design process, however, it is also a philosophy and a lifestyle. Living within a permaculturally designed ecosystem brings one into constant awareness of the amazing forces and relationships in the natural world.

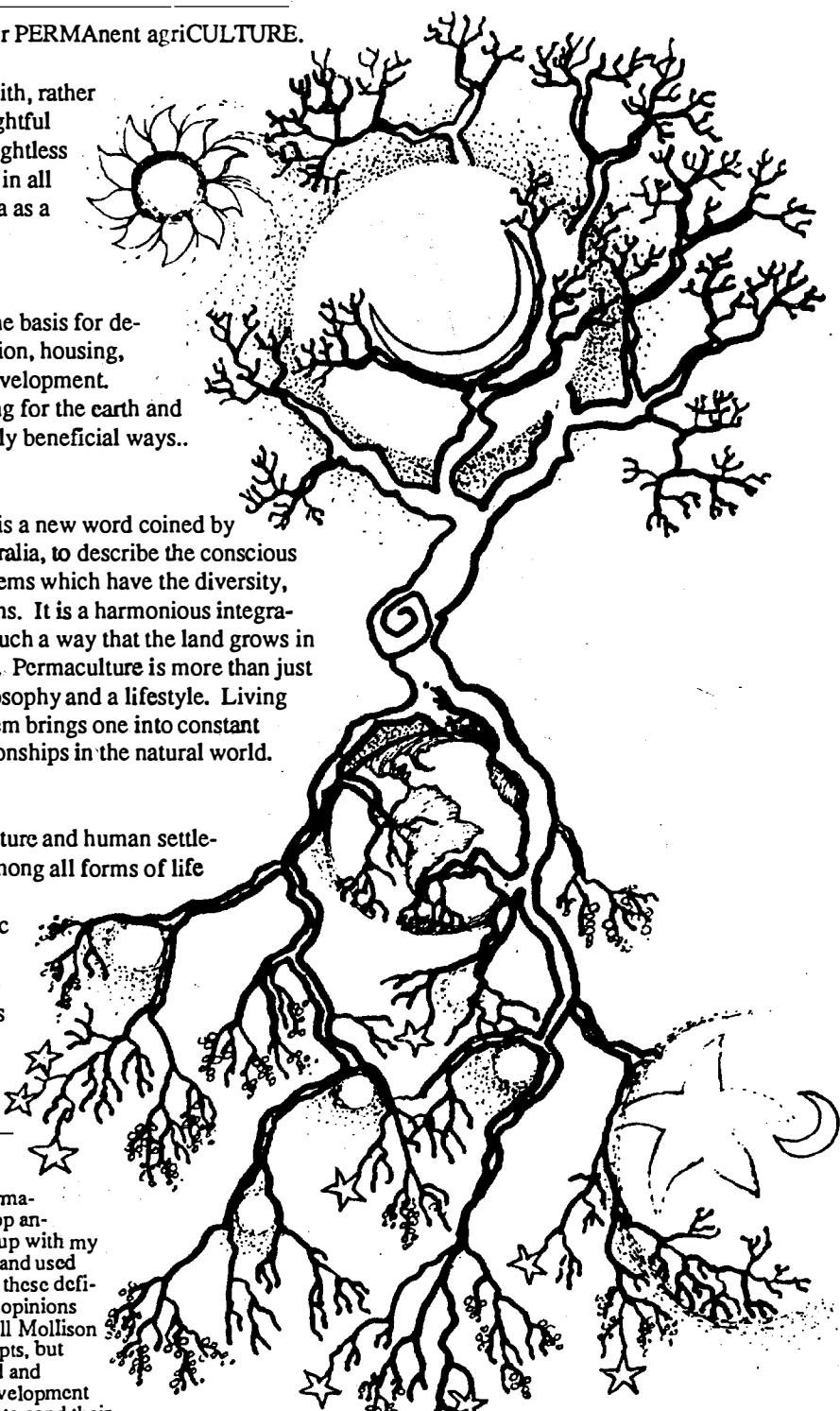
From Jamie Jobb:

Permaculture is an approach to agriculture and human settlement which seeks a harmonious balance among all forms of life in an ecosystem.

... Permaculture — a wholly systematic approach to ecologically benign design for mutual habitation by many species, including our sapient one. Permaculture provides environmentally sound and humane responses to profit-oriented land uses.

continued, pg 11...

Editor's note: About 5 years ago I started compiling permaculture definitions by various people. Frequently I needed a definition of permaculture to put on flyers, brochures and workshop announcements... rather than spend time coming up with my own definition, I copied, rewrote, paraphrased and used other people's. Another reason for publishing these definitions is to show the diversity of interests and opinions represented in the permaculture movement. Bill Mollison may have originated many permaculture concepts, but there are hundreds of others putting "protracted and thoughtful observation" (and labor) into the development and furtherance of these ideas. I invite readers to send their own definitions for publication.



FROM THE EDITOR

The theme for this issue of *The Permaculture Activist* concerns water. Again, we can't pretend that this is a complete treatment of the subject, merely a fresh look from the point of view of several hands-on permaculture activists.

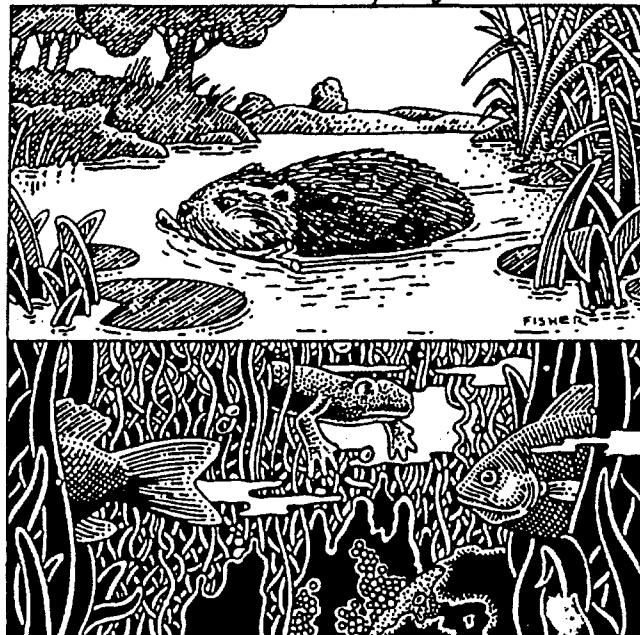
Falling, flowing, or even standing water represents a potential energy source to any permaculture system, not simply because energy (or work) can be extracted from it by way of hydroelectric turbines, paddlewheels, or other mechanical means, but also because in many environments, water is the primary limiting factor to plant growth and net biomass production. Water stored on the land is water that is available for increased plant growth and organic matter accumulation.

An important process in Permaculture Design is to consider the many energy flows through a system (whether the system is a home, a garden, a farm or a city), and try to capture these energy flows into useful storages. The most critical energy flow is sunlight - and in sustainable systems, the most important stored sunlight is plant biomass - carbohydrates that plants manufacture from CO₂, water, light energy, and a complex enzymatic reaction called photosynthesis.

As well, water can be a destructive energy form which must be dealt with in any Permaculture Design - snow, hail, or rain can damage soil or plants directly, and floodwaters can erode soil, destroy dams, and wash away or drown plantings.

Water is essential to the photosynthetic process, hence innovative designs for capture, storage and use of on-site water resources with a minimum of labor and/or energy input are an essential ingredient in the "tool-kit" we will need for environmental restoration and a sustainable culture. Thank you again to the authors of the articles in this issue for your examples of permaculture designs in action.

Davy Baldwin



Mark Fisher

WRITER'S GUIDELINES

The Permaculture Activist describes the activities of individuals and organizations throughout North America who are incorporating permaculture methods in their lives and work. The name of this newsletter/journal was chosen in order to promote an *active* approach to creating permaculture systems, rather than a passive, or academic analysis. Permaculture activists are observing, planning, planting, building, growing and maintaining sustainable food production systems, appropriate technologies, and economic alternatives in all types of environments - temperate, tropical, urban, rural, humid and arid lands, in "under" and "over" developed nations, and most importantly, creating change in their own lives and lifestyles.

Materials for Publication

The Permaculture Activist relies on volunteer writers to contribute feature articles, press releases, news updates, drawings and photographs. These materials fall into several categories:

Departments

Reports from Regional (permaculture) Groups: 100-500 words
Permaculture Educational Programs: 100 - 500 words

Allied Groups: 100 - 500 words.

Letters: 500 word max.

Book or technology reviews: 500 word max.

Ads: yes, we accept paid advertisements, and/or frequently give free ad space in exchange for written materials for publication. Contact the Editor about ad rates.

Features

Short articles describe a simple technique in farming or gardening, the results of an experiment, the construction of a simple tool, methods for planting, managing and harvesting food, fuel and fiber crops, and even observations of natural and agro-ecosystems. Drawings and/or photographs are very valuable addition to any story. Short articles are often tied together or accompany a longer piece that covers the same theme. Suggested length: 750 words max.

Long Articles provide in-depth analysis of more complex subject matter such as: a Permaculture Design for a whole property, or neighborhood, or city; a tree-crops farming system involving many species and years to grow to maturity; a proposal for developing sustainable economic system for a region; comparison of species suitable for use in a particular permaculture system; philosophical musings about an appropriate role for permaculture "land-stewards" in our troubled times. Suggested length: 2000 words max., should include drawings and/or photographs which give visual support to the written text. Longer articles may be split and run in successive issues.

Style

All material should be written in a personal style, not overly formal, as if you are having an intelligent conversation with the reader - write like you talk. Try to avoid generalizations, be concrete rather than abstract, use active instead of passive verbs, and complete sentences. Opinions are valuable, but we also want the facts, and please cite references whenever appropriate.

Deadlines

The Permaculture Activist is published quarterly, on a regular 3-month schedule. We try to schedule the printing and mailing of each issue so that the magazine arrives to subscribers on or about the 1st of the month. The deadline for all materials is one month prior to cover date. If you are planning to send a feature article, it is best to contact us before the deadline to see if there will be space in the upcoming issue. We do not guarantee that all materials submitted will be published. *The Permaculture Activist* will not return unsolicited materials unless accompanied by a self-addressed, stamped envelope.

Print Schedule

Cover date	Copy deadline
February 1	January 1
May 1	April 1
August 1	July 1
November 1	October 1

The Permaculture Activist
 October, 1989
 Volume V, No. 4

The Permaculture Activist (ISSN 0897-7348) is published quarterly by Permaculture Communications, a sole proprietor business operated by Guy Baldwin. Copyright, 1989, by Permaculture Communications. Any material contained herein may be reprinted only with written permission from the publisher. Material may also be copyrighted by individual authors, photographers or artists.

The Permaculture Activist is an independent publication, dedicated to serving the permaculture movement in North America. Our primary goal is to provide information useful to people actively working to establish permaculture systems "on the ground".

Mailing address for all subscriptions, advertisements, letters to the editor and other materials for publication, and all correspondence is P.O. Box 101, Davis, CA 95617. Please see the subscription form inside of back cover for complete subscription information. Offices are located at 1893 Pleasant Grove Lane, Marysville, CA 95901.

The Publisher assumes no responsibility for unsolicited materials. Please send type-written material only, or material on Macintosh® diskette. Manuscripts or artwork not accompanied by stamped, self-addressed envelopes will not be returned. The schedule of publication dates is as follows: February 1, May 1, August 1 and November 1. Copy and artwork submission deadlines are as follows:

Cover art: One month prior to publication date.
Feature articles: One month prior to publication date.

Copy and art for the following are due one month before issue date:

Reports from Regional Groups

Permaculture Educational Programs

Letters

Reviews and Reports from Allied Groups

Classified Ads

Calendar of Events items

Ad rate card is available upon request from

The Permaculture Activist

P.O. Box 101

Davis, CA 95617

Activist Editor

Guy Baldwin

Activist Production Assistants

Sharon Casey

Heather Klinger

Lisa Martz

Tom Ward

Tree Tax

For each issue mailed to subscribers, 25¢ is deposited in a Tree Tax Fund maintained by *The Permaculture Activist*. From time to time these funds are distributed to individuals and/or groups working in reforestation and forest preservation efforts. Recipients are selected based on need and demonstrated effectiveness of their work. To apply for funds, contact the Editor and include a short description of your project and proposed use of funds. We have approximately \$350 available per year at this point.

**Projects of
Permaculture Communications:**

Publishing:

The Permaculture Activist

Permaculture Designers Directory

Symbiotic Inoculation Strategies for the Nursery

Perspectives on Symbiosis

Misc. pamphlets on permaculture subjects

Retail Sales & Distribution of Permaculture related publications

Mailing list services - maintenance of mailing lists and rental of lists for use in marketing products and services in support of permaculture development. Total listings available - over 15,000 individuals and groups involved in permaculture and sustainable agriculture.

Native Plant Seed Collecting - specializing in nitrogen-fixing (actinorhizal) plants of Western North America, and perennial grasses of California.

Permaculture Design, Education and Referral: Design and educational services provided on an hourly-fee basis. Referrals to qualified designers and teachers working in other areas of North America.

CONTENTS

FROM THE EDITOR

2

FEATURES

Permaculture Definitions

1

Various Authors

Small Dams

4

Dan Howell

Silt as a Resource

5

Dan Howell

Sheep Pond Development at Aprovecho Institute

6

Tom Ward

The Answer Game

7

Tom Ward

Ecosystem Design and the Landscape Architect

8

Jim Rich

Landscape Design for Water Conservation

9

Jim Rich

Why Keyline?

10

Guy Baldwin

DEPARTMENTS

IPC IV - the Fourth International Permaculture Conference

12

Reports from Regional Groups

14

Permaculture for Humid Landscapes - a Review

16

Heather Klinger

North American Permaculture Conference

16

Permaculture Educational Programs

17

Allied Groups

19

Letters

21

Permaculture Publications for Sale

22

Classifieds

22

Subscription Form

23

Calendar of Events

24

We've Moved!

Beginning with the first issue of 1989, *The Permaculture Activist* will be published by Permaculture Communications. All subscriptions, letters to the editor, materials for publication, etc., should be sent to:

*The Permaculture Activist,
P.O. Box 101, Davis, CA 95617*

Small Dam Construction

by Daniel S. Howell

Impounding surface runoff is an integral element of our runoff homestead. Stored water is needed for many crops which cannot tolerate the wet/dry cycles of runoff farming.

Our property is situated at the top of a small watershed around the base of a sandstone butte. Many rivulets concentrate to form first-magnitude tributaries which are subject to flashfloods in the severe summer storms. The hill is shaped so it provides many manageable sized drainages.

What was needed, in our case, was the ability to harvest runoff that could be pumped or siphoned into metal or ferrocement storages. The dirt tanks themselves are not prime water storages because the evaporation and seepage leaves us without water by late spring when our needs are the greatest. They also collect large quantities of silt which must be removed annually.

Our most successful tank is located just below where the gradient goes from 40% to 10% slope [40% slope means a 40 foot rise for every 100 feet of horizontal distance]. Working with hand tools meant the job had to be planned to allow ample time for completion prior to flooding. The spot chosen had two small drainages joining that formed an arroyo

five feet deep. Using a wheelbarrow to move dirt, I dug back, not down, and building up the dike with a large base to accommodate the finished proportions. Each load should be tamped to add the strength needed to hold back the pressure of thousands of gallons of water. To accomplish this I spread the dirt to 4" thick and stomped on it with my booted feet and pushed the wheelbarrow over it. The diagram illustrates the sequence of construction. As the work progresses a ramp allows access to and from the tank area to the dam site.

It will be necessary no matter how large or small your project to have a spillway to allow excess water to escape without damage to the dike. Our spillway is off to one side and is several feet wide and deep enough to contain all the water ever expected. Minimum size recommended: 3' below crest by 10' wide. Our tanks nearly failed last summer because hail plugged up the spillways and water breached the dikes. Here is where the tamping really pays off, the dikes held even with 20% of the down-slope washed away. The spillway should slope at least 6" per 100' [a 1:200 slope] to lead water away quickly and discharge it back into the original streambed or into a swale. A drop structure is made to absorb the force of falling water. Ours is built of flat rocks laid Samoan style

which withstands flowing water, basically a shingle pattern starting at the bottom and working up.

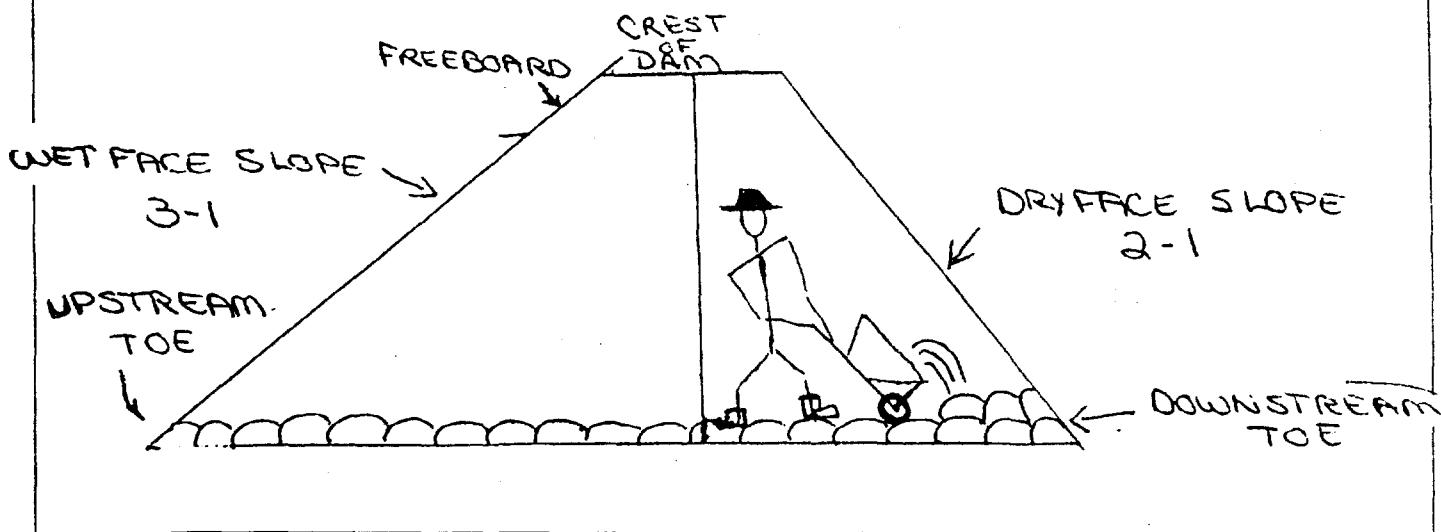
Runoff storage should be designed to recharge with just one flood event per season. This water may be pumped into a permanent holder and perhaps the tank will be refilled with another flood. We store 10,000 gals. for watering the following season.

Suggestions: do not try to dam a flowing stream. Keep it small and manageable (ex. each of ours holds 1 acre inch [1 inch water covering 1 acre] and have catchment areas of from 1 to 3 acres). Study the laws involved for your area. Additional reading is recommended. The Soil Conservation Service can provide professional advice [and, in certain circumstances, partial funding for dam construction].

Update: the first flashflood of '89 was on July 30th, a 3/4 inch rainfall. Due to a nice cash contribution we have a new 10,000 gal. tank ordered.

Daniel S. Howell
Box 74, Datil, NM 87821

To estimate the capacity of a pond, measure a rectangular area that approximates the surface area of the pond. Multiply length x width to get sq. footage. Measure the point of greatest depth. Compute the average depth at .4 x greatest depth and calculate cubic feet of water (1 cu. ft. equals 7.5 gallons). Take 80% of that figure to find the pond's realistic storage capacity. (From: Home Water Supply by Stuart Campbell).



Silt as a Resource

by Daniel S. Howell

In drylands worldwide silt becomes a pollutant to dirt tank water storages and reservoirs. The amount of material eroded from range and farmlands is staggering and constitutes the greatest source of nonpoint pollution of rivers and lakes. Nearly all forms of dams in drylands have a useful life as short as five years before becoming completely filled with silt.

To protect the capacity of our dirt tanks, I noticed that it would be necessary to remove the silt that accumulated yearly. There was so much of it and what started as a chore became an asset. Once I had dug it out and moved it, I observed that the silt was not all the same—there were areas of deep pure clays, sands, and gravels all sorted by the action of water during deposition.

One of the first uses I found was in building berms and swales. Soon I started filling tree holes and new terraces. We have used it to enrich our gardens, for construction fill, and roadwork.

Here is an outline of our silt enrichment/compost procedure:

Our climate is difficult to compost materials because of long cold periods and the dryness. Observing that vegetable material decomposed in relatively

short time once buried in the gardens, I started layering weeds, silt, and our toilet bucket in a pile. The weeds I used are Russian Thistle (*Salola Kali*) and Broom Snakeweed (*Xantocep Halum Saothrae*, also listed as *Gutierrezia Sarothrae*).

There are many other choices available such as succulent Kochia and Amaranth plants but we find both useful for other purposes. The plants are laid 4-6 inches thick with the toilet bucket dumped on top and covered with 2-3 inches of silty sand/clay. Dead mice, rabbit entrails, and other such wastes are also added from time to time. The finished dimensions are 3' x 3' x 5'. This pile is left to cure for one year. Then it is turned the next [year] and layered but only weeds are added. After a year a third pile is made the same as the second year and aged again for a year. The pile is sifted before use and any remaining sticks are added to the new #1 pile. The advantages of this system for us are that we did not need extra water in our composting program, we are using aged human wastes, and can use noxious weeds for the vegetable material. The enriched silt is humic rich and resembles garden soil.

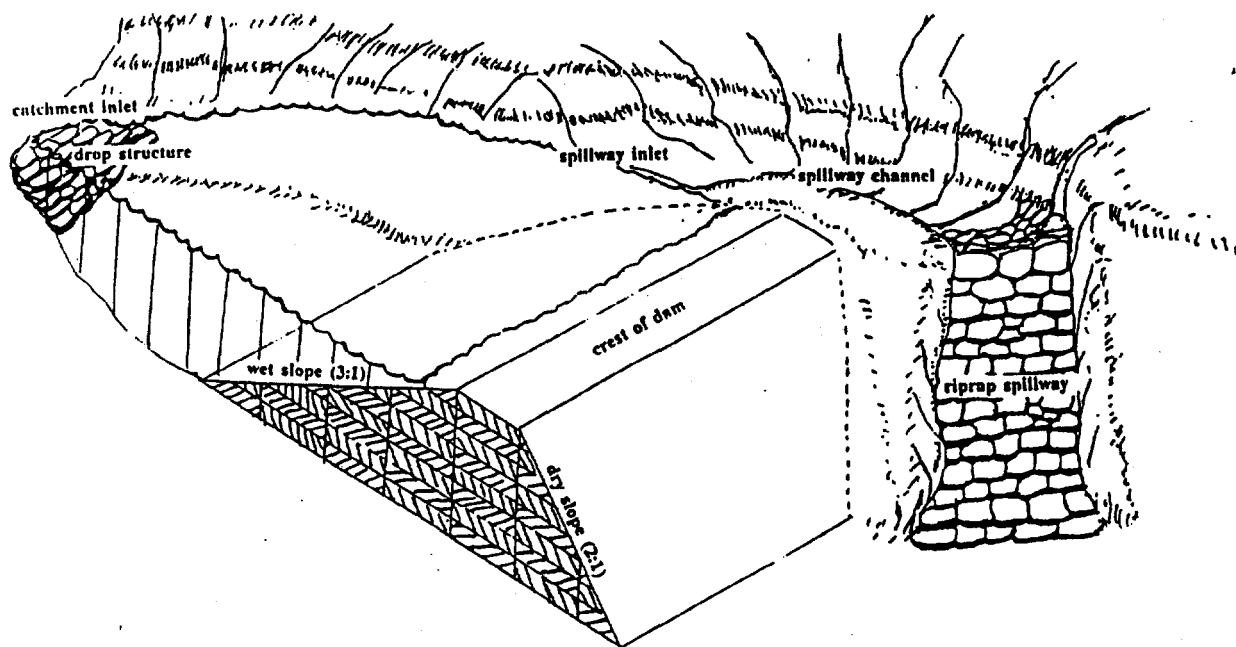
Our water harvesting dams have become soil harvesters and nutrient traps. A renewable resource that has tapped one

of the soil building mechanisms of nature. This is converting destructive forces into a valuable resource.

Silt has been one of the mainstays of ancient agriculture systems the world over. The Nile Valley, until modern times, was a floodwater-silt based system as was the O'Odam Akchin desert runoff farming in Arizona. The fertility of their fields was maintained on a sustainable level for centuries without chemicals because the fine particles and detritus deposited by the flood waters were rich in nutrients and renewed annually. Harvesting runoff water and using silt are basic strategies for Permaculture in dry lands.

Daniel S. Howell
Box 74
Datil, NM 87821

Editor's note: Daniel and Karen Howell's article on gardening methods for the desert homesteader entitled "Utilizing Marginal Lands in an Ethical and Productive Way" appears in the August 1988 issue of *The Permaculture Activist*. Both of the two articles in this issue by the Howells first appeared in *Sustainable Living in Drylands*, published by the Southwest Regional Permaculture Institute.



Sheep Pond Spring Development at Aprovecho Institute

By Tom Ward

In October, 1988, I demonstrated a simple and quick way to develop a small spring on the east side of the valley at Aprovecho Institute for the Homesteaders [Permaculture] Course. This spring comes out from under a stump and flowed in a dug channel about ten feet to a small pond in a Douglas Fir forest.

The pond is used by the sheep and wildlife and sits on an impermeable grey clay soil. The flow in this spring varies from season to season and from storm to storm, but never completely dries up. The underlying bedrock is sloping to the west just under the compacted and shallow clay soil of this temperate rain forest. The spring appears to flow from forest soil storage and not from deep porous rock storage. The main Aprovecho spring flows from uplifted rock layers on the west side of the valley and does not appear to vary in rate of flow.

I used only junk materials that I found around the workshop. The whole job from conception through preparation to installation and use took one hour.

Materials list: 1) a two feet by four feet piece of four mil black plastic, used but clean; 2) a twelve foot piece of 3/4" black poly pipe; 3) a stainless steel salt shaker top previously used as a simple shower head; 4) a bucket of clean, washed gravel; 5) good clay from a deposit at the pond; 6) brush and mulch from the forest.

While looking for a stopper to put on the spring end of the pipe, I chanced on the used salt shaker top which fit nicely. I also drilled several 1/8 inch holes in the first foot length of plastic pipe.

With the perforated and capped end of the pipe inserted through a small one-inch X slit in the center of the sheet of plastic, I laid the sheet down carefully in the hand-smoothed clay just under the stump. A 1/2 to 1 inch layer of even textured clay was used to seal the edge of the plastic to

the bottom and sides of the trench so that the spring flow ran onto the plastic.

Then a three or four pound slug of clay was used to seal the plastic sheet to the pipe where the pipe ran through the small X slit. The gravel was arranged on top of and alongside the perforated pipe, the plastic was carefully folded back over the gravel sponge and a big slug of clay was pressed into place as a dam and seal at the downstream point of the plastic and gravel sandwich. The top half of the plastic sheet now shields the gravel sponge from debris and dirt falling from the stump and trench sides.

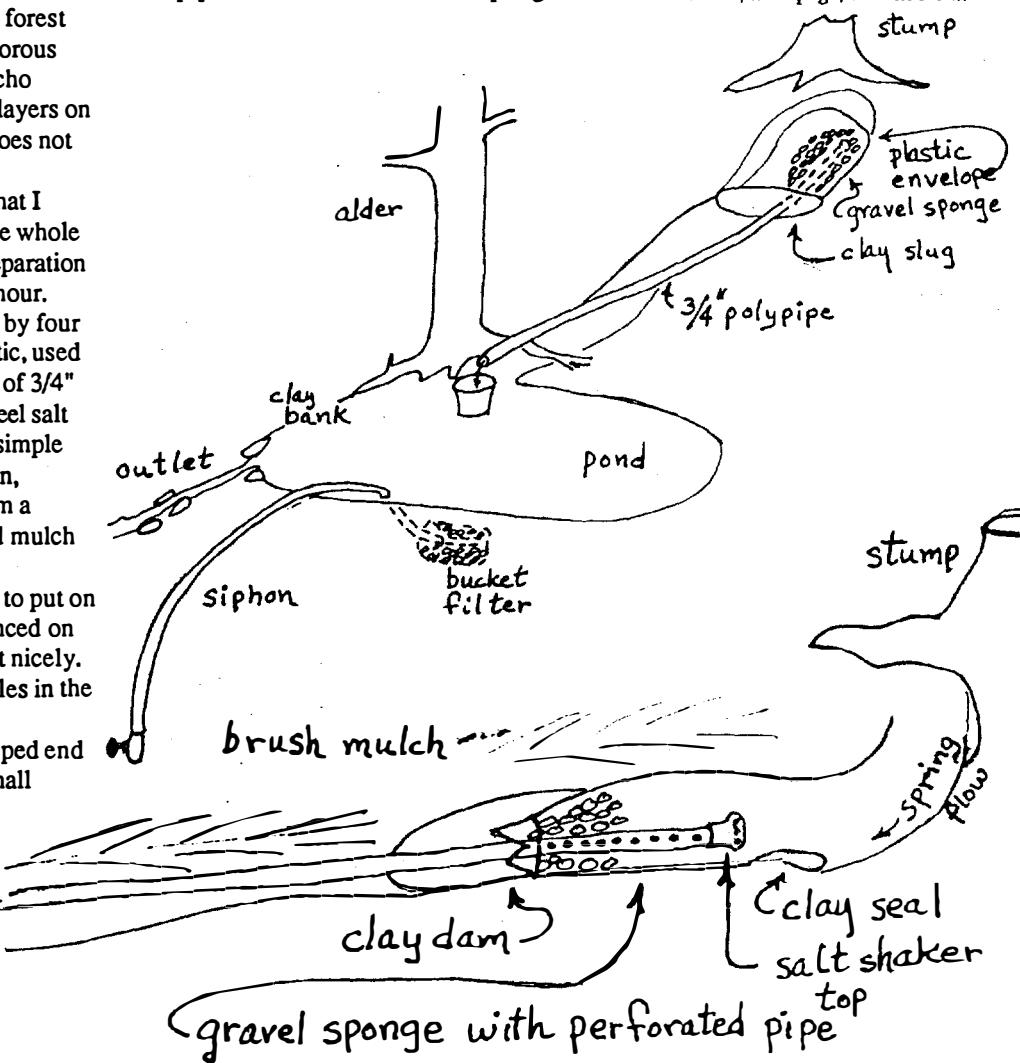
Mulch and brush is placed to camouflage and insulate the collector. The pipe runs down the old ditch/spring

channel, then over a tree root. Water flows out the pipe and a foot down through the air into the pond. Containers are easily filled under the pipe. The old trench is filled with branches and brush to keep the pipe from being dislodged.

The minimum flow measured at the pipe end in late October, before the rains started, was one pint per minute. This extrapolates to 3.75 gallons per hour, or 90 gallons a day. The spring has been used for household drinking water ever since and when the pipes from Aprovecho's main spring froze this winter, cooking and drinking water was hauled from the sheep pond spring for the community.

A spring comes out of the ground as relatively warm water in the winter, and as it is constantly flowing, it is hard to freeze up. In protecting the spring from

continued, next page, bottom left...



Editor's note: Some people might ask what "The Answer Game" has to do with permaculture, and they are right to ask. From two points of view I think it is relevant.

From the inquisitive persons viewpoint, there is lots to wonder about in this world, and much to question. If your goal is to use the answers you find to create useful systems and create positive change then you'd do well to consider what kind of answers you are getting - not only as to whether they are true or false, but also - as Tom Ward suggests in the following piece - the source of information implied in the response.

From the point of view of a person who gets asked a lot of questions... and I find myself in this position more than I'd like... However it happens, I don't know, maybe its just 'cause there are relatively few identifiable sources of permaculture information, so those of us who do continue to operate permaculture businesses or organizations get labeled as "experts", and our opinions are sought out. As dispensers of answers, we "experts" (and I mean you) should be careful to admit "I don't know the answer" if we don't, and to tell people when we are making things up or just giving our own opinion. In other words, know your source of information... questioners can make up their own minds as to reliability, and your own credibility (or by inference, the credibility of others in the PC and related movements) doesn't suffer.

Sheep Pond, continued...

debris and direct contamination and guiding it with a pipe for human convenience, we have added a use; we developed the spring. The sheep still have their pond and a siphon from the pond still delivers water to a small orchard in the summer and to a temporary greenhouse in the winter.

Editor's note: Tom Ward is permaculture designer and teacher, now temporarily located in California where he is caretaking a historic site and finishing up a book on herbology - *Greenward Ho!*. Tom can be contacted at: PO Box 342, Browns Valley, CA 95818.

The Answer Game

By Tom Ward

When I started working at Aprovecho Institute in September, 1988, people living there noticed that whenever I was asked a question, I gave an answer. They started to doubt that I actually knew the answers to all questions and so began to ask the source of my information, perhaps in order to determine the veracity of my answers. Thus was born "The Answer Game".

Those readers who have taken Permaculture Design Courses, especially those taught by Bill Mollison, may remember the common disclaimer that "Everything I tell you is a lie!" This statement is an example of an oxymoron, a statement that contradicts itself.

Epistemology, the study of the limits and value of knowledge, is of importance to designing lifestyles and agroecologies. We should be aware of what the quality of knowledge is that we may want to apply to designing. Yet it seems that all philosophical and epistemological rigor eventually runs up against contradiction, dilemma and paradox. Our mealtime games of questions and answers, once we had some form of discrimination, led to some interesting observations.

First we delineated five classes of answers: 1) intuited or made up on the spot; 2) an educated guess, requiring some basis for deduction; 3) from personal experience and collaborated by the experience/documentation of others; 4) from the documented experience of several reliable sources, but without

personal assurance; 5) repeated from a disreputable source.

We found that the most common answer given to a question was a class five. Class three was the most valued answer, and class one answers were rarer than we would have predicted. Of course, these classes are discrete divisions on a continuum axis.

None of these classes say anything about true or false! Conversations with the wider net of "Aprovegetables" also yielded another axis of reality, resonance or dissonance. So here are some diagrams to help map out the nature of reality, and three examples of the five classes of answers.

To the question: How do I test reality? 1) Know what question to ask, automatically. 2) Guess what to ask; deduce. 3) Use a personally practiced and commonly applied question. 4) Ask merely the question that others have asked. 5) Ask a misleading question.

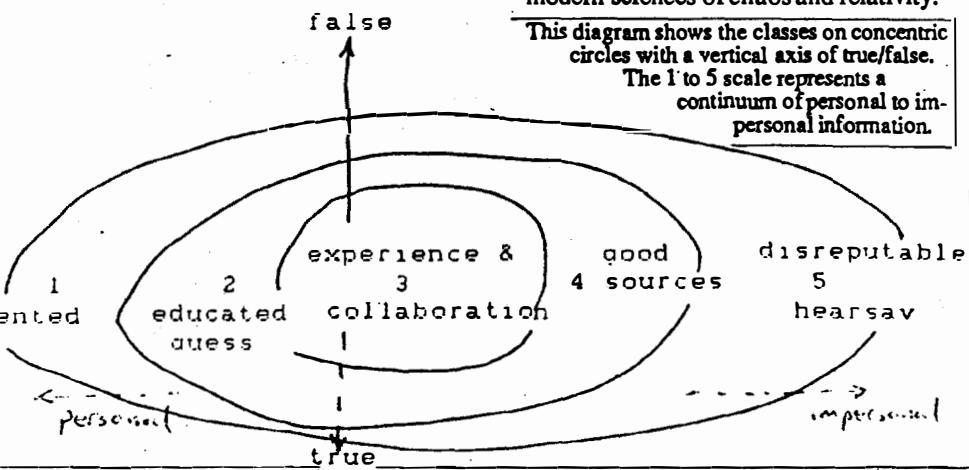
To the question asked one's mother: Where do I come from? 1) From under that pile of slate, where I found you. 2) That cold and special winter night. 3) I gave you birth. 4) The twining of RNA code strands. 5) You were created by God.

To the design question: What plants go where? 1) Somehow it seems... 2) What should work is ... 3) What works and has worked is... 4) The chart in the standard text suggests... 5) My pesticide salesman says...

So watch your questions and your answers! Try applying this game to the answers you collect and soon you may be fascinated with mysticism and the modern sciences of chaos and relativity.

This diagram shows the classes on concentric circles with a vertical axis of true/false.

The 1 to 5 scale represents a continuum of personal to impersonal information.

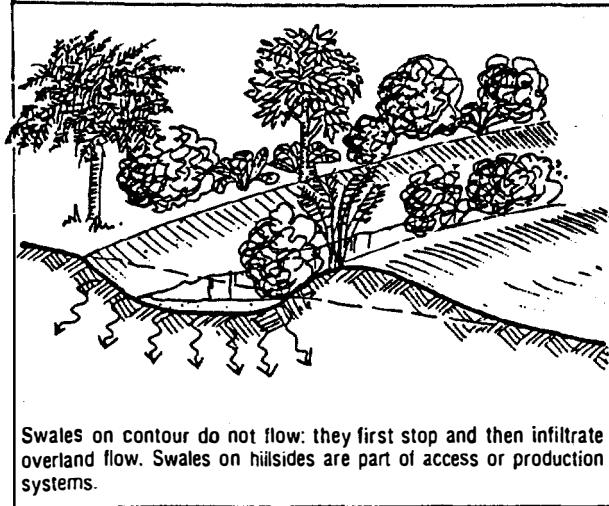


Ecosystem Design and the Landscape Architect

By Jim Rich

It's encouraging to see in the August [1989] issue of *The Permaculture Activist* an interest expressed in permaculture teachers dialoguing with designers trained in our universities. As one who came up through the professional ranks and now is evolving into a designer for sustainability, I've had occasion to reflect on what, if anything, a professional training can contribute. I've concluded that it can contribute something, but more critical is what the professionals have to learn from the permaculturists. My interest in ecology preceded my interest in landscape design, but until I received help from Bill Mollison, I was not able to connect the two.

What has kept ecology and landscape design separated, as I see it, is that ecology deals mostly with living systems in a dynamic way, while landscape design has traditionally dealt with living systems in a mechanical fashion. The design principles of unity, balance, accent, scale, repetition, and sequence were certainly all taken from observations of nature, but they were extracted from their living context and never put back into it. As we study them in their context, we become aware of other principles such as diversity, stability, energy economy, functional harmony, self-organization, self-renewal and even self-transcendence (which occurs when all the other principles are in place).



None of the above ecological principles were mentioned in my years of training. However, I was given valuable practice in keeping all the classical design principles in mind when designing. This training involved around sixty design projects, each one unmercifully scrutinized by my fellow designers and teachers. After graduation, we could take an exam to obtain a license (be a certified landscape architect). I felt uneasy about the certification idea—that it gave a false pretense for expertise, since there was no actual designing involved in the exam. True proficiency requires considerable "real world" experience.

Regarding the controversy about what should constitute certification in permaculture, my suggestion is to chuck the whole idea of certification. The number of workshops one has attended—valuable as they are—is only one aspect of training. Has anyone ever flunked out of a workshop? If not, then you can simply buy yourself certification whether you have aptitude for it or not. The information you give in *The Permaculture Activist* about teachers in the various design workshops is much more useful, particularly their hands-on experience.

Another issue I'd like to address is the value of aesthetics in permaculture

design. Some permaculturists seem to think function is everything. Professional designers agree that function is essential; in fact, it is the marriage of function and aesthetics that is sought after. What was amiss in my training was the omission of the ecological factors from the list of functional elements. The pendulum is now, for us permaculturists, swinging over to stressing the ecological factors. What is needed now is for the pendulum to come to rest at center as quickly as possible. Why pit sustainability against aesthetics? They are certainly not inherently at odds. Beauty is a basic human need and nature gives birth to beauty in profusion. Beauty can be considered an essential function of good design. I don't mean by beauty mere cosmetics which only cover up function. The highest creative expression is perhaps not even the marriage, but the transcendence of beauty and function.

I've discovered to my delight that adding the ecological principles to the classical principles did not make the design process more difficult, but in fact made it flow more easily and naturally. It seems that the more design elements one is aware of, the more the landscape designs itself.



← Illustration from *Permaculture Activist's Manual* by Bill Mollison (see article on next pg.)

Landscape Design for Water Conservation

By Jim Rich

I applaud the efforts of desert homesteaders like Don Howell at using runoff water efficiently, and I hope more of them will write about their experience. In my area, Sedgwick County, Kansas, the annual rainfall average is 28". With plentiful water underground in most parts of the county, there has been little effort to conserve water. But this is changing throughout the Sunbelt as it gains population. Underground water will soon fall short of demand and is already getting expensive. In response, dryland landscaping or xeriscape has emerged.

I've been experimenting with ways to stretch that 28" with minimal supplemental watering both on our own six-acre homestead and also on the properties of a few forward-thinking clients.

The heart of my system is the use of rock-filled gutters or trenches to catch roof runoff. I use hard and washed crushed rock of medium size (one-half inch). Soft rock will crumble and eventually prevent water from moving through it. Finer rock can be dislodged by rain or a mower wheel, while heavier rock tends to silt up in any but clay soils. These trenches are dug fairly deep, twelve inches or so, with vertical sides forming a water catchment useful in watering the planting areas on both sides of them.

The trenches will fill with rainwater rather quickly and then overflow, irrigating the area downslope, which is usually grass. Since native grasses can usually get along without this extra water, it would be best to connect a rock gutter to an off-contour diversion trench which will carry water to areas which need more water such as gardens or flower beds. At this point, design plays a critical role, as these rock-filled trenches can double as a mowing edge and as garden paths. To maximize water flow without gradual silting, one might want to consider using coarse sand (cheap) or fine well gravel (expensive) as the bottom half layer of the trenches.

Illustration from *Permaculture: A Designers' Manual* by Bill Mollison shows a similar concept to Jim Rich's.

Last winter I dug trenches between some of my garden beds. About half of them I filled with hard washed rock and the other half I filled with slow-to-decay debris (corn and sunflower stalks and pampas grass) plus grass clippings. As the debris settled during the gardening season, I added more clippings and weeds and chicken and goat litter which hastens decay. The resulting compost makes a springy but by now adequately firm garden path and provides compost for the garden beds for next season, right where it will be used. No need to cart it in.

All I have to do to water the beds is lay a hose in the path/trench so that a bed is watered through the sides. Since the water dissolves the nutrients in the compost, the bed is fertilized at the same time. I'm still getting the aeration benefit of raised beds without the edge problems of erosion and weed invasion. In fact, I'm getting deeper aeration, as the trenches are about 18" deep whereas my other raised beds are less than a foot high. Next year I'm going to connect these compost canals so I don't have to move the hose from one to another.

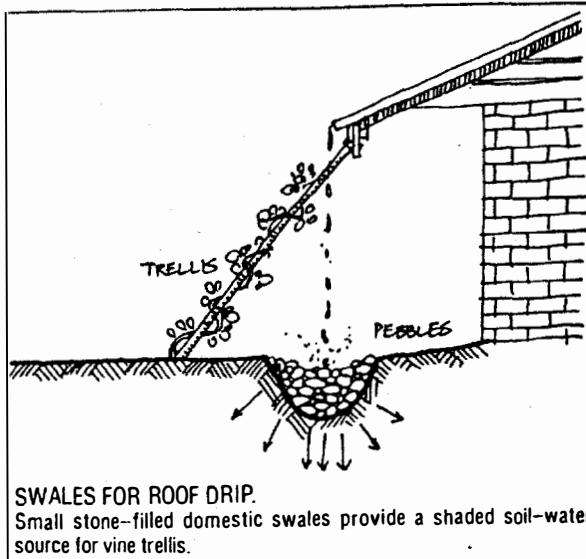
One feature I like especially well is that it's not a problem if soil spills onto the compost from the beds; in fact, the

compost is improved by it. My rock-filled canals had this problem. To avoid having to be super careful not to let soil spill into and fill in the trenches, I put concrete chunks from a dismantled driveway on top.

If one were gardening on a slope, the contour trenches could be connected with a spillway so that each trench filled up and retained water before it spilled over to the next lower trench.

Because our subsoil is tight, I surmise that most of the water is going sideways into the garden beds. In soils with average drainage, it would be important either to import some clay to seal the bottom or to use bentonite scratched into the floor of the trenches. In any case, some water will likely seep into the subsoil below the reach of many garden plants, so it might be good to combine deep rooted with shallow rooted plants or alternate them from year to year.

Editor's note: Jim Rich and Claire VanWyngarden operate a "mom & pop landscape contracting business. Jim is developing a market in ecological landscaping". They grow and produce most of their own food and are currently working to form a Kansas Land Trust that anyone in Kansas who is concerned about ecology can use to protect their land. Their address:
3261 S. 215th ST W, Goddard KS 67052.



Why Keyline?

Guy Baldwin

Let's look at this question from two viewpoints, a) What advantages or disadvantages does the Keyline system have over other large-scale field cropping and pasture management systems? and; b) Why make use of this system at all when it involves the use of tractors (which must rely on non-sustainable petroleum use) and all it accomplishes is to raise more feed for cows (which we know can be pretty destructive) or more grain (which is in oversupply anyhow)?

Take "b" first...we are well to recognize the detrimental impacts of livestock production on the environment, both on public lands and private holdings. The rearing of domesticated animals, or feed for animals, completely dominates most of the agricultural landscape - to the exclusion of natural ecosystems, native plants and animals. As well, the current system of animal production actually reduces the net amount of food available for human consumption.

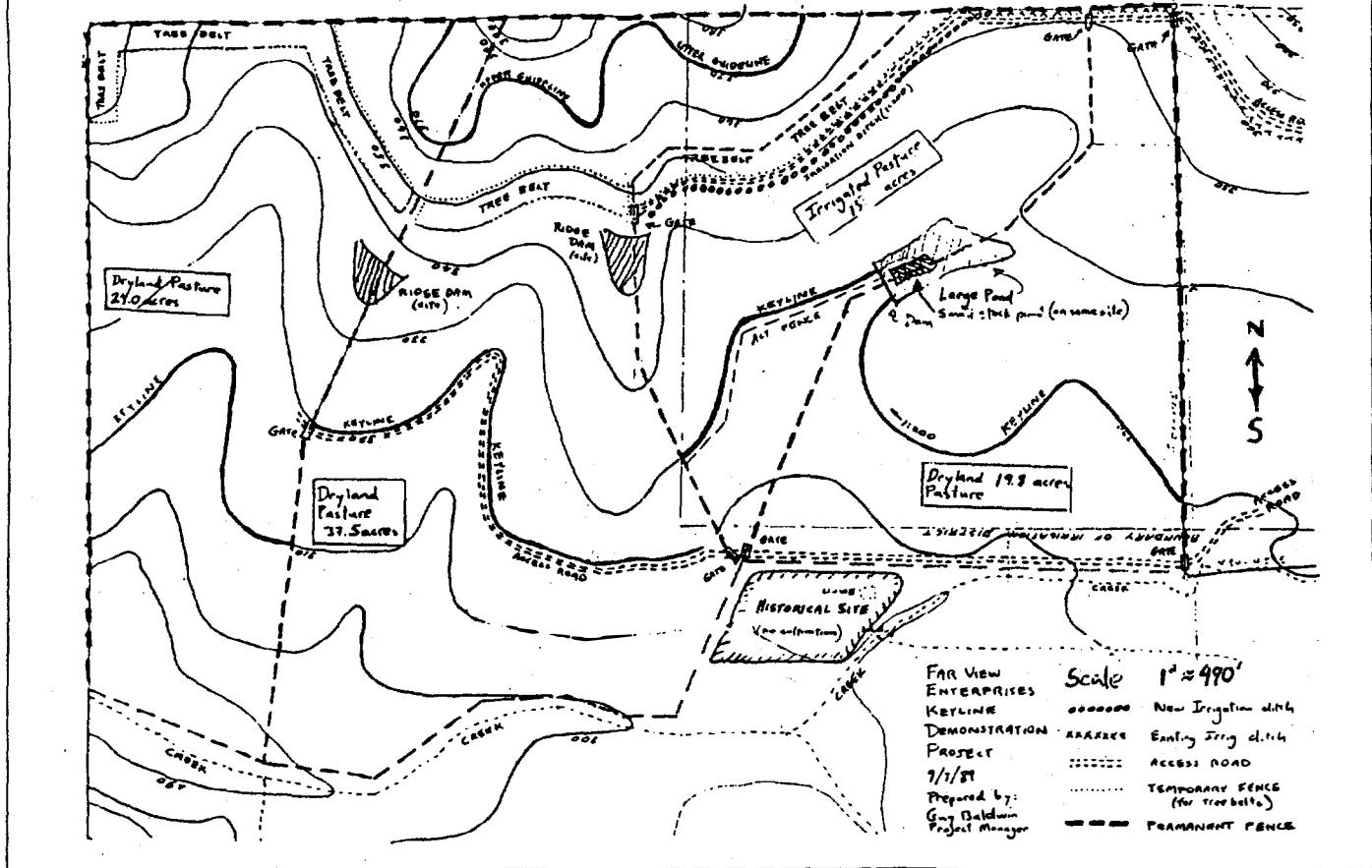
If we want to look at the whole earth, or our own bioregion, as the "system" that we are working on as Designers, and our goal is rapid and systematic environmental restoration, the removal of grazing and browsing livestock and feral animals is an important option to consider for ones own land or to recommend to a client. But remember that we must operate within a cultural context...and

solutions that might make sense in an idealized situation are ineffective (or at least not widely applicable) in the here and now. Here in North America, *almost all land that can be grazed is grazed*, most of it is in bad condition and most of it is in private hands. If we want to work on this land, to restore some semblance of ecological diversity and health to our region, we must utilize methods that the current owners will accept - and if it doesn't include cows we've just limited the acreage we can potentially affect by about 99%.

Having explained that my motivation for working with the Keyline system does not come from a love of cows, but rather from a desire to begin implementing ecological restoration on the greatest possible acreage in my region, I'll go on with question a).

The Keyline system has these advantages over other management practices:

- The Yeomans Keyline Plough® (and other similar implements) requires much lower drawbar horsepower to treat the same area of land than other implements such as mold-board or disk-plows and conventional chisels (soil rippers). Approx. 7-10 hp per shank is needed, less if the plow depth is shallow - as for our foothill soils. The Keyline system has been implemented with a horse-drawn spring-toothed harrow (draft animals may well be able to pull a single shank Yeomans plow). "No-till" methods that involve the use of herbicides to kill degenerated pasture prior to seeding also require much more embodied fossil fuel energy than is needed for the Keyline system.
- The Keyline system calls for the planting of tree belts at regular intervals throughout a pasture or cropped area. Trees can be selected for multiple uses - shelter for stock, wind-break, browse production, timber, fuelwood, biomass. Few other grazing management schemes call for actively planting trees, or create a soil environment that is conducive to tree growth. The Yeomans Plow is also a tree planting tool - creating a deep channel for ease of planting seedlings and for rapid root penetration into the subsoil.
- The Keyline system of pattern cultivation with a chisel plow is a water harvesting technique that utilizes the soil as its most important reservoir. Rather than relying on expensive pumped water, or large-scale irrigation projects, small dams are placed at selected locations. The plow itself creates shallow subsoil furrows which funnel water into the soil, where it is absorbed or taken up by plants. If fields are irrigated, the pattern cultivation serves to rapidly and evenly distribute water, with little or no run-off.
- The Keyline system involves controlled grazing of stock to create "soil climaxes" (periods of maximum forage growth, followed by quick grazing with consequent root die-back followed by decay processes which rapidly add to soil organic matter) which serves to build soil fertility.
- The Keyline system also has application to vegetable crops, orchard establishment and management, agroforestry, grain production, and urban forestry. The Yeomans Plow is "low-till" implement that causes minimal disturbance of the soil surface.



The Keyline Demonstration Project at Far View Ranch

Located in an area that is largely deforested (to fuel the steam locomotives of the 19th century, and because of misguided efforts to increase forage production), and rapidly desertifying, the Keyline Demonstration Project sits on 100 acres of low elevation rolling hills at the base of the Sierra Nevada Mountains. In order to demonstrate the effectiveness of Keyline methods for range-land rejuvenation and its wide applicability for farmers and ranchers in this area, we chose the least productive portion of the Ranch, which occupies about 850 acres.

Funding

Major funding for the project comes from the California Energy Commission, Local Energy Assistance Program. The CEC has funded several projects to demonstrate or test energy conservation (& production) methods in agriculture. The project at Far View Ranch will measure cost/benefit ratios for the Keyline system in both energy and economic terms.

System establishment

During the fall of 1989, we are undergoing a "Keyline conversion" process... overlapping passes with a 5-shank Yeomans Keyline Plow - first pass up & down, second pass parallel to a plow guideline or "keyline", i.e., more or less on contour and perpendicular to the first pass.

In succeeding years, only a single pass with the Yeomans Plow parallel to the keylines will be needed on the dryland areas (in the fall, prior to or just following the onset of rains). Up to four passes per growing season will be made on the irrigated pasture following a complete grazing and just prior to irrigation.

The dryland portions of the project will be seeded with the "Sierra Foothill Dryland Range Mix" formulated by Peaceful Valley Farm Supply (Grass Valley, CA) which includes annual and perennial grasses, clovers and subclovers, and medics. The irrigated portion of the project (about 15 acres) will be seeded with a mix that includes "warm season" annual and perennial grasses, and a variety of legumes. We will also conduct small scale experiments with other native and introduced perennial grasses.

Tree belts

Three tree belts will eventually be established across the width of the piece. To save on fencing materials and cut down on the labor input needed in the first years these belts will be planted at 3-4 year intervals. When the first tree belt is sufficiently well established to withstand grazing, the electric fence will be removed and reinstalled for planting the next belt.

We will plant primarily native trees and shrubs pre-selected by nature for drought & heat tolerance, as well as wildlife habitat. Major species will be valley oak (*Quercus lobata*), blue oak (*Quercus douglasii*), interior live oak (*Quercus wislizenii*), and the cork oak (*Quercus suber*) from southern Europe for

its potential additional product - cork. The shrub layer (50 - 75% of total plants) species include: buckbrush (*Ceanothus integerrimus*), deerbrush (*Ceanothus cuneatus*), and Western Mountain Mahogany (*Cercocarpus betuloides*) - all nitrogen-fixing and recognized as primary browse plants for wildlife and livestock. Additional species to be tried on a limited basis: chestnut (*castanea spp.*), black locust (*Robinia pseudoacacia*), black walnut (*Juglans nigra*), tagasaste (*Chamaecytisus palmensis*), *Eucalyptus* and *Acacia* species.

Prior to planting we'll make two passes with the Yeomans plow on the tree belt area, then a final pass down each tree row (about 9 rows in each 60' wide tree belt) pulling the plow with only one shank attached - at as great a depth as possible. Planted along these deep, narrow furrows the oak and shrub seedlings will grow long tap roots in the first season and survive the long hot summers. We may also experiment with a 12V car-battery powered 4" auger for some tree holes in order to get even deeper root penetration.

Using methods pioneered by Circuit Riders Productions, Inc. (a non-profit educational organization specializing in native plant restoration) we'll plant most of the oaks and shrubs from seed. The young seedlings will be protected by a 1-qt plastic yogurt container which sticks up about 1" - 2" above the surface and to which is attached an 18" high piece of aluminum screen which is folded over at the top to prevent deer or rodents browsing or eating the acorns. Irrigation of the trees will be needed several times in the first year - the yogurt cup will hold about 1 pt. of water, all of which is focused directly into the root zone. Because our site is reasonably low-slope, we'll be able to put a few 55-gallon drums on a pickup and drive down the tree rows while siphoning water into the planting cups.

Depending on rains, rate of growth, etc., we'll begin grazing the dryland areas in mid-Spring (March). We will begin irrigating the irrigated pasture in April or May and continue until October.

Included in the planning process are several small dams. Construction funds are not provided by the CEC, so we will likely wait a year or two to put in any of these dams - which will serve to store run-off that is not absorbed in the ground.

University of California Cooperative Extension farm advisor for Butte County, Mr. Bob Willoughby, is conducting a series of experimental trials on the site to compare forage production with more conventional pasture establishment methods - soil preparation with a disk, use of super-phosphate and rock-phosphate fertilizers.

As part of the "Technical Transfer" for the project, the CEC is funding a series of workshops and field days on the site. See "Allied Groups", pg. 20 for details.

Permaculture Definitions, continued from pg. 1...

From Gus and LaNada James (Tribal Survival Ecosystems):

Permaculture combines current technology with aboriginal cultural knowledge collected over generations: to create self-contained, self perpetuating ecological systems. This includes growing edible (and nutritious) plants, fish & animals; as well as the application of appropriate technology to create energy from solar, wind, water, and compost.

From Bill Mollison:

Permaculture seeks the Garden of Eden, and why not?

From Nathan Alexandra:

A Permaculture only happens where land and people are one.

From *Permaculture*, the Journal of the Int'l Permaculture Association, Autumn 1980:

The overall aim of permaculture design is to produce an efficient low-maintenance productive integration of plants, animals, structures and man; with the ultimate result of on-site stability and food self-sufficiency in the smallest practical area ...

(continued, from Tagari manual)... The aim is also to plan for craft or other products on larger areas, that yield a trade or commercial potential for clients, again as diverse product resources. The design should aim for a total, secure, long-term integration of all elements; stability and diversity are the keynotes. Conservation of soil, water and energy are central issues.

The system combines rational landscape design, organic gardening methods, and alternative energy systems into a unified design encompassing many trades, skill, and disciplines.

From *Permaculture News of England*:

Permaculture is the name that has been given to the design and creation of self-sustaining productive landscapes which, once established, will need the minimum of human intervention. A permaculture design incorporates a diversity of species and interrelations between species, and allows for the continuous evolution that occurs in Nature. There is a succession of species each preparing the environment for the next, and all moving towards a climax state.

From Alison Peck:

Permaculture gains its name from the dream of a permanent, sustainable agriculture and culture. Permaculture expands edible landscaping to consider all of the elements that are part of a natural self-sustaining landscape. Taking inspiration from Aikido, Permaculture works with natural forces to create productive landscapes rather than forcing production with inputs of energy and chemicals. The elements, the earth, plants and animals are woven into a complex, balanced landscape providing food, shelter, energy and more. A permaculture can be created in a backyard or with many acres; it can range from a minimum maintenance condominium planting to a productive farm. A carefully created permacultural landscape requires no more intervention to be healthy and productive than a mountain meadow needs weeding or watering.

The Fourth International Permaculture Convergence and Conference (IPC IV) Theme: "Developing a Sustainable World"

February 10 - 15, 1991
Kathmandu, Nepal

History and Goals of IPC IV

At the IPC3 in New Zealand, Jan. 1989, Nepal was chosen as the site for IPC IV. It will be hosted by the Institute for Sustainable Agriculture (INSAN), Badri Dahal, Director, and organized by a global committee in which everyone is invited to participate.

The general aim of the convergence is to present and further explore a global perspective and an integrated approach to a permaculture future in all areas of the world.

By holding this conference in Nepal, we consciously shift our focus to "Developing Third World" countries. We draw attention to permaculture as a "development tool," we refocus development in the context of permaculture as it applies to Third World countries. We draw attention to the fact that developing countries are currently facing a food crisis and major environmental degradation which together are having a severe impact on the Earth's total environment. These same crises are occurring within the so-called First World as well. Our intent is to make the same connections between the two and to offer permaculture systems which are economically, socially, and environmentally sustainable.

This conference has the potential to be of great importance to Nepal and to the development of permaculture in the Third World. If all goes well the conference will be opened by the King of Nepal. It will also be attended by representatives from both government and NGO aid agencies from around the globe. The ramifications are obvious and exciting!

The organizing began at IPC3, where guidelines were created to help set up a structure that encourages dialogue, discussion, strategy sessions for moving ahead and one that is humane, nurturing, and empowering for all attending. (Unfortunately IPC3 contained little of the above and was disappointing to many of us who attended. Yet out of it came the commitment to do it differently next time and always have the organizing be globally represented).

A small group then met in Nepal for 4 weeks, setting up a structure that is both global and decentralized. A North American Co-ordinating Group is currently forming to work in the following areas: outreach and publ-city; fundraising; media; conference content; information clearing house; children's conference; agenda process and facilitation.

We have a proposed budget of \$20,000, for which fundraising is already under way, and 2 part-time staff people to keep it all together (Cynthia Edwards, MD, and Larry Santoyo, WA). Everyone's input is wanted/needed! Please contact us about getting involved—no input is too small!

Not everyone can or should go to the conference, but whether you go or not, this conference is important to us all and to the earth. Our global connection and support of each other is our life blood, it's what makes things possible in a sustainable way.

So get in touch! Find out more! A full information packet is available upon request.

To date the IPC IV Coordinating Group organizers include: Michael Pilarski, WA; Sue Colpas Ross, TN; Cynthia Edwards, MD; Larry Santoyo, WA; Simon Henderson, WA; Patricia DuBose, TX; Rosemarie, WA.

North American Contact for IPC IV:

Cynthia Edwards, 21300 Heathcote,
Freeland, MD 21053, (301) 343-0280.

Travel arrangements for IPC 4 can be made through Great Northwest Permaculture Institute. For group travel discounts contact:

Larry Santoyo
Great Northwest Permaculture Institute
2073 Marble Valley-Basin Road
Addy, WA 99101
(509) 935-4578

Hosted by: the Institute for Sustainable Agriculture Nepal (INSAN)

GPO Box 3033, Kathmandu, Nepal. Ph: (977) (01) 220448; Fax: (977) (01) 524509; Cable: INSAN; Telex: 2439 ICIMOD NP.

Permaculture Conference

The aim of the conference is to provide a forum for discussion on and action by permaculture in cooperation with the policy makers, planners, aid workers, press and members of the public who will be attending.

People from all over the world who are involved in sustainable agriculture systems and research, development organizations and policy and other related fields will be invited as guest speakers. They will be speaking on a variety of topics including:

- Sustainable farm systems;
- Energy efficient housing;
- Ecologically sound village and urban design;
- Cooperative economic systems that foster community self-reliance;
- New directions for aid projects.

Time: Opening ceremony - 10 AM February 10, 1991
Closing function, Feb. 15.

Cost: (includes lunch, morning and afternoon tea) - rates in US \$;
Paid before 1/8/90 \$240
paid between 1/8/90 and 1/2/91 \$270
paid after 1/2/91 \$300

To Register: The best method to send money is by telegraphic transfer to INSAN's current account No. 30056 Nepal Bank Ltd., Kathmandu. Please mail a copy of the bank slip to INSAN's office with your registration form. Accommodation is available at a variety of local hotels at rates from \$5/nite to \$35 or more/nite.

Permaculture Designer's Convergence

Immediately preceding the International Permaculture Conference, the convergence is an informal gathering where permaculture design course graduates can exchange and update information and decide organizational policy. People who are not design course graduates are welcome as observers only.

Time: Starting 9 AM on Feb. 2, 1991, Closing, Weds. evening Feb. 6.

Place: The Permaculture Demonstration Farm near Biratnagar, Nepal in the sub-tropical eastern Terai, 450 km east of Kathmandu. The farm has recently been purchased by INSAN and any profits from the conference will aid in the development of the farm. There will be an opportunity to join in on-site tree planting and to have design input. We hope the convergence will foster understanding and appreciation of Nepali village life.

Accommodation: will be on-site in simple but comfortable buildings made from traditional local materials. The food will be grown mainly on site. As there is no electricity in this area, power for audio visual equipment will be supplied by generators.

Cost: (including food and accommodation)
Paid before 1/8/90 \$240
paid between 1/8/90 and 1/2/91 \$270
paid after 1/2/91 \$300

Transport: from Kathmandu to the convergence site near Biratnagar
Chitwan Bus Tour \$145 approx.
Direct Bus Travel \$10 each way
Plane \$85 each way

Chitwan Bus Tour (29th January - 1st February) is an opportunity for convergence participants to visit three local farms in Chitwan district, as well as a visit to Royal Chitwan National Park, famed for wildlife such as the Bengal Tiger and the one-horned rhinoceros. This tour is limited to the first 40 people who register for it.

Permaculture Design Courses - Nepal

Pre-Conference Design Course: January 13 - 25, Kathmandu
Post-Conference Design Course: February 21 - March 7, Kathmandu

**A Call for Papers, Lectures,
Slide shows, Workshops,
Trade Shows , Demonstrations,
Networking Proposals, Discussion Topics &
Suggestions**

Dear Friends:

Principal among the preparations for IPC IV is identifying and locating qualified individuals to make relevant presentations at the conference. Two principle objectives of the conference are to provide an opportunity to illustrate the need for change in current farming practice and, secondly, to demonstrate how permaculture is a means to a sustainable future. INSAN is actively seeking individuals worldwide with the ability and desire to present direct, accurate data that will address the objectives outlined above. We are searching for individuals involved in permaculture practice to share their knowledge and experience about the relevancy, indeed urgency of permaculture for a stable environment and society. Examples of sound comparative research on permaculture and monoculture practice is also desired.

There are many people who are aware of the major problems surfacing on the globe but don't yet understand the implications, nor how to avoid them. IPC IV will bring together people who have made their enquiries into the ethics, standards and direction of humanity and begun their quest to bring about positive change.

Where are You? How are You doing? What have you got to offer in the way of proof and method, and, assuming that there are lots of people out there who would benefit from knowing about what you do and how you do it (about 5 billion), what can you put on show at IPC IV in February 1991. If you have papers, lectures, slide shows, workshops, trade shows (appropriate technology, book sales, seed displays, etc.), demonstrations, networking proposals, discussion topics or just suggestions and ideas you think have a place in IPC IV, contact INSAN so we can coordinate the whole scene in a structure, cooperatively presented conference-with-a-difference.

Looking forward to hearing from you,
For the Earth,

Badri Nath Dahal
Coordinator IPC IV

**IPC IV Conference/Convergence -
Registration Form**

I will be attending the conference only
I will attend both conference and convergence

Dietary Preference: Vegetarian
Non-vegetarian

Do you wish to have hotel bookings arranged by INSAN ? Yes/No
If yes, please indicate date(s):

From	To
From	To
From	To

also indicate hotel preference:

Basic Guesthouse (room & common bath)	\$ 5-10 per night	<input type="checkbox"/> <input checked="" type="checkbox"/>
Basic Hotel Room (room & attached bath)	\$ 10-15 per night	<input type="checkbox"/> <input checked="" type="checkbox"/>
Medium Priced Hotel	\$ 15-25 per night	<input type="checkbox"/> <input checked="" type="checkbox"/>
Luxury Hotel	\$ 35 plus per night	<input type="checkbox"/> <input checked="" type="checkbox"/>

For Designers' Convergence Participants only:

Travel to convergence site via Chitwan Bus Tour	<input type="checkbox"/> <input checked="" type="checkbox"/>
Direct bus travel to convergence site	<input type="checkbox"/> <input checked="" type="checkbox"/>
Direct flight to convergence site	<input type="checkbox"/> <input checked="" type="checkbox"/>

Amount of money enclosed (in U.S. dollars):

Conference Registration	\$
-------------------------	----

Designers' Convergence Registration	\$
-------------------------------------	----

Travel to Biratnagar:	
Chitwan Bus Tour	\$
Direct Bus Travel	\$
Direct Flight	\$

Permaculture Design Course 13 - 25 JAN	\$
--	----

Permaculture Design Course 21 FEB - 7 MAR	\$
---	----

Total amount enclosed	\$
-----------------------	----

A Note from IPC IV Organizers: There will be a limited amount of money available for direct mail promotion for IPC IV. Please photocopy or reprint these pages and distribute the information to as many people as possible. Thank you for your help!

Reports from Regional Groups

*Editor's note: Each issue of *The Permaculture Activist* includes this regular column covering the growing number of permaculture groups and projects appearing all over North America. We ask that anyone with news and events to report please contact: Editor, *The Permaculture Activist*, P.O. Box 101, Davis, CA 95617. Deadline for the next issue is January 1, 1990.*

Epicenter - Hawaii

"Epicenter" is an acronym for Earthbank/Permaculture Information Center, which is also used in Australia. The Earthbank Association is a nonprofit organization that publishes the "Earthbank Guide to Sustainable Economics", and Epicenter- Hawaii is a newly emerging, loosely strung lei of individuals and organizations interested in the application of permaculture principles in the fascinating, unique, and diverse bioregion of the Hawaiian Islands.

Epicenter-Hawaii provides educational material and a public slide show. Plans for a Permaculture Design Course in January 1990 are described on pg. 18.

For more information contact:

Epicenter-Hawaii,
P.O. Box 2428,
Kailua-Kona, Hawaii 96745.

Permaculture books are now available in English, French, German, Portuguese and soon to be in Italian and Spanish.

Permaculture One, by Bill Mollison and David Holmgren, has been translated into:

French (Edition Debarde, 7 Boulevard Victor, F-75015 Paris, France);
German (Pala Verlag, Schlossgraben, 21, D-6117 Schaffhausen, West Germany), and;
Portuguese (Editora Ground Ltda., Rua Franco Pinto 844, CEP 04016, Sao Paulo, Brazil).
The Italian (Quaderni d'Ontignano, 50014 Fiesole (FI), Italy), and
Spanish (Integral, Paseo Maragall 371, Barcelona 32, Spain) translations will be published shortly.

Permaculture Two by Bill Mollison is as yet only available in German and English (Eco-Logic Books, 48 Aycliffe Road, London W12 0LL, England).

Contact: Permaculture Institute of Europe, Ginsterweg 5, D-3074 Steyerberg, West Germany.

Three Sisters Nursery and Bioshelter

This Permaculture enterprise in commercial sustainability is open for business at New Lebanon, PA, supplying salad greens to restaurants and private customers in the western PA area. If you are looking for a strictly organic and toothsome product grown with tender, loving care call Darrell or Linda Frey, (814) 425-2585.

Funded in part by the State of Pennsylvania, a 4000 sq. ft. greenhouse (see photograph next page) forms the focal point for a model market farming operation for the region, somewhat along the lines of the "bioshelter" concept developed by the New Alchemy Institute. Both indoor and outdoor food production, and small animal husbandry make use of the greenhouse structure. Compost bins within the greenhouse help supply heat, carbon-dioxide and ammonia gasses to the growing beds in the greenhouse.

Northern Mexico forms Permaculture Institute

In late July, a group of agricultural and civil engineers and government officials met in Hermosillo, Sonora, Mexico for a two-week permaculture design course taught by Bill Mollison. The course was organized by José Valdés Romero, a civil engineer in Hermosillo, and was convened with the blessings of the Governor of the State of Sonora, Rodolfo Félix Valdés.

As a result of the course, a Permaculture Institute was formed to serve Northern Mexico. Translation of *Permaculture: A Designers' Manual* into Spanish is close to completion, with plans underway to publish a Spanish edition of *Sustainable Living in Drylands* (published by the Southwest Regional Permaculture Institute of Santa Fe, New Mexico).

In addition, members of the Sonoran Permaculture Association look forward to cross-cultural collaboration with residents of Sonora, Mexico, on projects of mutual interest within our bioregion.

To contact the Northern Mexico Permaculture Institute, write to:

José Valdés Romero
Rio Conchos,
150 Col. Fuentes del Centenario,
Hermosillo, Sonora,
México

Maui Epicenter

Maui Epicenter's goals include the germination of a sound ecological plan to develop an abundant Maui [Hawaii]. By furthering the principles of Nature's Ways, in harmony with nature's cycles of depletion and regeneration, we learn how to design our relationship with nature in accordance with the principles of nature.

By cultivating bioregionalism for Maui we can use the principles of permaculture, sustainability, green politics and recycling in tangible ways.

Permaculture design is planning intensive, and involves thorough analysis in order to select the species and management plan for a particular site so that roots may take hold and sprout new and more abundant life.

Educational Programs. The Epicenter will offer workshops, classes, speakers, children's education programs, public presentations, an environmental information hotline and media campaigns to teach and inform the public about the environment.

Publications. The Epicenter will publish a quarterly Newsletter beginning in the Fall of 1989, an Environmental Directory and handouts on specific issues.

The Newsletter addresses environmental issues on a global level and extends an in-depth consideration as to how we are being affected by these issues right here on Maui. Each issue also highlights simple and effective ways to take action for change.

The Environmental Directory is a listing of every person, organization, or business currently involved in Maui's ecological renewal process. The Directory is an environmental resource that serves to put the community in touch with organizations that are already working for the island's environmental quality.

Green Politics. The Maui Epicenter is a non-partisan source of information for politicians who want to further their awareness of environmental issues.

Membership privileges include: subscription to the quarterly Newsletter; subscription to The Environmental Directory; discounts on Epicenter events, lecture series, and workshops; periodic mailings of up-to-date information on environmental issues for Maui; access to global networks of information and resources on environmental issues, from philosophical treatises to hands-on techniques; involvement in educational efforts to change the way Maui relates to her environment.

Membership Dues: Founding Member—\$1000; Charter Member (accepted throughout 1989)—\$500; Sustaining—\$200; Corporate—\$100; Organization—\$50; Family—\$35; Individual—\$20. Make check payable to Maui Epicenter & mail to:

Maui Epicenter,
P.O. Box 400,
Kihei, HI 96753;
ph. (808) 874-8172.

Great Northwest Permaculture Institute

Information Network

Great Northwest Permaculture Institute (GNP) is an information and resource group established to provide teachers for programs and design consultants for projects.

Resource "Worknet"

Fall and winter projects include: continued design consulting, workshops, "Coats for the Community" (soliciting and distributing winter coats for those in need), fundraising and organizing programs and projects in the U.S. and abroad. GNP will be hosting an Advanced Teaching and Design Course in mid February taught by Max Lindeggar and Lea Harrison.

Nursery Operation

Through generous donations, we will again be offering for spring planting a variety of "food forest" trees, shrubs and vines. Write for varieties and ordering information.

Eco-Travel Co.

We are just back from a hilltribe study tour in Northern Thailand. Our trips emphasize responsible tourism. Organized to study and observe natural and cultural history. Our destinations include Mexico, Costa Rica, Thailand and Nepal.

Permaculture Corporation

Under advisement from Bill Mollison, GNP is working to organize and register a corporation designed to: develop real estate, provide data base information, and offer design courses for high level executives and civil engineers. Persons with financial, legal or corporate skills are asked to contact GNP Institute for more details.

Global Permaculture Village

Several opportunities are currently "on the drawing board." We are preparing proposals for investors to set up a network of permaculture designed villages in the Northwest, the Southwest and the tropical highlands of Costa Rica.

Quarterly Newsletter

"The Worksheet" is published as part of the bioregional journal Columbiana Magazine.

For more information contact:

Larry Santoyo
Great Northwest Permaculture Institute
2073 Marble Valley-Basin Road
Addy, WA 99101
(509) 935-4578

Upper Right: Bioshelter Greenhouse operated by Three Sisters Permaculture (under construction in 1988)

Bottom Right: "Harvest Time in the Great Northwest" Illustration by Tekao Butterfield, compliments of Bear Creek Nursery

Sonoran Permaculture Association (SPA) & the Southwest Regional Permaculture Institute

Sustainable Living in Drylands is produced jointly by the Institute and Sonoran Permaculture Association (SPA). The scope of this newsletter has broadened, and we are now addressing drylands everywhere. As SPA is a local association, we have been active in neighborhood schools, neighborhood associations, and at city hearings. We are involved in setting up demonstration projects and networking with other local groups with compatible aims. We would like to stay small, to have only the level of organization necessary for local work, and to measure our success by the amount of activity at the grassroots level in our bioregion.

In contrast, one function of the Institute is to act as an information clearinghouse for bioregional groups and permaculture designers, and as an organizational resource for small groups. In order to perform these functions, the Institute needs funds as well as volunteer help. Yearly membership in the Institute includes a year's subscription to *Sustainable Living in Drylands* and a 10% discount on courses and publications offered by the Institute. For those of you who want the newsletter only, that option is available as well. We urge you to consider supporting the Institute financially, if you are not already doing so.

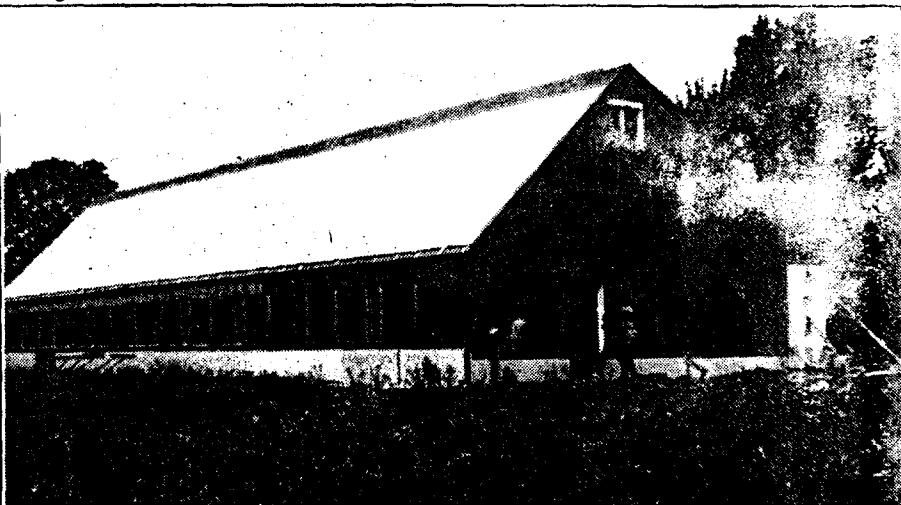
To offer your services or to communicate with Scott Pittman in Santa Fe, contact:
Southwest Regional Permaculture Institute
P.O. Box 1812,
Santa Fe, NM 87504-1812
(505) 982-2063.

Please note that memberships and subscriptions are still processed through our Tucson address. Subscribers within the Sonoran bioregion will continue to receive information on local actions and events, courtesy of SPA, as funds and energy allow. To volunteer for local projects, please contact:

Esther Moore, c/o SPA,
P.O. Box 27371,
Tucson, Arizona 85726-7371.

We look forward to creative collaboration with the Institute, and appreciate all the support we have received in the past. We would like to hear from other permaculture associations and individuals dealing with drylands issues. Send articles and letters to:

Jean Eisenhower, c/o SPA,
P.O. Box 27371,
Tucson, Arizona 85719.



Permaculture in Humid Landscapes

By Bill Mollison

Available from:

Order Dept., Yankee Permaculture
c/o Betsy Keenan
Box 264
Maloy IA 50852 USA

Price: \$7.50 + 10% postage & handling
(20% outside the U.S. and Mexico) This publication is not copyrighted. Its reproduction is free to all and encouraged.

Reviewed by Heather Klinger

Bill Mollison's pamphlet *Permaculture in Humid Landscapes* provides a 20 page overview of ways to store and use water in humid landscapes (defined as areas receiving annual rainfall of 30 inches or more). Water storage is presented as central to all other aspects of permaculture design; therefore, the article discusses the relationship of water to many other elements.

Mollison teaches readers to let the landscape shape the design of water storage systems. He does this by beginning with a discussion of *keypoint* ("the point where the landscape turns from convex to concave") and its relationship to water flow. He writes, "Having found the keypoint, we can now treat the whole landscape as if it were a roof and a tank. In a faintly descending line, falling gently away from the horizontal, . . . we make a little shelf around the hill leading to the keypoint. No matter where this water was going, we have now started to divert it, bringing it right around the hill to the keypoint. In effect we have put a gutter around our roof, a very gently falling gutter. What we did was to start at the keypoint and run out

a line which we lifted one foot at every 2,000 feet, so we have a very, very gentle fall. Water just moves along it, and that is all."

Mollison goes on to write about dams, house siting, and storing water in the soil. He describes mechanical methods of soil conditioning that lead to, "first, a fantastic amount of water storage within the landscape; second, a soil temperature in winter that may be as much as 25°F above that of surrounding soils. Wet soil is an enormous heat mass, but you also have a lot of air space in those soils. Conditioned soils commonly average 19°F above the surrounding soil temperatures. . . so soil conditioning sharply decreases frost. Therefore it increases your growing season at both ends of the growing year. Trees will make a faster growth. Olives, that would maybe bear in 17 or 18 years, will normally bear within 3 years in conditioned soil."

In his discussion on building earth tanks, one method of retaining water, Mollison shows how to produce a microclimate while creating a pond. He writes that "you can pile the soil removed up sharply so as to create a sun trap, while keeping a low profile toward the sun. When your pond fills, you have a real good growing situation . . . The deep edge is very abrupt, and you are unlikely to get much vegetation except right at the edge. The steep bank of earth at the rear, which can be 8 or 9 feet high, can have trees in front of it. You are in a real tropical climate there. If you want to be real fancy, you can glass that off and you will have a fantastic situation, with winter reflection of sun giving maybe as much as 60% additional heat. You will have absorption of direct sunlight—a real good heat-up situation. And if you want to put bamboo up on top of your earth bank, you have maybe as much as 60% to 63% additional heat."

Adapted from a 1981 lecture given at a permaculture design course (at Wilton, NH), the article is written in plain language that gives one the feeling of being "talked to." It leaves the reader with an understanding of basic concepts of water storage in a permaculture and specific techniques for putting ideas into action.

North American Permaculture Conference

Southwest Regional Permaculture Institute in association with Sonoran Permaculture Association will host a national Permaculture strategy/business convention [i.e., the 'North American Permaculture Convergence'] November 3, 4, 5, 1989 at Camp Stoney, New Mexico. Camp Stoney is located 15 miles east of Santa Fe in 1400 acres of pinyon/juniper forest with meeting halls and accommodations for 150 people. The nearest airport is Albuquerque, NM with shuttle service to Santa Fe.

The total cost is \$150.00 for room, meals, and organization costs. You are paying for three days lodging and nine meals. Late registration and payment will cost an additional \$25.00 [after Oct 1].

We request that all arrivals be on the evening of November 2nd so we will have three full days to conduct meetings and arrive at decisions.

For those who fly into Albuquerque, please arrange your flight to catch the shuttle, Shuttlejack, Inc., at 3:25 PM - reservations for the shuttle are recommended. We will meet arrivals at the "Inn at Loretto", a shuttlebus stop, at 5:00 PM the 2nd with transportation to Camp Stoney. We need your cooperation in meeting this schedule in order to coordinate transportation.

It is also critical that you meet the registration deadline so we will be able to guarantee accommodations. If you want to stay additional days for looking around let us know when you send your registration.

I would like to emphasize that this continent-wide meeting is to take care of permaculture business and strategies - to be successful in so short a time frame please submit your ideas and proposals in writing to Cynthia Edwards, 21300 Heathcote, Freeland, MD 21053. With your written proposals we can develop an agenda and also send copies to all the people preregistered for their input.

The agenda will include but not be limited to:

1. PINA - how to resolve organization and assets;
2. 1990 International Permaculture Gathering - Nepal - our role;
3. Organizational strategies to be more effective as designers, organizations and concerned beings.

If you have thoughts on these or other items submit them in writing and we will develop an agenda and circulate your paper.

Bring warm clothing as it can be very cold in November - a sleeping bag is also recommended as the rooms are heated by wood stoves.

Southwest Regional Permaculture Institute
P.O. Box 1812
Santa Fe, NM 87504
(505) 982-2063

Illustration from
Permaculture in Humid Landscapes

Permaculture Educational Programs

*In each issue of *The Permaculture Activist* we print news of permaculture educational programs being offered around North America. We publish this information as a service to our readers, and to allow more people to participate in these programs. These programs are funded, organized and taught by independent regional groups and individuals involved in permaculture work. Publication here does not imply certification or endorsement by *The Permaculture Activist*. We encourage all groups to contact us with news of upcoming events.*

Advanced Permaculture Design and Teacher Training Courses

Where: Two locations—Eastern and Western North America. Western program will be held at Dexter, Oregon.

Dates: Western North America—February 4-16, 1990

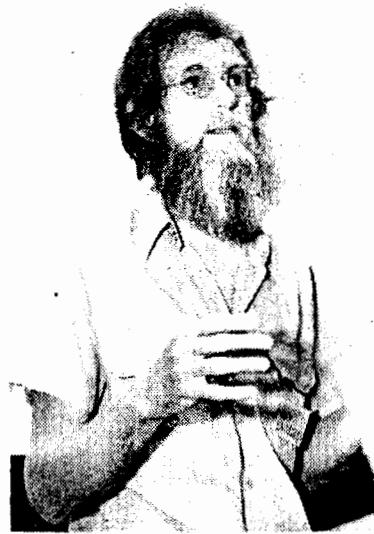
Eastern - February 19 - March 3.

(Exact dates subject to minor changes)

Time Frame: Two one-week courses at each location; back to back. Each course could be attended separately, but we suggest attending both.

Teachers: Lea Harrison and Max Lindeger, both professional teacher/designers living in Australia; plus various North American resource people. Lea Harrison is a PC Designer teacher of wide experience. She taught extensively in Nepal, as well as the U.S. and Europe and Australia. Max Lindeger is a PC designer/teacher/civil engineer. Major designer of "Crystal Waters Permaculture Village" now under construction in Queensland, Australia.

Cost: (Western N.A. program) \$650 tuition (for two weeks), including room and board and all instruction & materials. If you plan to attend please send a \$100 deposit to secure your participation. It may be possible to reduce the tuition cost if enough people register.



Max Lindeger speaking at the 2nd International Permaculture Conference, Olympia, WA, August 1986. Max and Lea Harrison will be teaching a series of Permaculture Design programs in North America in 1990. Photo: copyright ©1986 by Steven Borns.

Enrollment limitation: There is room for 25 people for each course.

During IPC III in New Zealand the need for advanced Permaculture courses was bounced around a number of discussions. Many of us have reached a place where we want additional training to increase the effectiveness of our work in permaculture. This is an exciting opportunity to get more North Americans into teaching, improve the quality of existing teaching, and take our design skills to a higher level.

The overall goals of these programs are to (1) improve both the quality and quantity of PC teachers and designers, and (2) support greater diversity—more women, more economic range & class background, more people of color, more professional field people (i.e. landscape architects, urban planners, etc.).

Max and Lea will tailor the course to fit the needs of those attending. Curriculum development and expansion, and redesigning the basic Permaculture Design Course for North American culture and environments seem to be top priority for many teachers.

To attend one of these programs, generally, participants should have taken a permaculture design course. Those who qualify because of the work they have done on their own can contact the organizers if they wish to attend. Those wanting to attend the teacher training who have not yet been teaching may be able to participate in small group work during the course to address their specific needs.

Participants will be expected to do presentations to the whole group. This will help bring different areas of expertise within our teaching network into a "public" forum.

Contacts:

Eastern North America —

Cynthia Edwards, 21300 Heathcote,
Freeland, MD 21053, (301) 343-0280.

Western North America —

Registration & Information:

Larry Santoyo
2073 Marble Valley-Basin Road
Addy, WA 99101
(509) 935-4578

Information only:

Jude Hobbs,
1651 Willamette,
Eugene OR 97401,
(503) 343-6852.

Permaculture Design Course for Hawaii Sponsored by Epicenter- Hawaii

Date: January 15 - 27, 1990

Location: One week in each of two locations on the "Big Island" of Hawaii.

Enrollment: Limited to 25.

Instructors: Max Lindeger & Lea Harrison (see instructor biographical information on this page under Advanced Permaculture Design Course).

Cost: anticipated \$650 including instruction, materials, dorm/lodging, meals, guest speakers, field trips and scholarship fund. Enrollment limited to 25.

Contact:

Epicenter-Hawaii
PO Box 1612
Kealakekua, HI 96750
(808) 328 - 2675 (evenings only please - after 6 PM Hawaiian time - 3 hrs behind Pacific Standard Time)

For further information on Epicenter-Hawaii, see article in "News from Regional Groups" pg 14.



Lea Harrison speaking at the 2nd International Permaculture Conference, Olympia, WA, August 1986. Lea and Max Lindeger will be teaching a series of Permaculture Design programs in North America in 1990. Photo: copyright ©1986 by Steven Borns.

PERMACULTURE EDUCATIONAL PROGRAMS

Elfin Permaculture Workshop

A Permaculture Weekend Workshop will be presented by Elfin Permaculture, November 10-12 in Windham, Vermont. Instructors are Dan Hemenway and Cynthia Baxter.

For more information contact: Lou Roy, R.R. 1 Box 79, Windham, VT 05359.

Aprovecho Institute - Upcoming Workshops

November, 1989 (date to be announced) Permaculture for the Third World. Held in Guatemala.

January 20 - February 2, 1990. Permaculture for India, Gujarat, India.

Winter 1990 (date to be announced) Permaculture for the Third World. Held in Ecuador.

Spring 1990. Permaculture Workshop "Learning from the Third World" hosted by Heifer Project, Int'l in Arkansas. Instructor: Ianto Evans.

Spring 1990 (date to be announced). Permaculture Workshop, Genesis Farm in Blairstown, New Jersey. Instructors: Ianto Evans and Sister Miriam Therese McGillis.

For more information contact:

Aprovecho Institute,
80574 Hazelton Rd.,
Cottage Grove, OR 97424.
(503) 942-9434

Master of Science Degree in Sustainable Systems

Excellent progress has been made in our plans for this new degree program at Slippery Rock University. If everything goes according to our expectation it will be in place by Fall of 1990.

Prospective students will be able to enroll in one of three tracks:

- 1) Sustainable Agriculture
- 2) Sustainable Resource Management
- 3) Sustainable Structures and Energy Production.

While a bachelor's degree in one of the natural sciences would be desirable as background for this Master's degree program, it isn't a prerequisite. Our intention is to provide a useful and practical educational experience for the Generalist who shares our deep commitment to healing the earth. If you would like to keep in touch with our progress, call or write to: Dr. William Shiner, Chair; PREE-SRU-Slippery Rock, PA 16057, (412) 794-7503 or Dr. Robert Macoskey, Director; The Alter Project-SRU, Slippery Rock, PA 16057, (412) 794-7322/7397.

The Linnaea Farm Hands-On Permaculture Workshop

A Retrospective View

Originally conceived during the 1988 Permaculture Design Course held there, this program was a response to the common complaint "there isn't enough hands-on"

Linnaea Farm is a land trust with seven adults and a similar number of children living there full time. The property is the oldest homestead on the island, with the residences clustered between pastures and a lake with forest land above. Participants ranged widely in age and permaculture experience. Tad Montgomery and myself were the primary instructors, with Linnaea community members David Buckner, Brent Howieson and Liz Richardson.

The projects undertaken were mainly in the Zone one area of one residence on the farm. We designed and built most of a composting privy, making use of local materials (including an antique bed frame for concrete reinforcing), cleared trail, designed and installed a composting greywater line, started mulch piles on future tree planting sites, and built a rock-walled terrace between a root cellar and a solar greenhouse. There were presentations by community members, extensive garden tours, and hands-on home brewing experience. Off the farm we spent a day on an oyster bed, helping the lease holder while he explained the work to us, and visited another neighbor building a ferroconcrete water tank.

Needless to say, much was learned by all who took part as community, instructors and participants. As always in permaculture, it wasn't hard to fill the time- all participants had much to offer and share, and we who planned things were ambitious even though we consciously tried to be balanced in content and pacing. For myself, it was interesting to find that teaching hands-on is a lot more teaching and supervising than hands-on work for an instructor. Often it was a bit frustrating to see how slowly the mob accomplished things, though at times of high energy and lots of simple work, the progress was inspiring. The thing is, it doesn't make as interesting a workshop, doing only coolie labor!

We held an open evaluation session at the end, consensus being that forms on paper wouldn't do as well in the circumstances. The salient points are listed here:

Before It happens:

- Lead time is very important for attendance; August is the best time for Linnaea to do workshops, due to school being out, garden in, and weather fine (!) but August is a month that most people book well in advance.
- A clearly stated refund policy should be in the information material.
- Information sheets to send out to prospective participants perhaps including a checklist of proposed projects/presentations, to help tailor what takes place to the interests of participants
- A good list of what to bring (such as gumboots!) to be sent out to all who inquire.

Projects:

- Possible completion during the workshop is preferable.
- Alternate activities available in case of inclement weather (August is usually perfect here in the west coast maritime, but it was rather wet in '89)
- Short demos of skills and techniques are also of interest, such as fruit tree budding, tool care, etc.
- It's very important to explain the design process behind how & why things are done, if the participants are not part of the design process.

Presentations:

- More introductory permaculture material is of interest to many.
- Plan some presentations in advance and publicize so the local community participate.
- A presentation of Linnaea programs, such as the garden intern program, down to nuts and bolts, how and who

One measure of success is whether or not the people involved want to try it again. I'm pleased to say that the Linnaea community has decided to do another workshop in August, 1990. Indications are that we'll be having fun and learning more.

For information, contact Liz Richardson, P.O. Box 112, Manson's Landing, B.C., V0P 1K0, Canada. ph: (604) 935-6370.

ALLIED GROUPS

Ecological Gardening Program at Linnaea Farm

Linnaea Farm, located on Cortez Island, British Columbia, offers an 8-month program in ecological gardening and small farming beginning March 1, 1990.

The program includes theory and practical experience in growing vegetables, fruits, herbs and ornamentals. Training covers basic plant care, with emphasis on British Columbia coastal conditions, year round cropping, specialty marketing and regenerative soil management.

The farm has 5 acres of gardens and orchards set in a 300 acre ecological land trust under Turtle Island Earth Stewards Society.

Completion of the course provides a thorough grounding in sustainable garden craft. Another benefit of participation is exposure to fulfilling alternatives in food production, livelihood and lifestyle.

Tuition for the term is \$850 (Canadian Funds). For further information contact: David Buckner, Linnaea Farm, Manson's Landing, B.C., V0P-1K0, Canada. Phone: (604) 935-6717 - evenings.

International Rivers Network

The International Rivers Network (IRN) works on issues related to the environmental and economic impacts of large dams and water development projects throughout the world. Long viewed as economic panaceas, these mega-projects frequently cause irreparable harm to the environment while producing nebulous benefits for the local people. A significant cause of increasing Third World debt, large-scale water development is often foisted upon developing nations seeking to follow the model of the industrialized world. The primary beneficiaries are the lending institutions, construction contractors, and foreign-owned industries seeking a low cost electricity or water source to aid in extraction and processing of raw materials for export. In tropical countries, large dams frequently lead to increased erosion, fisheries decline, increase in disease, and destruction of prime forest and agricultural land. IRN provides thorough coverage on all aspects of projects in process, proposed projects and analysis of the effects of already completed projects.

In permaculture design, we recognize the importance of developing small-scale, local water resources for local needs. This includes carefully designed cisterns, small dams and ponds, swales, rooftop water catchments, storage of water in the soil, and above all, reforestation as a primary means to re-humidify the landscape. The question of scale, and control of the beneficial uses of the resource are of primary importance. When dam proponents speak of "free" energy (hydroelectricity) and "wasted" water (unhindered run-off that is left to flow through the natural river ecosystem) they frequently ignore the hidden costs of large scale watershed manipulation.

World Rivers Review, IRN's quarterly newsletter, is available to members - annual membership dues: Individuals - \$25; Organizations & Institutions - \$50.

Some other Publications available from IRN:

The Social and Environmental Effects of Large Dams, Vol. I, by Edward Goldsmith and Nicholas Hildyard (1984). The first book to expose the environmental and ecological dark sides of big dam projects. It also examines the politics of development and traditional agricultural systems. \$22.00. Volume II, by the same authors (1986), presents 31 case studies of high dam projects in 23 countries. \$60.00

Bankrolling Successes: A Portfolio of Sustainable Development Projects, by the Environmental Policy Institute (1988). Identifies 20 appropriate development projects, including watershed restoration in India and the Caribbean, aquaculture in Zaire, and energy-efficient stoves in Kenya. \$10.00.

For More Information, Contact:

International Rivers Network - A Tides Foundation Project
301 Broadway, Suite B
San Francisco, CA 94133

Planet Drum

- What are Bioregional Groups around the world actually doing?
- What are their diverse interests?
- What geographic areas do they represent?
- What are the titles and themes of Bioregional Publications?
- How can they be obtained?
- Who are the contact people for sharing information or starting a group near you?

Planet Drum Foundation has just completed an updated international directory that answers these questions. *Raise the Stakes*#15 (Planet Drum's publication) contains listings of over 150 different organizations and contact people, making it the best guide to the bioregional movement ever produced.

In addition, RTS#15 includes an advance primer for the upcoming observation of Western invader values and consciousness which will occur in October '92 to commemorate Columbus's "discovery" of "North America." How can we make this event a redress of rather than a continued indulgence in Western invader consciousness? RTS#15 explores this question in articles from both native and reinhabitory perspectives.

One-year Planet Drum membership, includes RTS#15 in North America, \$15; outside North America, \$20.

Planet Drum, P.O. Box 31251
San Francisco, CA 94131, Shasta Bioregion, U.S.A.

bioregion (life region): a part of the earth with similar patterns of plant and animal life, and similar climatic and geological characteristics.

reinhabitation: learning to live in-place in an area that has been disrupted and injured through past exploitation.

Ocean Arks - Annals of Earth

Annals of Earth is a publication of Ocean Arks International and the Lindisfarne Association, both non-profit organizations. Ocean Arks was incorporated in 1982 to disseminate the ideas and practice of ecological sustainability throughout the world. Lindisfarne, founded in 1972, is an association of individuals and groups dedicated to fostering the emergence of a new global culture. *Annals of Earth* seeks, through written communication, to serve these goals.

From an Article by John Todd in Annals:

"In *Annals of Earth*, Vol V, #2, 1987 I described our first Solar Aquatic facility at the Sugarbush Ski Resort in Vermont. It was a small prototype cradled on a mountainside, with the capacity of treating the wastes of about ten households. Inside the twenty-seven by thirty-two foot greenhouse raw sewage was treated to advanced standards during the cold, short days of the peak ski season. Even when the facility was stressed with contaminants it continued to perform to secondary or better treatment standards.

The Sugarbush facility represented a fundamentally new direction in waste water treatment. It depended upon sunlight and photosynthesis for its primary energy source, avoided entirely the use of hazardous treatment chemicals and finally, broke ranks with the wastewater industry by purposefully not separating the solids from the liquid portion of the waste. We did not add chemicals, like aluminum salts, to produce two separate waste streams, sludges and supernatents. Instead, the whole waste stream was kept in suspension and integrated into a wide range of ecological food chains, the end points of which were fish, flowers, trees and clean water. The system had the natural purifying cycles of a lake or stream, except that the processes we established were much faster than those occurring in nature."

Along with other insightful commentary, *Annals* contains much further information on "Solar Aquatics" - a new family of ecologically engineered technologies for purifying waste waters and sewage.

continued, next page, bottom left...

ALLIED GROUPS

Introducing the Travelers' Earth Repair Network (TERN)

Friends of the Trees' current major project is setting up a Travelers' Earth Repair Network (TERN)—a networking service for overseas travelers concerned with reforestation, forest preservation, erosion control, horticulture, tree crops, agroforestry, permaculture, sustainable agriculture and other areas of tree work.

Travelers fill out a TERN Travelers Application Form and say what countries they are traveling to and what their areas of tree interest are. TERN will supply lists of appropriate people and organizations in those countries. TERN will seek out hosts in countries around the world, as well as organizations, notable periodicals, books or articles, travel guides and other information of use to tree-sympathetic travelers. The information can be supplied through the mail or via computer modem or FAX.

TERN is in its beginning stage. Sometime in early 1990 the network should be operational. TERN will be operated by Friends of the Trees Society in conjunction with other organizations and networks around the world.

Contact Friends of the Trees for more information and to obtain TERN Travelers or Hosts Application Forms: Friends of the Trees, PO Box 1466, Chelan, WA 98816

Are you travelling to other countries? Or around the U.S.A.? Would you like to have travelers visit you?

The Travelers' Earth Repair Network can serve many useful functions: *Increase friendships around the world *Enable people to plant trees and do useful work while abroad *Carry information to and from countries *Courier service to deliver information and equipment *Aid grass-roots groups in Third World countries *Contribute to Earth-healing & world reforestation *TERN travelers and hosts can write Earth repair reports about their travels and about their regions.

Keyline Design Workshop & Field Day

Field Day: December 2, 10AM - 3 PM - an opportunity to see the progress to date at the Keyline Demonstration Project.

Workshop: December 9 & 10, 9AM - 5PM

Location: Far View Ranch, 20 mi. NE of Marysville CA, at approx 300' elevation in the Sierra Nevada foothills.

Instructors: Allan Yeomans, inventor of the Yeomans Keyline

Plough®, and winner of several international awards for excellence in agricultural implement design. Mr. Yeoman's father, P.A.

Yeomans, originally developed the Keyline system described in several books including Water for Every Farm. Allan has been working to improve the Yeomans plough for use in Keyline farming for over 35 years. Eric and Beth Ardapple-Kindberg of Bass, Arkansas, farmers, consultants on Keyline systems, and importers of the Yeomans Plow, will help lead the workshop.

Registration: there is no charge for the workshop, however, registrations are required. Send SASE for registration form. A map will be sent to all participants. The charge for meals and lodgings will be approx. \$50.

For more information, contact: Keyline Demonstration Project, 1893 Pleasant Grove Lane, Marysville, CA 95901. (916) 679-2729.

Ocean Arks, continued...

From Annals editor Nancy Jack Todd, "Ocean Arks' current focus on Solar Aquatics was not based on a decision to become a single project organization but was, rather, a response both to the rapidly degenerating condition of water, both below and above ground and to the corresponding public alarm about it."

Annals is available for an annual contribution of ten dollars or more, (larger contributions help distribute Annals overseas) tax deductible in the United States, to Ocean Arks International (Foreign: International Money Order or US dollar check). Send contributions to: Annals of Earth, 10 Shanks Pond Road, Falmouth, MA 02540.

LETTERS

If you have questions, comments, opinions, or useful information of any sort to share with other readers of *The Permaculture Activist*, please write to us. Letters to the editor should be concise, i.e., short and to the point, and relevant to the lives of other permaculture activists.

On Making a Permaculture Presentation

Last August I had the great opportunity to travel to Linnaea Farm on Cortez Island, B.C., Canada to attend a Permaculture Design Course that was taught by Michael Pilarski and others. It was a great two and a half weeks with lots of learning and friendship. At the end of the course, I stated one of my goals as giving a presentation on Permaculture to the faculty and students at California State Polytechnic University, Pomona, where I am a graduate student in landscape architecture.

Well finally in May 1989 I was able to give the presentation. I was given an hour at a faculty seminar (these occur twice monthly) to present Permaculture. With the help of Bill Roley who gave generously of his time and slides, I put together about 35 minutes of slides that illustrated some of the Permaculture principles. Some of the principles were things like: Permaculture is a synthesis of ecology and geography of observation and design, Permaculture is an attitude of learning from the earth how to live, diversity leads to stability, everything is interconnected, treat every situation differently, and on and on.

There were about 30 people in attendance, combination of landscape faculty and landscape graduate students. Also in attendance were Bill Roley and David Bainbridge who added greatly to the lively discussion and questions that followed my presentation.

I highly recommend taking that step and presenting your Permaculture experiences with audiences that you have around you. Everyone has some group of people that they come in contact with on a regular basis that they could share Permaculture with.

One of the most exciting benefits that I received from this presentation was the excitement I

felt in the audience afterwards. To me this is part of permaculture design, a very important part, getting the ideas out. Since that presentation, several people have asked me questions related to Permaculture. This shows me that they are thinking about it. It also shows me how important this is. On top of all of this it gave me an opportunity to begin to internalize the concepts more fully.

This summer I am a teaching assistant at school for the new landscape graduate students. I am planning to share this slide show with them in about three weeks. I think it is a particularly exciting time for these students to hear about Permaculture.

I'd be happy to share more details with anyone.

Suzanne Morlock
17717 Brittany Lane, Huntington Beach, CA 92647-7006.
ph: (714) 848-2567.

Permaculture Visitors Wanted

We are located 10 miles west of Ukiah, CA, at about 2,000' on 40 acres of clay hillside. Most slopes face south and west. We have a small pond, some chestnut, fig, apple and almonds. A small 90 x 90 double dug garden provides most of our summer veggies and relaxation.

I am a teacher in our local adult school on a part time basis and would enjoy earning income from the teaching of permaculture. My knowledge base is small at this time and I would enjoy hosting other permaculturists. Please have anyone interested in visiting, or in hosting me, to write.

Doug Siddens
10250 Orr Springs Rd.
Ukiah, CA 95482

Caxias Do Sul, Brasil
Aug 9, 1989

Dear Friends;

My name is Jorge. I'm 29 years old and engaged since '81 with people who fight for another way for our agriculture and society. So, since I finished my graduation in Agronomy in '83, I'm working on it, in private farms, and in NGO's [non-governmental organizations], goin' north and south Brasil.

By now, I'm back home working by my own in a 6 hectare area, near a medium city (Caxias Do Sul - 450,000 inhabitants). However, still engaged with the movements

continued, next page...

LETTERS

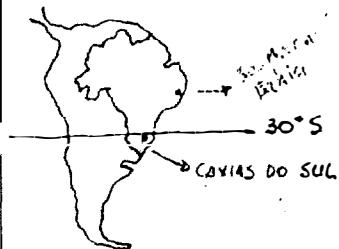
for changes, and acting directly, as a little farmer.

I started with the basics of biological agriculture, like composting, mulching, no chemicals, etc. But the field experience asked for more, and so came the Fukuoka revolution, the first (and the only available in Portuguese) *Permaculture One*, and then things changed for me. It was possible to simplify the things to "compost" and "mulch."

In my homeground, an Italian colonized region, the "Green Revolution" made a great figure, slashing the small properties and the people who lived from them. Well, there's no NGOs working here. And I started to link some friends and farmers who wish something more for his future; a common future.

I'm not a NGO, nor I will start one, but I'm working hard, not just extricating myself from urban madness, and, as I said, making connections.

THE SITE



Actually, we had a limitation: forage trees, interplanting trees for orchards; etc. . . . Well, we have trees, but there's no work, no information. Ask for chemicals, and they send you hundreds. Ask for trees, seeds, and the answer will be NO!

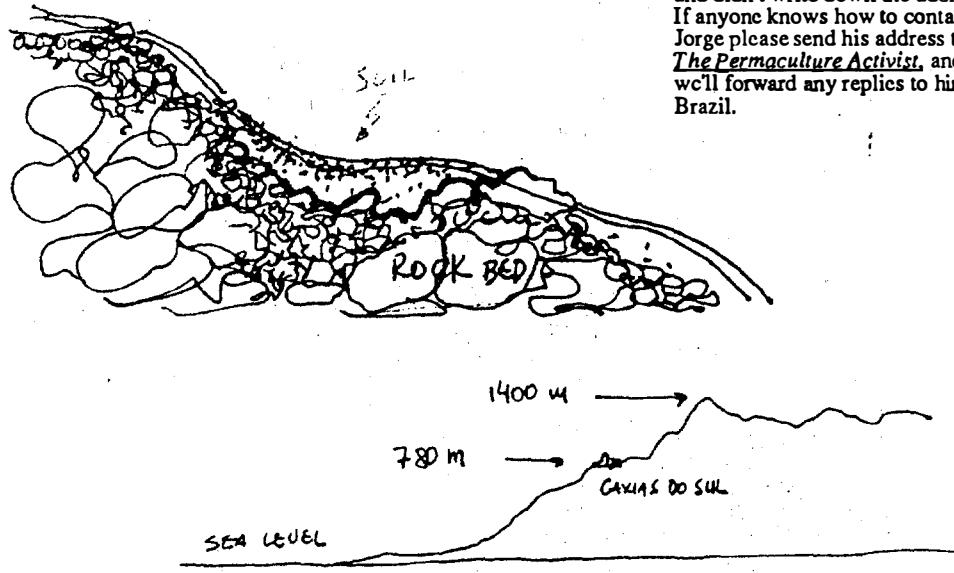
As you can see, I need seeds, information, change of experiences, and, unhappily, it's a rarity in southern Brasil. When the Italians came here, they found a big humid forest; in one hundred years, the state lost 98% of its original coverage. Having a pasture in this condition is like to having a Jaguar car to carry your dog for exercise! In the site where a 50 meter high *Araucaria* grows, cut it down and make 4 square meters of ryegrass and clover—it's a joke!

Well, we reached the point. We need seeds of forage seeds, and we expect that permaculturists can help us. We want to know prices, costs of mailing, species available, etc. At least, a letter saying no, yes, we can do that, you can search for A, B, etc. Excuse me, but it's a long time for write and receive a letter, and the things are going downside at full speed.

How I obtained your address! Working in a permaculture farm in southern Bahia, in tropical rainforest conditions, I meet Patrick, a Swiss who was traveling and working. They worked in Australia, Tasmania, New Zealand, and was going back home. We made a friendship, and he gave me his *Permaculture Designer's Manual*. For me, a beautiful gift. (Thanks, Pat!).

Our climatic and agricultural conditions:

(1) The site (see diagram below)



(2) Climatic changes:

Dec Jan Feb - Summer.

Few rains. 15°-25°C. Air humid—60-80%.

Mar Apr May - Autumn.

More rain. 10°-25°C.

Humidity—70-80%.

Jun Jul Aug - Winter.

Heavy rains. 0°-20°C. 80%-98% air humidity.

Sept Oct Nov Dec - Springtime.

Good rains. 15°-22°C. 70%-90% air humidity.

Annual precipitation: 1500-1800 mm. (59"-70" inches).

(3) Soils.

Shallow (0.2-3.5 m). Acid, very rich in organic matter, poor in Ca and P, dark to brown dark, clay to silt clay. Well drained. Parent rock: basalt.

Well, friends, that's all. We are trying to go against the tide and need help.

The region works with dairy cattle, poultry, vegetables, and fruit production (apple, grapevines, plums, strawberries, etc.). Chilean experts say that kiwifruit grows here like in its homeland.

So...information about permaculture experiences in similar climates will help us, as will information about other people in the Third World trying to break the chains. We can exchange information, and I hope that the network of people goes on and on.

Awaiting your answer, we say goodbye, and thanks for all.

Jorge Luiz Vivan

Editor's note: Well folks, I blew it and threw away the envelope that Jorge sent his letter in, and didn't write down the address. If anyone knows how to contact Jorge please send his address to *The Permaculture Activist*, and we'll forward any replies to him in Brazil.

Spanish Translations

Dear Guy,

Just read Rick Freeman's question re: Spanish translation of *Permaculture: A Designers Manual*. Jose Ramon Valdis Romero (he took Bill Mollison's Design Course at Sunglow Ranch, Arizona Nov. '88) has had people in Sonora, Mexico working on a translation since Nov. We are told it is 90% completed. Jose coordinated the Design Course with Bill held in Hermosillo recently (which he pulled together in literally two weeks. An amazing guy). He just incorporated a Northern Mexico PC Institute at the end of Bill's visit.

Enjoyed the *Activist* very much—especially your article on 'gardening by neglect.'

Regards, Vic [Vicky Marwick]
Sonoran Permaculture Association,
PO Box 27371,
Tucson, AZ, 85726-7371

Spanish Fruit Tree Names

On the Ecuadorian fruit species list [*The Permaculture Activist*, August 1989, "Rainforest Conservation in Ecuador"]; Spanish differs in each country—just imagine—they've been separate longer than the U.S. and Australia (populations). Chontal is a palm—Chontal duro would be a type. Limon is true lime. Platano is plantain—for starch. Banana is "banano."

In Ecuador—I lived there once, but in the highlands so I don't know the timber trees.

On "Gardening by Neglect" [also in *The Permaculture Activist*, August 1989]: letting seed set is so important! Upon returning from N.Z., my water pipes were frozen, and what normally in February is a garden full of winter delights was a blasted bit of lifeless permafrost. Cole plants (complex hybrids) never killed by a winter in 10 years were killed dead. But within weeks the whole garden was sprouting anew, mostly from seed. People ask if I have my garden in yet, I laugh. When is it out?

Annuals: mache—valerianella; cole—purple broccoli, winter cauliflower, brussel sprouts, collards, black radish. Perennials: chinese bunching onions, chinese chives, nodding onion (*Allium cerunum*), swiss chard.

In Gaia,
Rick Valley
Northern Groves [Bamboo Nurs.]
3328 SE Kelly,
Portland, OR 97202

PERMACULTURE COMMUNICATIONS

Permaculture I: \$16.00; Permaculture II: \$16.00

Permaculture: A Designers' Manual. Bill Mollison's new book is the new, definitive permaculture design manual covering all aspects of property design and natural farming techniques, and includes: Microclimate & broadscale techniques • Species selection, placement & management • Multipurpose shelterbelt, woodlot, orchard & forage systems • Plant succession & ecology • Revegetation & afforestation techniques • Home gardens • Zone & sector design • Arid and humid-land techniques & strategies • Rangelands management • Soil conservation & rehabilitation of degraded lands • Water & irrigation systems • Earthworks: terraces, swales, dams & canals • Ecological principles & practices • Forest systems • Wildlife management • Recycling/waste disposal • Bioregional organization • Land access strategies • Community financing systems • Village development • Writing reports • Business strategies • Ethical values for a new world—and much, much more!

\$59.95 plus \$3 postage & handling per book. Hardcover, over 500 pages with 130 color photos and hundreds of illustrations.

Permaculture, Journal of the International Permaculture Association. Back issues are available - an incredible source of background information on Permaculture! Issues #7 - #25 @ \$3.25. Issues #26 - #32 @ \$3.50. Issue #31 contains an index to all previous issues.

Subtropical Fruits - A Compendium of Needs and Uses is a two-color poster, 26"x30" listing over 98 species and varieties of subtropical fruit trees, vines and shrubs. Great for nurseries, farmers and home orchardists. Info on each species includes climatic tolerance, fruit characteristics, plant uses, cultural/management requirements, maturity times. Cost: \$10.00 (+ 75¢ sales tax for CA residents).

Permaculture Designers Directory, 1987 edition lists 450 graduates of Permaculture Design Courses in North America with biographical info, consulting services offered, skills, resources. Cost: \$6.00.

Perspectives on Plant Symbiosis: \$2.50;

Symbiont Inoculation Strategies

for the Nursery: \$3.50. Both for \$5.00.

by Michael Crofoot. These two works cover: • nitrogen-fixing bacteria • mychorrhizal fungi • their symbiotic interactions with plant roots. • methods to utilize and enhance these species for the amateur or professional plant propagator.

Other Titles:

Designing your Edible Landscape	Robert Kourik	16.95
Ferrocement Water Tanks	S.B. Watt	11.25
Fireplaces	Kern, Magers	7.00
Food, Fuel & Fertilizer from Organic Wastes	B.O.S.T.I.D.	8.50
1988 Int'l Green Front Report	Pilarski	5.00
More Water for Arid Lands	Nat. Acad. of Sciences	8.50
Stone Masonry	Kern, Magers, Penfield	8.95
The Earth-Sheltered Owner Built Home	Kern & Mullan	9.95
The Natural Way of Farming	Masanobu Fukuoka	11.95
The Road Back to Nature	Malcolm Margolin	6.95
The Ohlone Way	Ken & Barbara Kern	9.95
The Owner Built Homestead	Kern, Kogon, Thallon	5.00
The Owner Builder & the Code	P.A. Yeomans	20.00
Water for Every Farm		

Permaculture Communications,
P.O. Box 101, Davis, CA 95617

Please add 10% to all orders for postage costs.
California residents please add
6% sales tax to your order

Back Issues of *The Permaculture Activist*

Vol & Issue#	Date	"Theme"	Price
I, 1	July '85	Permaculture In Oz	\$3.00/copy
I, 2	Nov. '85	Fruit & Nut Trees	\$2.50
II, 1	Feb. '86	Garden Design	\$2.50
II, 2	May '86	IPC II & PC Design Courses	Out of Print
II, 3	Aug. '86	Int'l PC Conference Program	\$2.50
II, 4	Nov. '86	Conference Wrap-up #1	"
III, 1	Feb. '87	Conference Wrap-up, #2	"
III, 2	May '87	Sustainable Ag. For Whom?	\$3.25
III, 3	Aug. '87	The Annual Planting Cycle	"
III, 4	Nov. '87	Trees for Life	"
IV, 1	Feb. '88	Marketing the Products of Permaculture	"
IV, 2	May '88	Economics and Community Development	"
IV, 3	Aug. '88	Social Forestry	"
IV, 4	Nov. '88	Multi-Story Tree Crops	"
		System for the Dominican Rep.	
V, 1	Feb. '89	Permaculture: A Designer's Manual	"
V, 2	May '89	Plant Guilds	"
V, 3	Aug. '89	Rainforest Conservation in Ecuador	"

20% discount on purchase of 5 or more copies of any back issues;
30% discount on orders of 10 or more.

Order from:
Permaculture Communications,
P.O. Box 101, Davis, CA 95617

Southwest Regional Permaculture Institute

Permaculture resources now available:

Permaculture: A Designers' Manual by Bill Mollison (1988). Weight: 5 pounds. \$59.95

Permaculture One by Bill Mollison and David Holmgren (1974). Weight: 1 pound. \$16.00

Permaculture Two by Bill Mollison (1979). Weight: 2 pounds. \$16.00

How to Incorporate as a Non Profit by Scott Pittman: This 100-page manual leads you through the procedures for applying to your state for corporation status, and to the federal government for tax-exempt status. These materials will help any would-be non profit organization save possibly thousands of dollars as well as many, many hours of eye-blearing work. Weight: 1 pound. \$35.00

Back issues of Sustainable Living in Drylands newsletter. Issues 1, 2, 3, 4, and 5. Postpaid. \$2.00 each

To calculate shipping charges: Determine total weight of all items. Enclose \$1.50 for the first pound, and 30¢ for each additional pound. Orders are shipped via UPS unless a street address is not available. Orders to Post Office boxes will be sent via U.S. Mail, 4th class, and may take up to 4 weeks to arrive.

Order from: Southwest Regional Permaculture Institute, P.O. Box 27371, Tucson, AZ 85726-7371, (602) 622-4512

CLASSIFIEDS

Help Wanted

WANTED: Enthusiastic helper(s) to assist in production of *The Permaculture Activist* - Approx. dates help is needed: 1st two weeks of January, April, July, October. We're located in the Sierra Nevada foothills.

Plenty of sun, garden vegies, great bird watching, forest walks, even a 10' swimming pool. Job requirements: typing, and computer tolerance. If you can read, you can proof-read too! WE WILL TRAIN YOU!

Learn the intricacies of small-time journalism and the permaculture network. Stipend: \$50/wk + room & partial board in return for about 40 hrs/week of work. Helpers also work with us in our 2-acre market herb, flower and vegetable garden. For details: Guy Baldwin, *The Permaculture Activist*, PO Box 101, Davis, CA 95617. (916) 679-2729.

Needed: full-time or part-time worker or partner for herb/flower/vegetable market garden. Contact: Sharon Casey, Original Thoughts, 1893 Pleasant Grove Ln, Marysville, CA 95901. (916) 679-2729

CLASSIFIEDS

Classified Ad Rates - 20¢/word, \$5.00 minimum, advance payment required. Send ad and payment to: *The Permaculture Activist*, P.O. Box 101, Davis, CA 95617. Free 25 word ad with any subscription to the *Activist*.

Books & Publications

How to Build the 5,000 Gallon Ferro-Cement Water Tank that needs no building permit! \$10. Ridgehaven, POB 849, Glen Ellen, CA 95442.

EARTHSONG NOTES: empowering people to create a new reality. Newsletter: 6 issues/yr \$18: permaculture, recycling, herbology, conscious buying habits. Free Sample, please include \$1 to cover postage. EARTHSONG-PA, Box 2263, Little Falls, NJ 07424. Walk in balance on the Earth Mother. TYGS.

Portable dwelling info-letter: about camping, hiking, bicycling, traveling; and living in tent, tipi, wickiup, van, trailer, boat, remote cabin, etc. Reader written. Frank discussions. Sample \$1. *Message Post*, P.O. Box 190-PA, Philomath, OR 97370.

APROVECHO SELECT 1988 FAVA BEAN SEED. Get a lot of food for a little work! Aprovecho Institute has developed a selection of unusually large fava beans with extra sweet flavor. Tolerates 20 degrees Fahrenheit or colder.

Prices (including postage and handling): 2 oz./\$2.50; 1/2 lb./\$4; 1 lb./\$7; 2 lb./\$12; 5 lb./\$25; 10 lb./\$48. All proceeds support Aprovecho's experimental work. Contact: The Fava Project, 80574 Hazelton Road, Cottage Grove, OR 97424: (503) 942-9434.

Marc Bonfils has developed a method of growing cereals without erosion of the soil or the leaching of nitrates to the water table. For this culture, seeds of pure winter wheat and rye varieties are needed. We are looking for people interested in participating in this experimental work. Please send a donation (\$10 and up; make check payable to Emilia Hazelip) if you want to receive the method. All proceeds support the research of Marc Bonfils and our experimental work. Contact: Permaculture Pyrenees, 11300 Bourige, France.

CAROB PODS - candy bars that grow on trees! Whole pods, you can eat everything but the seeds. High in protein and natural sugars. Good for backpacking, won't melt, store well. \$3.50/lb (including postage, min. 1 lb. order). Mahala Mat's Seed Co., 1893 Pleasant Grove Ln., Marysville CA, 95901.

Real Estate

Long Term Rental: Furnished Farmhouse, 100 Forested Acres, Miles of Hiking/Ski trails, creek swimming. Kingston - 2 hours from New York City. (408) 624-3921.

Creative Land Acquisition—Get land for yourself and others using forgotten laws and new ideas. Information packet \$1 (refundable). Ridgehaven, POB 849, Glen Ellen, CA 95442.

Hawaii Homestead on semi-rural North Shore of Oahu seeks vegetarian, spiritually-oriented person or couple to co-create and implement a permaculture design on 3-1/2 acres of mostly wooded mountain land—and to help promote permaculture, fend off developers. Must also pay small cash rent and help out with routine housekeeping. Write to P.O. Box 1198, Haleiwa, HI 96712.

Help Wanted

Aprovecho Research Center, in spectacular scenery, teaches permaculture, investigates sustainable lifestyles & agriculture. Needs experienced gardener to supervise 80% food production for 10-20 people. Also needed: Editor/Manager of small bi-monthly newsletter focused on de-consumption and permaculture. 1-year positions, essentials & expenses provided. Aprovecho Institute, 80574 Hazelton Road, Cottage Grove, OR 97424: (503) 942-9434.

Big Island edible landscape resource net seeks collaborators and authors for permaculture design newsletter, demonstration farm/design center. Epicentre-Hawaii, Box 2428, Kailua-Kona, HI 96745.

Audio/Visuals

Audio Tapes of Bill Mollison's Permaculture Design Course 25 Tapes in all, prepared by Brett Hudelson. Cost is \$5.00/tape + 75¢ postage & handling per tape. For complete index to tapes available, contact: Brett Hudelson, 147 Central, Ashland, OR 97520.

These lectures by Bill Mollison are also available: Tape #26 - General Permaculture Lecture @ Olympia, WA, 1982; Tape #27 - "What is Permaculture?" @ Brcitenbush, OR, 1984; Tape #28 - "Permaculture and the Mess we are in" @ Texas Department of Agriculture, Austin, TX, 1988.

Help Wanted

Eco-help needed! Long Branch Environmental Education Center, near the Great Smoky Mountains in NC, needs volunteers/interns to help with orchards, gardens, farmwork, rainbow trout, energy-efficient building, environmental/wildlife/Permaculture issues & organizing. Room & board negotiable. Please call or write immediately. Contact: Paul Gallimore, Route 2, Box 132, Leicester, NC 28748. (704) 683-3662.

SUBSCRIPTION FORM

I want to subscribe to *The Permaculture Activist* and work to develop an ecologically sustainable land use and culture. I will contribute as follows (please check one):

- \$13 per year - Basic 1 year subscription (U.S., Canada, Mexico & Central America)
- \$35 - 3 year subscription (U.S., Canada, Mexico & Central America only)
- \$18 per year - 1 year overseas subscription via surface mail (\$23 via air)
- \$50 - 3 year overseas subscription, surface mail (\$60 via air)
- \$500, Lifetime Subscription (\$700 overseas)

One dollar of each subscription goes to the Tree Tax fund for reforestation projects. Contributions are not tax deductible. Please type or print in pen the information below. Make your check payable to The Permaculture Activist in U.S. dollars, and send it to: Subscription Dept., The Permaculture Activist, P.O. Box 101, Davis, CA 95617, U.S.A.

NAME _____

PHONE _____

ADDRESS _____

CITY _____

STATE _____

POSTAL CODE _____ COUNTRY _____

CALENDAR

North American Permaculture Designer's Convergence, Camp Stoney, NM, November 3 - 5, 1989. Contact: Cynthia Edwards, 21300 Heathcote, Freeland, MD 21053 and/or Southwest Regional Permaculture Institute, PO Box 1812, Santa Fe, NM 87504, (505) 982-2063. Details, pg. 16.

November 10-12, Windham, Vermont, Permaculture Weekend Workshop will be presented by Elfin Permaculture. Instructors are Dan Hemenway and Cynthia Baxter. Contact: Lou Roy, R.R. 1 Box 79, Windham, VT 05359.

November - date T.B.A., Guatemala, Permaculture for the Third World, sponsored by Aprovecho Institute, 80574 Hazelton Rd., Cottage Grove, OR 97424. (503) 942-9434.

December 9 - 10, 1989, Far View Ranch, Bangor, CA. Keyline Design, a two-day workshop with Allan Yeomans, Eric and Beth Ardapple-Kindberg and Guy Baldwin. Contact: Keyline Demonstration Project, 1893 Pleasant Grove Lane, Marysville, CA 95901. (916) 679-2729. Details pg. 21.

Winter, 1990 (date to be announced), Ecuador, Permaculture for the Third World, and Permaculture for India, sponsored by Aprovecho Institute.

January 13 - 25, Kathmandu, Nepal, Permaculture Design Course. See information for INSAN below.

January 15 - 27, Big Island of Hawaii, Permaculture Design Course for Hawaii led by Max Lindegger and Lea Harrison. Contact: Epicenter Hawaii, PO Box 1612, Kealakekua, HI 96750. ph: (808) 328-2675.

February 2 - 6, Biratnagar, Nepal, Fourth International Permaculture Designers' Convergence, Sponsored by Institute for Sustainable Agriculture Nepal, GPO Box 3033, Kathmandu, Nepal; ph: (977) (01) 524509. North American Contact: Cynthia Edwards, 21300 Heathcote, Freeland, MD 21053, (301) 343-0280. Details, pg 12.

February 4 - 16, Dexter, OR, Advanced Permaculture Design/ Teacher Training Course, taught by Max Lindegger and Lea Harrison. Contact: Larry Santoyo, 2073 Marble Valley-Basin Rd., Addy WA 99101. (509) 935-4578, or Jude Hobbs, 1661 Willamette, Eugene OR 97401. 503-343-6852.

February 10 - 16, Kathmandu, Nepal, Fourth International Permaculture Design Conference, Sponsored by Institute for Sustainable Agriculture Nepal, GPO Box 3033, Kathmandu, Nepal; ph: (977) (01) 524509. North American Contact: Cynthia Edwards, 21300 Heathcote, Freeland, MD 21053, ph: (301) 343-0280. Details, pg 12.

February 19 - March 3, somewhere in the Eastern U.S., Advanced Permaculture Design/ Teacher-Training Course, taught by Max Lindegger and Lea Harrison. Contact: Cynthia Edwards, 21300 Heathcote, Freeland, MD 21053, (301) 343-0280. Details, pg 17.

February 21 - March 7, Kathmandu, Nepal, Permaculture Design Course. See information for INSAN above.

Friends of the Trees -- 1988 INTERNATIONAL GREEN FRONT REPORT

A truly essential networking tool. The Report is a compendium of noteworthy deeds, projects, events, organizations, movements, individuals, books and articles concerning Re-Greening the Earth — the worldwide "Green Front".

Formerly entitled the Friends of the Trees Yearbook, the Report has grown to 196 pages, all of them packed full of information, addresses of organizations, permaculture techniques, and resources for further study. The Report covers subjects as diverse as: Reforesting the World; Tropical Rainforests; Transnational Perspectives; Remineralization; Permaculture and Agriculture Organizations; Agroforestry; Education; Plant Societies; Orcharding; Propagation; Bioengineering; Plant Species Indexes; Herbs; Keyline Design; Book Reviews & Sources.

The global "Green Front" starts in your back yard and extends to all parts of the world. You participate in front line activities whenever you plant trees.

Individual copies of the 1988 International Green Front Report cost: 1 copy @ \$5.00; 2-5 copies @\$4.00; 5-20 copies @ \$3.00; 20 or more @ \$2.00 (+ 15% shipping) from:

Friends of the Trees, PO Box 1466, Chelan WA 98816.

NEW ADDRESS:
The Permaculture Activist
P.O. Box 101
Davis, CA 95617

ADDRESS CORRECTION REQUESTED

BULK RATE
U.S. POSTAGE
PAID
DAVIS, CA
PERMIT #196

Complimentary - please subscribe