

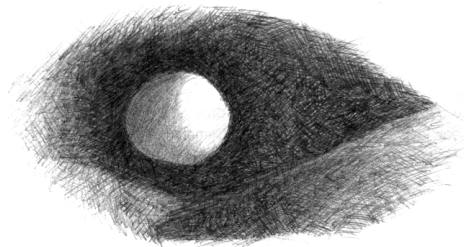
PRESERVING THE SOUNDSCAPE AND THE NIGHT SKY

In addition to the measures already listed Green Gulch supports two uncommon environmental practices:

- Conservation of Silence – Students are encouraged to make an effort to minimize talking and maintain silence 9:00 PM through breakfast the next day. This reduces human impact on the soundscape of Green Gulch substantially, allowing the voices of the birds, frogs, wind, and fog to be heard as well as the sounds of the bells, gongs and percussion instruments of monastic life. During one-day and seven-day retreats, participants remain in silence the duration of the retreat. During work, particularly in the mornings, speaking is limited to work related matters. The first ten minutes of communal meals is silent.
- Conservation of Darkness – Light pollution is common in urban areas, severely reducing access to the night sky. Many school children in cities never see the moon or stars because of street, building, and highway lighting. At Green Gulch, the darkness supports the night wild life and night lighting is restricted to accommodate minimal safety needs. The hills remain dark and wild.

Originally written by Stephanie Kaza, 1993. Extensively revised and expanded by Wendy Johnson, Sukey Parmelee and the Environmental Committee, 2002-03. Revised again in 2009, 2011 and 2013. Please send us your comments.

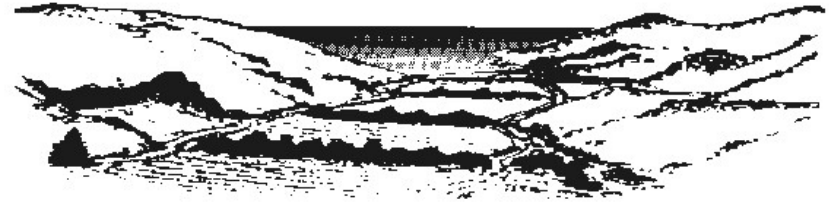
*Drawings by Davis TeSelle,
Mick Sopko & Zac Denning*



Green Gulch Farm Zen Center
Muir Beach, CA 94965

ENVIRONMENTAL PRACTICE

at **Green Gulch Farm Zen Center**



A SENSE OF PLACE

“When you find your place where you are, practice occurs”

– Dogen Zenji, *Shobogenzo*

GREEN GULCH FARM ZEN CENTER is a 115-acre Zen Buddhist meditation center and organic farm. It is located in the nine-square-mile Redwood Creek Watershed which drains into the Pacific Ocean at Muir Beach just north of San Francisco. As a private in-holding nestled within the 75,000 acre Golden Gate National Recreation Area, a federally administered park system that spans three Bay Area counties, Green Gulch welcomes visitors and students from all parts of the world to enjoy the beauty and serenity of this coastal valley.

The Redwood Creek Watershed forms a diverse pattern of inter-related ecosystems from coastal chaparral to seasonal wetlands to old growth redwood forest that spread out like a vast, green-stitched robe from Mount Tamalpais west to the sea. At Green Gulch we practice meditation listening to the Great Horned owls and the chorus of Pacific Tree frogs, and farm in the presence of Black Tailed deer and clever raccoons. Our watershed is host to ancient, imperiled species as well, among them Coho salmon and the Northern Spotted Owl, along with numerous rare native plants.

As one of the ancestral homes of the Native American Coast Miwok people, the Redwood Creek Watershed has long been protected, enjoyed and tended with a mind dedicated to conservation, preservation and ecological health.



LAND STEWARDSHIP PRACTICE

As a rural practice place, Green Gulch is blessed with the gift of good land, air and water. Situated in a valley alongside Green Gulch Creek, the terrain is rich in wildlife and native plant communities. The land stewardship practice at Green Gulch Farm is supported by regular meetings of the farm and garden crews, by watershed volunteer groups, by monthly meetings of the Green Gulch Stewardship Committee and the Zen Center Environmental Committee, and the Ecosattvas, a group of Green Gulch residents dedicated to environmental action and awareness. We also participate with the National Park Service and many other agencies and groups that mutually support care of the overall Redwood Creek Watershed.



Organic Farming and Gardening

Sustainable agriculture is grounded in a mutual respect for the diversity and interdependence of all life. At Green Gulch we have been farming organically since 1973. On most large-scale commercial farms soil is lost through water and

wind erosion at rates up to one inch or more per year. On many farms there is heavy reliance on chemical inputs for fertilizer, pest management and weed control. Green Gulch field and garden soil is built through compost and seasonal cover cropping, and maintained through attentive cultivation, irrigation and soil management practices. In the perennial garden all cultivation is done by hand while on the farm heavy machine use is limited to small tractors used for primary tillage, transplanting, cultivation, compost turning, and potato harvest. A significant amount of weeding and hoeing is done by hand. Insect pests are reduced through careful observation, crop rotation, proper irrigation and integrated pest management techniques.

Our farm is a long-time member of the California Certified Organic Farmers (CCOF), meeting the standards of the National Organic Program. GGF is a member of Marin Organic since 2005 and is Salmon Safe certified. On these five to ten acres we grow organic produce to supply Zen Center kitchens, local farmers markets and grocery stores, and to provide fresh produce for Zen Center's excellent vegetarian restaurant, Greens at Fort Mason plus other restaurants, as well as for donation to numerous soup kitchens and food banks. We also participate in Com-

in our local watershed to compensate for the harvesting of the cedar.

Remodel and improvement jobs include low VOC paint, FSC-certified bamboo flooring, on demand hot water heaters, and recycled materials and furniture. Double pane windows replaced single pane in a recent Cloud Hall renovation.

We now have official Zen Center "Purchasing Practices for Building and Maintenance Guidelines".

Our new student housing, an eight unit passive house, is Green Point rated by Build it Green criteria. It includes rain water catchment, passive solar heating for water, remarkably low energy use made possible by a very thorough insulation process, and it is almost carbon neutral.

WASTE MANAGEMENT

- Compost – All food wastes from meals are recycled in an active aerobic compost system designed to help build the fertility of garden and farm soils. Grass and weeds and straw are added along with manure from the neighboring horse stables to prepare a rich and fertile soil base. The compost "cooks" year-round in large piles adjacent to the farm and garden and is ready to spread within six months.
- Recycling and reuse – Green Gulch recycles paper, glass and plastic bottles, cans, cardboard, motor oil, metal, and batteries. The garden nursery reuses plastic pots for propagation. Styrofoam peanuts are returned to packaging stores. Cardboard is used for sheet mulching and woodchips from arborist work are used for various types of mulching.
- Toilet paper, napkins, and paper towels as well as most office paper purchases are derived from recycled paper sources. Paper towels used for hand drying are composted.
- Carbon management – Tree prunings and downed wood from storm damage are chipped with the help of the Muir Beach Fire Department's chipper. The wood chips are used for landscaping mulches. Large limbs become firewood. Other brush and leaves are collected for long term compost to be used later for landscaping. A small amount of woody material is burned.

mize loss from evaporation. Wherever possible, garden and farm beds are watered by drip irrigation.

- Residential Use – Residents and guests are regularly reminded to conserve water in shower use, cooking, and washing. Showers (even with low-flow heads) use almost half of our daily water use. During meditation retreats, meals are eaten in the zendo in a ceremonial style, in which each person finishes by washing his or her bowls with less than a cup of water per meal.
- Our 2007 long term planning process at Green Gulch Farm calls for grey water systems for new buildings, for increased storage of potable water, and for underground storage tanks to collect and store water during winter storms for later agricultural use.

ENERGY CONSERVATION

In order to reduce our greenhouse gas emissions, we established our baseline carbon footprint in 2009. We determined that 60 people working to run Green Gulch used an average of 4.19 CO₂-e (metric tons) per person, to be compared to the national average of 20 CO₂-e/person.

The guest house, our new eight unit passive house, and one other residence use passive solar to heat water. We installed a radiant hot water heating system in one residence.

Conference rooms and some homes at Green Gulch are heated with wood burning stoves fueled with locally harvested and cured eucalyptus, pine, and cypress. EPA certified wood burning stoves that have very low particulate emissions are used throughout the community. Propane gas is used in the kitchens and for some heating.

Major purchases and errands are coordinated in weekly “town trips” to reduce individual automobile trips over the hill to town. Sunday guests are encouraged to car pool. One of our tractors uses recycled biodiesel made from recycled vegetable oil.

Packaging material is conserved by buying supplies in bulk and communally prepared and shared meals conserve fuel energy. Compact fluorescent bulbs have replaced conventional light bulbs wherever feasible.

BUILDINGS AND STRUCTURES

In the 1980’s the Green Gulch Guest House was constructed from Port Orford cedar trucked from Oregon and milled on site. The carpentry crew responsible for the construction planted thousands of conifers

community Supported Agriculture (CSA) by providing about 35 Muir Beach households with a box of vegetables and a loaf of fresh bread each week during the summer.,

Both the farm and garden are staffed by resident Zen students, volunteers, and friends who contribute their labor and love to the farm. Each year we welcome five to ten farm and garden apprentices from April through October to learn and practice meditation and organic agriculture. Many of these apprentices join the Green Gulch staff following their apprenticeship period or move on to practice their craft in the wider community.

Green Gulch welcomes visitors from local school and civic groups, garden clubs, visiting farmers and educators and other members of the extended community interested in exploring the intersection of organic agriculture and meditation practice. Through Marin Organic we also offer regular opportunities for groups or individuals to visit the farm after harvest and glean leftover healthy produce from our fields to feed the hungry.

Landscaping and Restoration Ecology

To preserve and enhance native habitat in the naturally functioning ecosystems at Green Gulch is the primary organizing principle of local landscaping and restoration ecology practice. This habitat has an abundance of shrubs, groves of trees, bunch grasses, vines and wild flowers – all native to the Green Gulch valley. There are unbroken corridors of native growth which support the safe nesting and life of birds and wildlife. In many places beyond our farmland we are considering freeing the Green Gulch Creek, a prime creator of this valley, from its cement channel.

Since 1975, many conifers have been planted in conjunction with yearly Arbor Days. Included in these plantings are farm windbreaks which protect agricultural soils. In recent years fewer trees and more native shrubs, perennials and grasses have been planted

Guidelines for Restoration Planting:

- Plant natives of the Green Gulch valley in all outlying areas. In central residential areas appropriate non-natives may be used for landscaping.
- Consider the needs of wildlife in our plantings.
- Continue to re-evaluate our planting choices and methods as new information surfaces.
- Use plants propagated from local gene pool if possible.
- Thin plantings and protect them to encourage strong growth.

Non-native plants thrive in the mild coastal climate of Green Gulch Farm and often limit the natural diversity of native plants. Each year teams of enthusiastic volunteers gather for restoration work days to help remove invasive exotics such as Cape Ivy, Scotch Broom, Pampas Grass and Eucalyptus seedlings.

In 2007 a Long Term Vision and Restoration Plan for Green Gulch was completed in a process that involved the whole community and was guided by, Mithun, a professional design firm. This plan builds on the work of many people who have helped us in the past to guide Green Gulch in ecologically sound and aesthetically pleasing directions. Returning our creeks to their original courses is central to the plan and will entail the relocation of buildings from the creek bed.

In phase I of this plan, supported by a substantial grant from the Department of Fish and Game, we have completed a design with Prunuske Chatham, Inc. that will improve habitat for salmon and other wildlife and hydrologic functioning of the lower creek below the zendo. We hope to start construction in 2013.

We are participating with the Park Service in the Redwood Creek/Muir Beach Restoration Project with their goal of restoring 35+ acres of land near the beach – about 15 acres of Green Gulch property. In 2003 we worked with several other agencies including the Park to produce a Redwood Creek Watershed Vision document to help us protect, enhance and make accessible to visitors the unique natural ecosystem of this watershed.

INNUMERABLE LABORS BRING US OUR FOOD

As a Buddhist center, Green Gulch encourages the practice of compassion, recognizing the suffering of all forms of life. Our kitchen offers a vegetarian diet traditionally associated (though not strictly mandated) with the practice of Buddhism. Some students at Green Gulch follow a vegan diet, an option that is respected and supported.

From October through April of every year Green Gulch follows an intensive meditation schedule. During much of this time our meals are taken in silence. When eating in the meditation hall we follow a traditional ceremony which emphasizes mindfulness of eating and of what is eaten.

The Green Gulch Farm growing season extends for almost nine months of the year, with the main cropping period lasting from May through November. During this time the farm provides the kitchens of Green Gulch and San Francisco Zen Center with ample leafy greens, lettuce, beets, broccoli and cabbage, squash and an assorted selection of

other vegetables, fresh fruit and herbs grown in the fields. Other produce is purchased from local farms, farmers' markets, and from Bay Area distributors. Effort is made to purchase organic produce whenever possible and to support the growing network of organic farms with which we are intimately connected. In April of 2007 Zen Center adopted Food Purchasing Guidelines at all three centers. At the heart of these guidelines is the request to purchase organically grown seasonal produce from farms within 150 miles of our centers at least 80 to 90 percent of the time depending on the season.

WATER CONSERVATION

Green Gulch supports a fluctuating population of between 50 – 75 residents as well as 100 – 200 Sunday visitors, and additional visitors who join us for conferences and retreats. Our water system is locally supplied and maintained, and is not connected to the Marin Municipal Water District for backup water. There are three water systems that Green Gulch draws upon.

- Drinking water comes from a spring in a hillside and, seasonally, is supplemented by a well in one of our farm fields. The water from these two sources is stored in a 20,000 gallon tank and goes through a sand filter and an ultra violet purification system. A small amount of chlorine is added. The water is used for cooking, showers, toilets, laundry and some irrigation. As of 2005, we have a staff member who is certified by the county to manage the water system and keep the water safe for residents to drink.
- Water for agriculture, the garden, central lawn and fire system comes from two reservoirs and an in stream pond on Green Gulch creek.
- Landscape water for the central area comes from the smaller Spring Valley Creek and is stored in a 2,000 gallon tank.

Water supplies are generally adequate during the winter rainy season, but in summer the flow rates drop significantly. Drought years bring additional pressure to conserve water. Because supplies are limited to our local water sources, water conservation at Green Gulch is a year-round practice. Some of the conservation measures implemented are:

- Toilets – Low-flush toilets, require 1-2 gallons of water per flush.
- Irrigation – Watering is scheduled for early morning to mini-