CALIFORNIA

COAST & OCEAN

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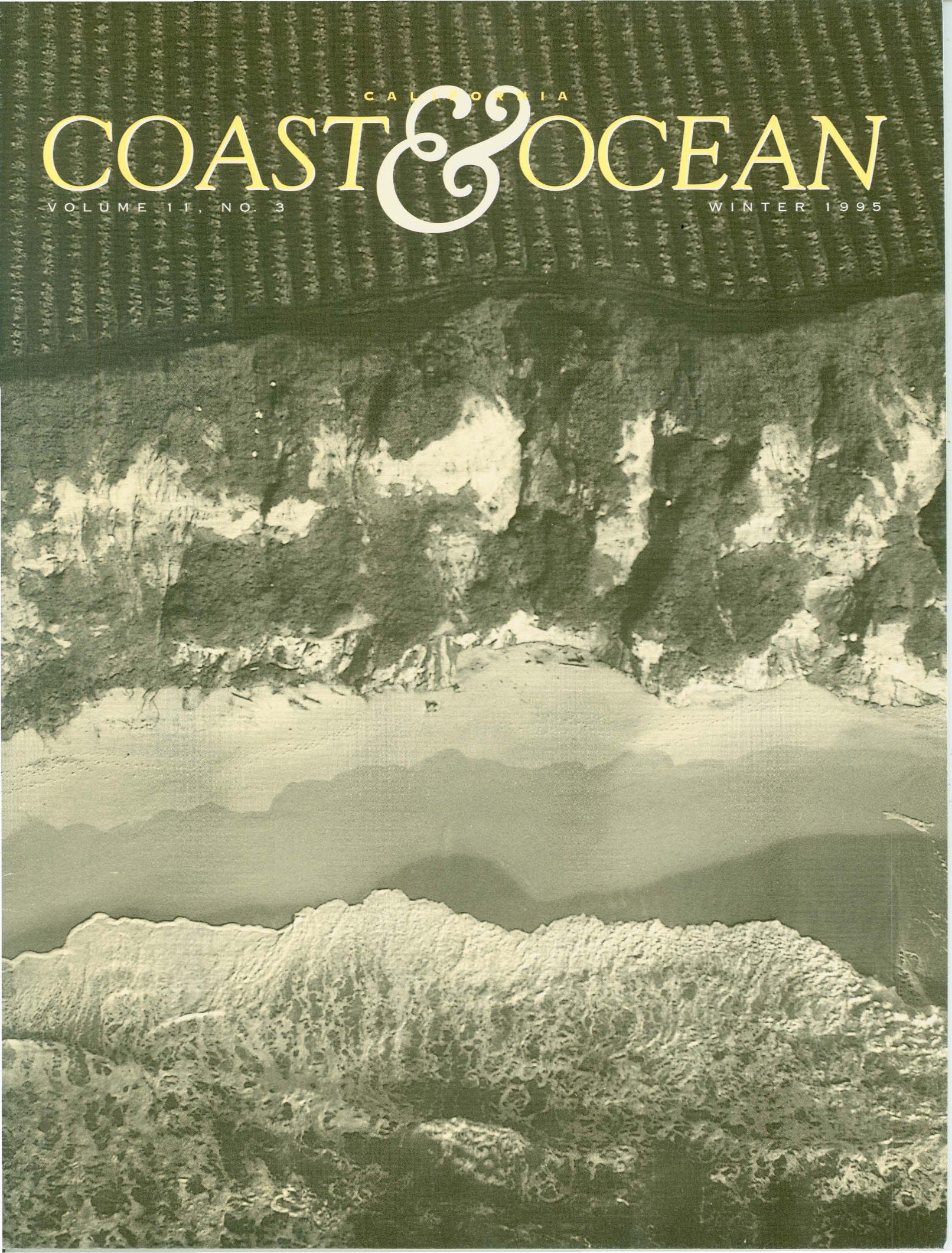

ABOUT THE CALIFORNIA
STATE COASTAL CONSERVANCY

The Coastal Conservancy is a state agency working to preserve, improve, and restore public access and natural resources along the coast and on San Francisco Bay. It builds trails and walkways, purchases threatened coastal land from willing sellers, enhances and restores wetlands and watersheds, protects open space and farmland, supports commercial fishing, helps cities develop and improve waterfronts, and crafts innovative solutions to land use conflicts. The Conservancy undertakes projects in partnership with nonprofit organizations, landowners, local governments, and other public agencies. It is funded primarily by bonds authorized by California voters.

To subscribe to CALIFORNIA COAST & OCEAN for one year (four issues), send a check (payable to "State Coastal Conservancy") for $18 ($48 commercial/business; $12 student/low income) to:

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About the cover:
From any angle, coastal farms please the eye. Here is a stretch of San Mateo County coastline, by photographer Jonathan Reicheck, who lives in Berkeley. He has photographed agriculture across the United States, from peanuts in Georgia to pineapples in Hawaii, but his vast archive also includes countless other subjects.

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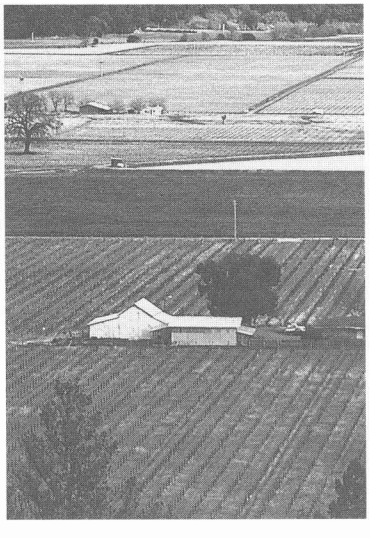
JONATHAN REICHEK



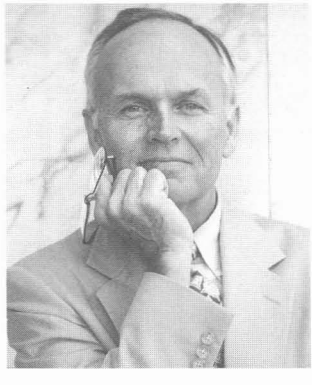
THE FUTURE OF COASTAL FARMING IS BEING SHAPED NOW

TWENTY YEARS AGO, the Coastal Act mandated that coastal farmland be protected.

What's happened in the past two decades? Take a drive along the coast, and you'll see that the scenic beauty—as well as the economic contribution—of dairy ranches, flower fields, truck gardens, and artichoke farms is still there. You see them within a half-hour's drive of metropolitan areas. Magnificent!

The Coastal Act has helped many farmers to hold on in the face of diverse pressures—so far. The Coastal Conservancy has also played a part, investing almost $22 million in 25 major projects that have helped to conserve agriculture. Working with our land trust partners in Sonoma, Marin, Napa, San Mateo, Monterey, and San Luis Obispo Counties, we have acquired development rights or conservation easements (in a few cases, fee title) to 7,944 acres of coastal agricultural land, much of it under threat of development. All of that has been forever protected as agricultural land, and it continues to be farmed under private ownership or leases.

We have also worked closely with the resource conservation districts in Humboldt, Sonoma, Marin, Napa, San Luis Obispo, Ventura, and San Diego Counties, providing $6.5 million (30 percent of the total $22 million) to cooperative projects that minimize pesticide use in vineyards and strawberry fields; develop cost-effective ways to keep dairy wastes from polluting water; repair gullies, stream crossings, and culverts; revegetate stream banks; and institute other erosion control measures. Such efforts not only protect riparian habitats and downstream wetlands, they also prevent the loss and degradation of the farmer's land. Through its partnerships the Conservancy has helped to keep tens of thousands of acres of farmland in private ownership while protecting important habitat.



DEWEY SCHWARTZENBURG

Unfortunately, the funds we have been able to devote to agricultural protection have run out. They came from bond issues passed by California voters in the late 1970s and mid-1980s. These days we bring to our partnerships staff experience in seeking grants, knowledge about tax credits and other benefits, and network-building. We work with others, especially resource conservation districts, to seek legislation that would permit us to carry on the work we have started.

Now is the time to make sure that farmers can continue to farm, before the price of doing so becomes excessive—and the losses irretrievable.

If we were to have additional funds, we would focus much of our effort to preserve agriculture in the Oxnard Plain in Ventura County, the Salinas Valley in Monterey County, and the Arroyo Grande and Santa Maria Valleys in San Luis Obispo and Santa Barbara Counties.

Until this year, the Coastal Conservancy has been the only state agency making investments in the acquisition of agricultural land specifically to protect agriculture. In October, Governor Wilson signed Senator Jim Costa's bill (SB 275) which authorizes the Department of Conservation to join us in this vital effort. We welcome them and look forward to building a new partnership with a second state agency. For years we have been invited to assist in protecting farmlands far from the coast—in the Central Valley, for instance—but we have reluctantly declined, staying true to our coastal mission. Now, there's no problem. The Department of Conservation will be there for the inland farmer, should funding become available.

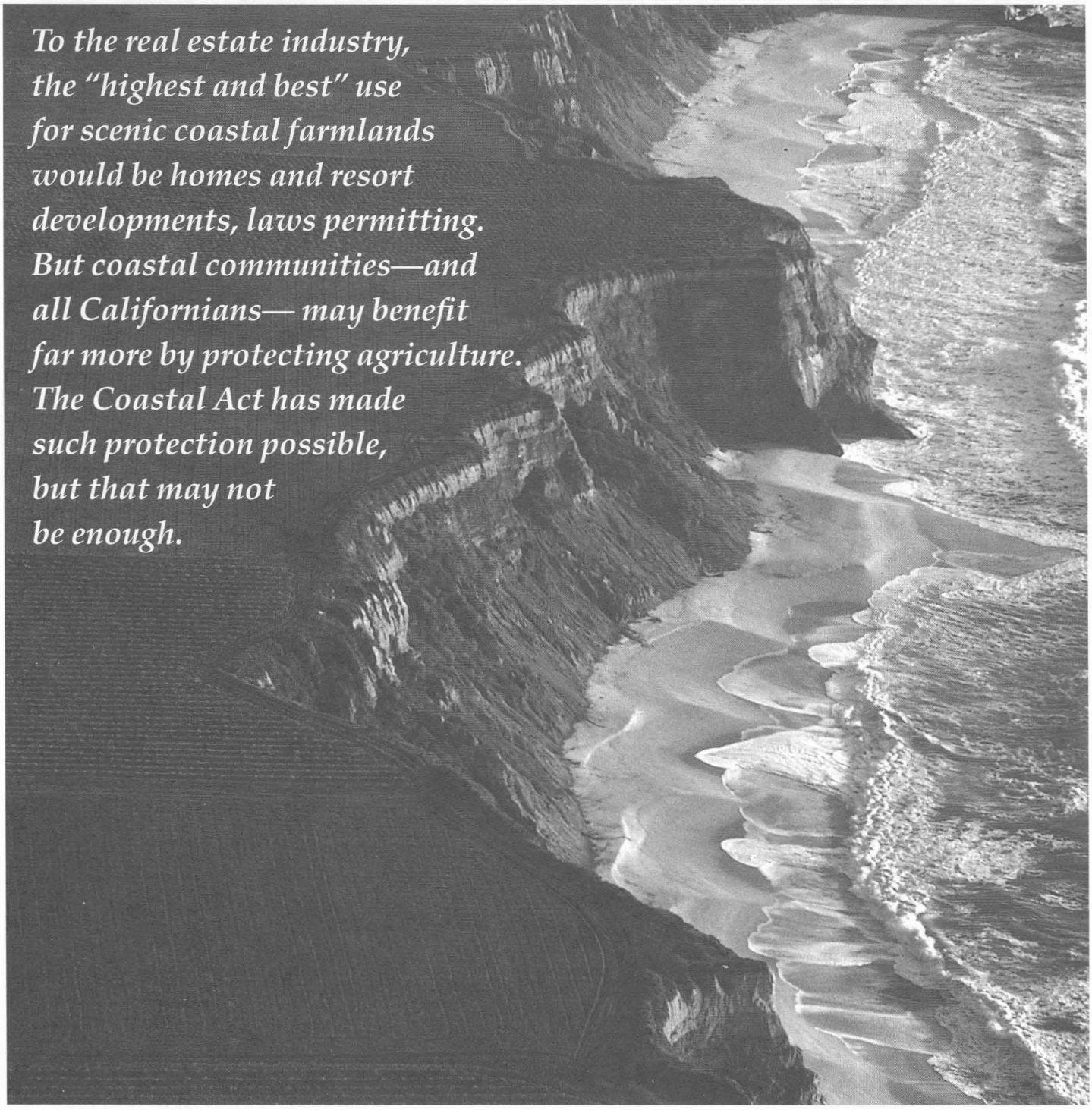
The future of coastal agriculture is being shaped now. With California's population expected to double by the year 2050 or so, development pressures will be enormous. Now is the time to make sure that farmers can continue to farm, before the price of doing so becomes excessive—and the losses irretrievable. Some 80 percent of the state's current population lives in the coastal counties, and there is no reason to think that the desire to live within reach of the ocean will change. The Coastal Act, by itself, is not enough in the face of development pressures ahead.

Whatever measures are taken to keep good growing land in farming, they must benefit everyone. A recent report on the future of agriculture in the Arroyo Grande Valley makes the important point that "farmland should be protected from urban encroachment, but not at the farmers' expense."

Articles in this issue indicate that more and more coastal counties are exploring approaches that protect the property rights of farmers while also removing the speculative value from farmland threatened with development. Land trusts are being formed cooperatively with local government and state agencies, including the Coastal Conservancy. More and more people are beginning to realize that nobody's self-interest can be served without considering the interests of others. ■

—Michael L. Fischer

CROPS vs CONDOS



To the real estate industry, the "highest and best" use for scenic coastal farmlands would be homes and resort developments, laws permitting. But coastal communities—and all Californians— may benefit far more by protecting agriculture. The Coastal Act has made such protection possible, but that may not be enough.

JONATHAN REICHEK

CAROL ARNOLD

WHY COASTAL FARMERS AND URBAN DWELLERS NEED EACH OTHER

CAROL ARNOLD

TAKE HIGHWAY 1 SOUTH from San Francisco and in less than an hour's drive you'll be moving past rich farmlands. No more than 30 miles from the second-largest urban center in the state, fields of green vegetables extend to both sides of the road, evoking a time when limitless open space and a quiet way of life were taken for granted.

To the west, past fields of brussels sprouts, the Pacific Ocean shimmers under the sun and gleams in the mist; an occasional column of pelicans glides above the surf. To the east, beyond fields of artichokes, rugged mountains, shrouded in redwood and pine, conceal streams where steelhead trout come to spawn. Mountain lions roam this hilly terrain, though they are seldom seen.

What keeps this stretch of California's coast—as well as much of the rest of the coast—so open and beautiful? How is it that these farms are still here when so many people would gladly pay millions to build homes here? Part of the answer lies in the laws that govern land use along the coast, especially the California Coastal Act of 1976, which requires that wetlands, grasslands, and forests be protected and that "the maximum amount of prime agricultural land shall be maintained in agricultural production to assure the protection of the areas' agricultural economy."

Elsewhere in the state, productive acreage is disappearing under golf courses, lawns, and asphalt. The California Department of Food and Agriculture has estimated that the state lost about 7.8 million acres of farmland in the 43 years between 1950 and 1993, a decline of 21 percent, from 37.5 million to 29.7 million acres. If that rate of conversion were to continue, California would lose all its farm- and ranchland in 164 years.

In the coastal counties the overall picture is brighter because of the Coastal Act, but farmland is still being consumed at an alarming rate. According to the Department of Conservation's Farmland Conversion Reports, more than 6.2 million acres were in crop and grazing land in coastal and bay counties (not including Del Norte, Humboldt, and Mendocino, which were excluded from the reports). More than 107,000 acres—over 13,000 acres a year—had been converted to other uses between 1984 and 1992 (again excluding the three northernmost counties). There are no figures on how much farmland in the coastal zone has been lost, but it is undoubtedly a much smaller proportion than elsewhere in California.

Were it not for the Coastal Act and the regulatory process it established, subdivisions and resorts would long ago have replaced the bucolic landscapes that now soothe the minds and eyes of coastal travelers and attract millions of visitors each year. Real estate appraisers value land according to its "highest and best use," which in the industry means the most lucrative use possible under specific conditions. Before 1976, it was generally assumed that farms near urban areas would be replaced by some-

PETER S. BRAND

At left: Morro Bay area. Above, Santa Clara Valley, Ventura County

thing else as soon as real estate prices were high enough. The Land Conservation Act of 1965, known as the Williamson Act, enabled landowners in some counties to keep down soaring taxes by agreeing to keep land in agricultural production or open space for a minimum of ten years. But this has been a temporary and incomplete solution.

"The Coastal Act has been extraordinarily important because it recognized agriculture as an important value," said Phyllis Faber, board member of the League of Coastal Protection and a founder of the Marin Agricultural Land Trust (MALT). "Psychologically that made an enormous difference along the entire coast." The Act also provided the essential foundation for various local incentive programs that protect agriculture, she said. "MALT could not have happened without the Coastal Act." (See p. 18 for more on MALT and other land trust efforts.)

To keep coastal farming alive and well as California's population continues to grow and push westward toward the coast, however, stronger protective measures and economic incentives are needed. Land that is ideal for growing avocados, strawberries, or flowers is often land most desired for residential clusters, golf courses, and other development that entices local communities with promises of income they badly need. In Europe, two world wars have proven the importance of keeping a local, accessible food supply intact. In this country, farmers are compelled to bear in mind that, like it or not, subdivisions might one day be their last crop and their retirement policy. As more and more people move into rural areas in search of a simpler and more wholesome life, their presence and attitudes sometimes undermine the economic viability of farming and threaten the local way of life.

When the Coastal Act was written, "agriculture was a stepchild," said a Coastal Commission staff member who was present at the time. Save Our Coast advocates fought primarily for public access, open space, and habitat, not for agriculture. Recently, however, there has been a shift in thinking in some communities that could work to the advantage of farmland preservation. Some cities and counties have realized that replacing fields of vegetables with houses may not—as developers promise and local governments hope—make them more prosperous. The costs of new services and the problems residential growth brings may far exceed the new tax income. Meanwhile, the loss of farms diminishes the quality of life for all in the region. It means dirtier air, fewer views, crowded roads, and loss of freely available green space, as well as a loss of local food supplies and of the regional landscape's unique character.

CATERING TO DIVERSITY

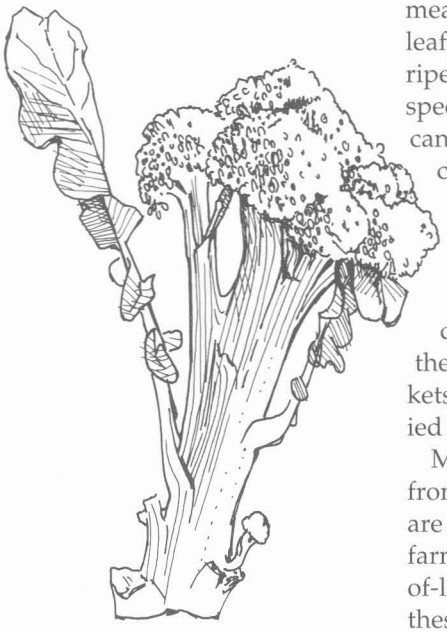
Three trends are bringing new faces into coastal agriculture, allowing farmers to make a living on relatively small parcels of land, thereby reducing the upfront costs

In the Half Moon Bay area, artichokes and brussels sprouts are the most profitable vegetable crops, although pumpkins may be the most celebrated.

DRAWINGS: VALERIE WINEMILLER

JOAN ROSEN, COURTESY MARIN AGRICULTURAL LAND TRUST

North of San Francisco, most coastal agricultural land is pasture for beef and dairy cattle



Areas in the county that are influenced by the coastal climate (including the Salinas Valley) account for over 80 percent of the entire U.S. production of leaf lettuce, and over 50 percent of the U.S. production of artichokes, broccoli, cauliflower, and head lettuce.

required. First, organic food is increasingly popular among health-conscious consumers. While in the 1960s and '70s this meant mainly brown rice, tofu, beans, and leafy vegetables, now it also means vine-ripened tomatoes, baby carrots, and other specialty vegetables for a linen-covered, candle-lit dinner table. Second, California's changing ethnic profile has increased the demand for foods popular in Latin America, the Pacific islands, and Asia. Small farmers along the California coast are discovering niches within this new diversified market. Third, and linked to the first two, is the boom in farmers' markets that offer fresh, inexpensive, and varied foods grown close to home. (See p. 10.)

Meanwhile, local land trusts, learning from successes in California and elsewhere, are crafting projects that preserve family farms while also appealing to the quality-of-life interests of nonfarmers. Some of these land trust projects are assisted and encouraged by county governments and other public agencies because they not only protect farmland but also provide open space, a buffer against urban sprawl, a means of habitat protection, and, occasionally, an opportunity for public access. These projects become assets to the local tourism industry, and often have an educational component as well. (See p. 18.)

Coastal farms of all types are generally smaller than farming operations in areas such as the Central Valley or the Imperial Valley, famous for their huge agribusiness operations. Those who take the time to tour the whole length of the coast see grazing lands as the main agricultural land use. To the north, dairy cattle and flocks of sheep decorate the hills and coastal terraces. Along the central coast, green rows of artichokes, brussels sprouts, lettuce, cauliflower, broccoli, and strawberries preserve the views of shore and mountains. Farther south are fields of celery and flowers, as well as avocado and citrus orchards.

On almost any sunny Sunday, miles of cars wind along the coastal highway, not only en route to beaches and other recreational spots but also simply taking in the restful sight of the rural landscape. To some farmers, the urban dweller's perception of the farmed landscape is annoying if not downright obnoxious: farmers do not like being thought of as tourist attractions. Yet they stand to benefit from the widening interest in agricultural preservation, whatever its impulse. "People look at agriculture in different ways. To a farmer, it's his livelihood. To the urban resident, it's open space and scenic viewshed," says Erik Vink, California field representative for the nonprofit American Farmland Trust, which is dedicated to agricultural preservation. "That's not necessarily bad as long as it results in support for agricultural protection."

AN ECONOMIC GIANT

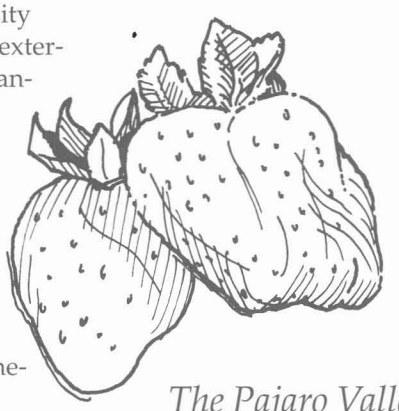
In economic terms, the value of California's agriculture is immense. It is the state's number one industry. California has led the nation in sales of farm products for 45 years, growing some 250 different crops of food and fiber. Almost one-third ($6 billion) of the total $19.9 billion annual farm revenue is from products grown in coastal counties, according to Corda Weems, program assistant with the California Agricultural Statistics Service of the Department of

Food and Agriculture. The sale of fruits and vegetables brings in about $10 billion statewide, and many of these are grown in coastal areas, where soil, climate, and close proximity to transportation provide excellent growing and marketing conditions. Three-fourths of the broccoli grown in the U.S., and two-thirds of the strawberries, come from three central coast counties: Monterey, San Luis Obispo, and Santa Barbara. About one-third of all celery consumed in the U.S. is grown in Ventura County. California farms provide over half of all the country's fresh vegetables, including lettuce, tomatoes, broccoli, cauliflower, carrots, and celery. When support industries, related employment, and businesses dependent upon agricultural products are factored into the equation, the annual value of agriculture in coastal counties is estimated as high as $23 billion.

The Coastal Act policies requiring protection for coastal farming are expressed in a Local Coastal Plan (LCP) adopted by each county. The LCPs require approval by the California Coastal Commission, whose 15 members include state agency heads and public representatives. These LCPs often require larger agricultural parcel sizes than in many areas outside the zone. Sonoma County's are 640 acres, for example; those in western Marin are 60. Zoning change proposals must be approved by the Coastal Commission and are usually hotly debated, according to Steve Scholl, the Commission's district director for the North Coast and acting director for the Central Coast. But protecting farmland only within the narrow coastal zone defined by the Coastal Act will not save coastal agriculture. In the long run, protection must be extended inland to include the state's most important coastal agricultural lands. The Salinas Valley in Monterey County, the Santa Maria Valley in Santa Barbara County, and the Oxnard Plain in Ventura County are largely outside the coastal zone. When an agricultural region loses a certain critical mass of agricultural land, support industries are not able to survive, and the agricultural economy within an entire region can collapse, often very quickly. Local governments need to act to extend the necessary protection.

Current economic pressures are sometimes toward just the opposite. Underfinanced cities and counties seeking new revenue sources are often persuaded that they will generate such revenues by permitting farmland to be converted to residential or commercial uses. When the cost of schools, roads, sewers, water development, utilities, and related infrastructure necessary to support development are taken into account, development often costs a local jurisdiction, particularly in low-density suburban residential areas. If other "externalized costs" are factored in, the financial loss to a local jurisdiction can be significant. Such costs may include the loss of potential tourist dollars, increased air and water pollution, increased police and other services, and the loss of open space. In planners' language these are "externalized costs"; that usually means that they are not considered in a cost/benefit analysis.

CROPS vs CONDOS



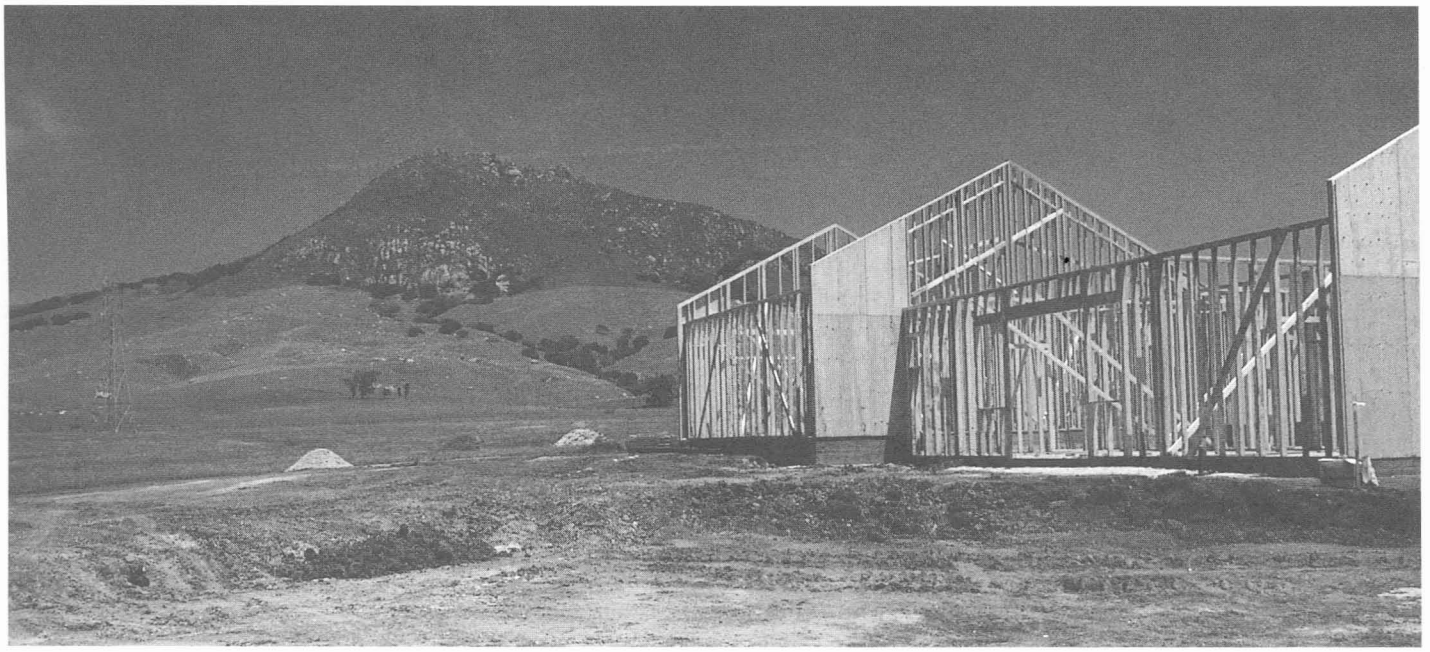
The Pajaro Valley, on the Santa Cruz/ Monterey County border, is a highly productive region for fruits, especially strawberries, and many vegetables.

Strong zoning regulations can do much to protect valuable agricultural lands, but history proves that zoning is subject to intense political and economic pressures. Tax incentives such as the Williamson Act are very helpful, but they too will not guarantee agricultural preservation beyond the designated period. Effective long-range measures include:

- Agricultural easements: A land trust or public agency buys the development rights to a farmer's land, extinguishing its development potential so that the prop-

JONATHAN REICHEK

More than 80 percent of the country's leaf lettuce comes from Monterey County areas influenced by the coastal climate.



CAROL ARNOLD

Easter lily bulb production in Del Norte County has a value of well over $4 million per year.

erty remains in private ownership for agricultural uses. Sonoma County bought easements on important conservation lands, including farmlands, primarily with funds provided to the Sonoma County Agricultural Preservation and Open Space District from a one-quarter-cent sales tax passed by the voters in 1990. This is the only county in California with a dedicated funding source for the preservation of agricultural land, although other counties, most notably Marin and San Mateo, have scored successes as well, largely through the efforts of land trusts and the help of bond funds and donations by individuals and foundations.

- Transfers of development credits (TDCs): Rights to develop agricultural land are purchased from the farmer and transferred to another, presumably more appropriate, location. These TDCs are sold to developers, generally allowing them to increase densities at the chosen location. This type of program is usually difficult to implement, in part because it is difficult to find sites where transferred development would be welcome. Although many people support preserving agricultural land and open space, they do not want increased densities in their own neighborhoods. When properly designed, however, a TDC program can work well if the local jurisdiction is thoroughly committed to the concept and is sufficiently competent to develop the complicated agreements and procedures that are necessary to support the program, and if neighborhood opposition to increased densities is not intense.

Large-scale TDC programs have not been used in California to preserve farmland, but they have worked well elsewhere. Montgomery County, Maryland, has protected over 50,000 acres with development rights transferred from farmland to more appropriate areas. San Luis Obispo County is currently evaluating a potentially large-scale TDC program, using the expertise of its local land trust, the Land Conservancy of San Luis Obispo County. A TDC program requires money for the initial purchase of development rights, but if it is well designed, it could operate as a revolving fund as these rights are sold.

Over the last 15 years, thanks to the passage of general obligation bonds that could be used in part for agricultural preservation, the Coastal Conservancy has helped land trusts and local governments with the purchase of agricultural easements on important farmland in the coastal zone. Because the program has always been underfunded relative to the need, large-scale purchase of such easements has not been possible. The Conservancy has also had to limit the types of projects it funds; it generally concentrates on urban fringe areas where the threat to farmland is greatest.

The last funding measure that could be used to purchase agricultural easements was passed by the voters in 1988, and funds

from this source have now dried up. With the future of general obligation bonds for conservation purposes being very uncertain, the Conservancy's ability to continue to provide funds to purchase agricultural easements is uncertain as well.

In California, conservation-minded local jurisdictions, government agencies, and land trusts are attempting to identify creative means to finance agricultural preservation. Aside from the approaches mentioned, the following are also being considered:

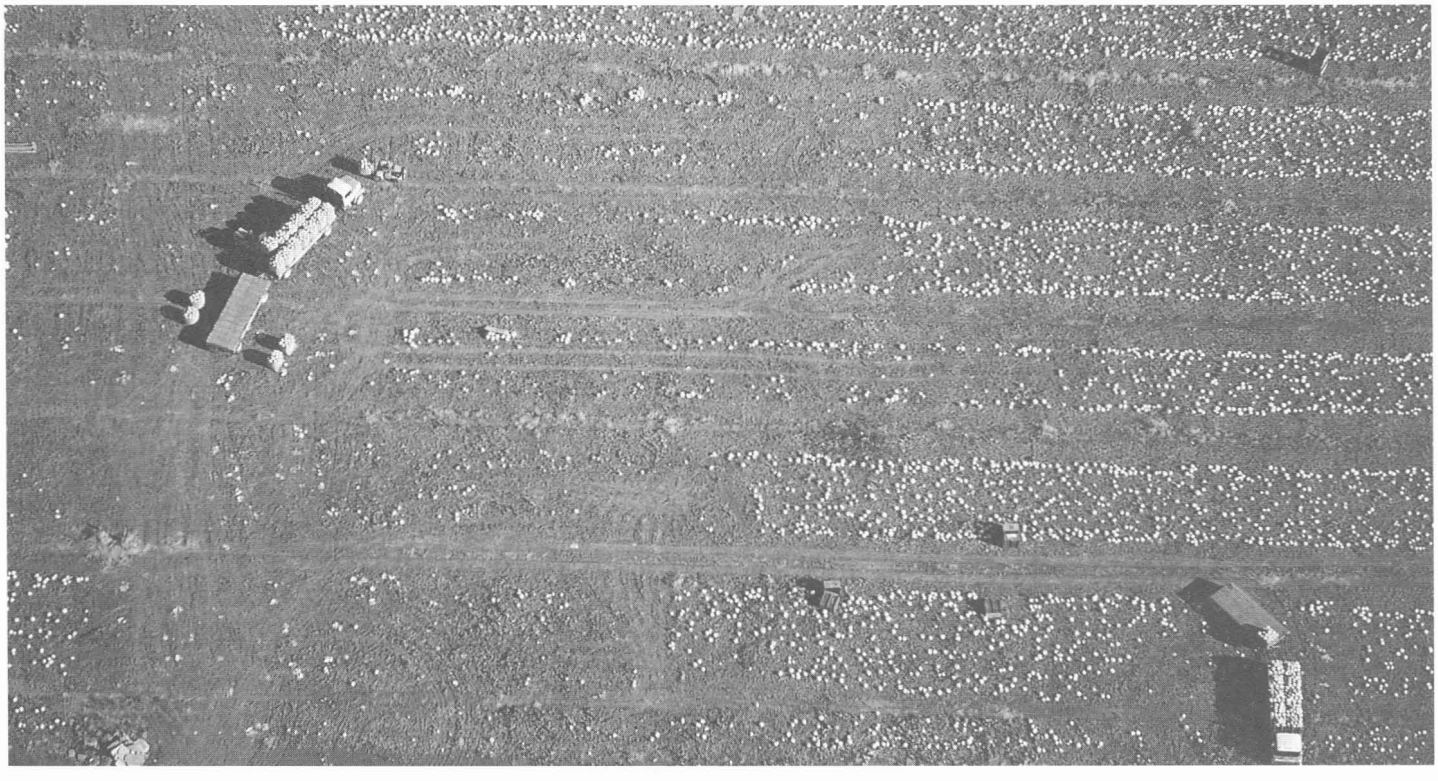
- DEVELOPER FEES to buy agricultural easements to "mitigate" for agricultural land conversion. (This, however, will result in the loss of some acreage. See p. 22 on Carlsbad agriculture.)
- A PROPOSED STATE LAW (SB 1280) that would provide tax credits to those landowners who choose to donate land.
- A LAND STEWARDSHIP PROGRAM for agriculture was approved by the state legislature in SB 275. If funded, this program would allow the Department of Conservation to purchase agricultural easements in, for instance, the Central Valley, much as the Coastal Conservancy does in the coastal zone.
- TECHNICAL ASSISTANCE in resolving conflicts between agricultural practices and the needs of fish and wildlife when such issues are too expensive or burdensome for the farmer to handle alone. (See p. 17 on the Conservancy's work in the Eel River Delta.)
- CHANGES TO ESTATE TAX LAWS that would allow family farms to be passed on to new generations without excessive tax burdens that necessitate a sale of land.
- PASSAGE OF LOCAL TAXATION measures to preserve agricultural lands, similar to those in place in Sonoma County. (This has become difficult to do—a recent California Supreme Court decision ruled a taxation measure in Santa Clara County invalid because it failed to receive a two-thirds majority.)
- CREATIVE DEVELOPMENT PLANS that cluster development.

More and more local jurisdictions, land trusts, environmental groups, and individuals are becoming aware that a healthy regional agriculture industry is important to their quality of life. It is unfortunate that it takes the rapid disappearance of a resource to make people aware of its value, but that seems to be the case. ■

Carol Arnold is the Coastal Conservancy's agricultural program manager.

CROPS vs CONDOS

Pumpkin harvest



JONATHAN REICHEK

ALISON PORTELLO

Davis Farmers' Market

FARMERS' MARKETS LIFELINES FROM FIELD TO TABLE

HAL HUGHES

Farmers' markets are booming along the coast, restoring the broken connections between urban dwellers and the rural agricultural people on whom they depend for sustenance.

IN THE PAST FIFTEEN YEARS hundreds of farmers' markets have sprouted in California, especially along the coast. From a mere handful in the late 1970s, their number has grown to over 260, with more than 4,000 farmers participating. Throngs of shoppers come to sample and choose among the fresh, locally grown farm products on display in city squares, along temporarily closed streets, and along waterfronts.

For the shopper, the appeal is manifold. Prices can be substantially lower than those in grocery stores and supermarkets. Even greater bargains are often available by buying in large quantities. The food is fresh, having traveled shorter distances more recently. Fruit is often tree- or vine-ripened, and there is usually a great variety of specialty produce. Many of the sellers are organic growers, catering to a growing demand for nutritious, locally grown food without chemical residues.

There are also the pleasures of shopping outdoors, sometimes to the tune of live music; of being able to buy directly from the people who grew the food you will serve tonight to your family; and of buying ripe fruit by the box, at such low prices you're inspired to spend the rest of the day making jam. For all sorts of reasons, many Californians now make a trip to their local farmers' market a weekly ritual.

For some farmers, the markets are a lifesaver. By selling directly to consumers, they can charge as much as 30 percent less than retail grocery stores while increasing their profits substantially. They can avoid the costs of packaging and labeling, as well as brokerage fees. In some areas they provide a vital outlet to small growers. "In Southern

JERRIE WATKINS

CROPS vs CONDOS

Health-conscious folks will find a good selection of raw vegetables for nonfattening snacks at the Redondo Beach Certified Farmers' Market. It's just steps away from the sandy beach.

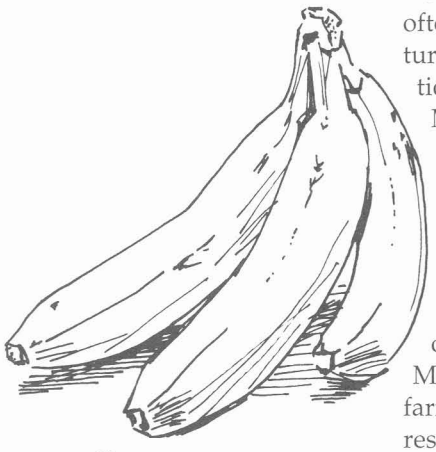
California, if you don't sell to Ralph's or Vons, there's almost nowhere else to sell," says Richard Borevitz, who grows specialty vegetables in San Diego County.

These markets are also gathering places, as markets have been ever since cities began. You hear the latest local news and gossip here and run into people you have not seen for a while. "I look forward to it," says Angelo Molinari, whose family can be found Saturdays, year-round, behind long tables laden with vegetables at the San Francisco Farmers' Market. His father was there when the market was founded, in 1943, as an outlet for the products of victory gardens and small farms. His family continues the tradition. "I know all the sellers and a lot of the customers," he says. His parents' farm, in Mountain View, is now surrounded by office buildings. The rich soils of an area once known for its orchards and farms now grow high technology—it's in the heart of Silicon Valley. But he continues to farm there, with his mother, as well as on acreage in Morgan Hill. For Molinari, only this market matters, though San Francisco has two others. "All the Italians come here," he explains. "That's what I grow, Italian stuff—cardoni, sweet anise, Italian beans."

Each market has a unique flavor, reflecting California's multi-hued, multi-ethnic, changing profile. At the San Francisco Farmers' Market, which is operated by the City and County of San Francisco, on Alemany Boulevard, you will find not only homemade olive oil and Italian-style pickled olives, but also Afghani melons, several varieties of mushrooms, and various greens essential to traditional Filipino, Vietnamese, and other Asian cuisines. Indian women in saris and Palestinian matriarchs in richly embroidered ankle-length dresses shop here for small eggplants and fresh ginger, while Russians select beets and pickling cucumbers and young gourmets search out the best chanterelles.

The smaller Heart of the City Farmers' Market, open Wednesdays and Sundays at the Civic Center, serves many low-income people living in rooming houses and apartments in the city's center, as well as people who work downtown or come in from other neighborhoods. It was founded by the American Friends Service Committee in 1981 and is now managed by a board of directors composed of five farmers and three community representatives.

A third San Francisco market—like the other two, a California Certified Farmers' Market—opened recently at the Ferry Plaza, with a more upscale approach. More of the produce is organically grown and selected for perfection. You see various "baby" vegetables and prewashed mixed salad greens. Quantities tend to be smaller and prices higher than at the city's other markets. You can sit down at a table to enjoy a caffé latte while listening to live



Bananas grow in coastal Santa Barbara County

harp music. Many young people come here from nearby apartment highrises. There is less of an ethnic mix.

Although the term "farmers' market" is often used by both commercial resale ventures and casual flea market–type operations, California Certified Farmers' Markets allow only vendors certified by County Agricultural Commissioners, who assure that they sell only what they produce themselves, and inspect the products to insure their quality. The certification system was set up in conjunction with the California Department of Food and Agriculture's 1977 Direct Marketing regulations, which exempt farmers from packaging and labeling restrictions when they sell their own produce directly to consumers. These regulations provided much of the impetus for the rapid growth of farmers' markets.

FARMERS' MARKETS GROW FARMS

That the increasing number of farmers' markets has improved economic opportunities for small and family farmers is clear. This, along with high-profit sales of specialized produce—whether organically grown for the health-food market, or exotic varieties sold to gourmet chefs—can help keep small farms viable. At the Marin Civic Center Market in San Rafael, as much as 40-50 percent of the produce is organic, and local gourmet chefs order quantities of specialty produce in advance. Popular food trends can often be first glimpsed at farmers' markets: items such as kiwi fruit, Fuji apples, and heirloom tomato varieties were to be found at farmers' markets long before they appeared in supermarkets.

According to David Visher of the UC Davis Small Farm Center, the number of small farms increased slightly before 1990, but has decreased somewhat recently. Most of the newer small farms have appeared in areas that had previously not been regarded as advantageous for agriculture, such as foothills and urban fringes. Meanwhile, prime farmland continues to be consolidated.

Lynn Bagley, manager of the Marin County Farmers' Markets, the umbrella organization managing several markets in the region, maintains that the farmers' markets actually can "grow farms." They provide an outlet for gardeners to enter the marketplace and gradually build their businesses, literally, "from the ground up." Their comparative stability and interactive nature provide a fail-safe situation in which to introduce and test-market produce items and to gain experience in the business side of farming. Over the years Bagley has seen a number of gardeners become successful farmers, and farmers increase the size and success of their operations.

Meanwhile, cities are finding that farmers' markets are an asset: they draw people back into downtown areas and feed the retail economy. "Other cities have asked us to open markets," Bagley said, "and now

DEWEY SCHWARTZENBURG

You can study your tubers Friday mornings at the downtown Oakland farmers' market.

HOW TO FIND FARMERS' MARKETS

The following organizations are excellent sources of information about farmers' markets and about small, family, and coastal agriculture. Several publish related materials, including directories of California farmers' markets:

- **California Federation of Certified Farmers' Markets**
P.O. Box 1533
Sacramento, CA 95812-1533 (SASE for free directory of statewide Certified Markets
or FAX 916-363-2020; also will soon be available on Internet)
Tel: (916) 756-1695—Randii MacNear for information regarding educational programs.

- **Southland Farmers' Market Association**
1308 Factory Place Box 68
Los Angeles, CA 90013
Tel: (213) 244-9190

- *California Farm Fresh Directory*
(includes information abouit farmers who sell direct to public, farm festivals, tours, etc.) published by:

- **Community Alliance with Family Farmers**
P. O. Box 464
Davis, CA 95617
Tel: (800) 852-3832 for ordering information
or: (916) 756-8518 for information about other CAFF projects, or: (910) 756-7428 for *Farmer to Farmer* magazine.

- **Also the Small Farm Center at UC Davis has much useful info.**
Tel: (916) 752-7779.

- **California Foundation for Agriculture in the Classroom**
1601 Exposition Blvd.
Sacramento, CA 95815
Tel: (916) 924-4380 (Mark Linder)

CROPS vs CONDOS

even some suburban shopping centers are asking for our help."

A concern in some regions is that the very popularity of farmers' markets can tend to endanger them. Marion Kalb, of the Southland Farmers' Market Association, believes that Los Angeles County has reached a saturation point. It now has 33 Certified Farmers' Markets. Any new markets might threaten the viability of existing ones by drawing away customers. Some markets have bloomed and vanished quickly.

Realizing that the future of farming, especially near cities, depends on the support of city people, farmers and farmers' market managers have established educational programs within schools and for the public. One of these, the California Foundation for Agriculture in the Classroom, helps elementary school teachers to emphasize the importance of agriculture by bringing farmers into the classroom, taking groups of teachers or classes on field trips to farms and farmers' markets, and initiating projects related to agriculture.

Seen in the context of California's giant agricultural economy, farmers' markets may seem insignificant: fewer than 5 percent of the state's 85,000 farmers participate. But their role is vital. They are a lifeline from farm to table, restoring the broken connection between those who grow food and those who eat it. ■

Hal Hughes is a writer and musician who has both shopped and played fiddle at San Francisco Bay Area farmers' markets.

DEWEY SCHWARTZENBURG

PETER S. BRAND

GROUNDWORK FOR ALLIANCE IN VENTURA COUNTY

PUTTING AGRICULTURAL VALUES INTO DOLLARS AND CENTS

PETER S. BRAND

ON THE WORLD STAGE California is a major agricultural power, but at the local level the agricultural industry offers almost no resistance to the forces that may eventually destroy it. In Ventura County, some of the most productive farmland in the world is among the most threatened. As fertile ground continues to be covered by bedroom subdivisions, the county is losing an irreplaceable economic asset. A recently completed study of the economic value of the county's agriculture suggests that farmers, conservationists, and city planners have much to gain from working together.

The study, entitled "Value of Agriculture to Ventura County: An Economic Analysis," was conducted by a team of agricultural economists and land use experts who used innovative economic analysis and geographic information systems. GIS revealed land use patterns and values as they changed over time and across geographic areas by linking a large data base to a map. The study was undertaken in response to the County Board of Supervisors' request to the State Coastal Conservancy that it work with their staff and the Agricultural Land Trust and Conservancy of Ventura County (which had been created with the supervisors' encouragement) to help establish a farmland conservation program. Funding was provided by the Hansen Trust, a local endowment set up within the University of California to support the county's agriculture.

In many respects, Ventura County still resembles the bucolic packing-crate labels that once depicted its fields and citrus groves and came to represent California to the rest of the country. The county produces more than 40 varieties of fruits and vegetables, and its mild coastal climate is ideal for year-round production of several vegetables and a long harvest season for strawberries. Ventura has more frost-free days and fewer above-90°F days than other farming areas in the state. A combination of excellent climate and soil allows Ventura growers to use much less water than inland agricultural areas for the same crops. In addition, Ventura farmers have always had their own indigenous source of water independent of the massive federal irrigation projects of the Central Valley.

LOS ANGELIZATION?

The dark spot in this idyllic picture is Ventura County's proximity to ever-expanding urban sprawl. Ever since the days of the great southern California water wars, the people who live in this picture postcard of fertile California have known that Los Angeles could someday wash over the hill and inundate them with houses. By the mid–1960s, the California development boom was making vast inroads, not only from the east as Los Angelenos relocated down the Ventura Freeway, but also from the coastal towns of Oxnard and Ventura. From 1970 on, the population of Ventura County grew 50 percent faster than the statewide rate, and it was expected to increase by half every twenty years. Ventura was faced with losing its agricultural industry and joining Orange County as the other bookend for Los Angeles.

For the twenty years from 1964 to 1984, Ventura farmers managed to stave off the worst economic consequences of farmland

conversion. They kept the number of harvested acres up by changing to crops that could be double-cropped. As the best flat farmland near the cities was converted to suburbs, orchard growers moved to less desirable wildlands in the hills. Around 1984, however, the Ventura farmers ran out of ways to compensate for the loss of farmland. The total of 129,000 harvested acres fell off rapidly to about 109,000 in the 1990s, and farms are still getting smaller. Despite the county's progressive Guidelines for Orderly Development, cities continued to allow developers to convert 1,000 acres of farmland each year. The study of farmland conversion trends and the economic consequences was intended to explain, in pragmatic terms, the costs to taxpayers and to the cities that resulted from loss of agriculture to urban sprawl. The study team was asked to examine the added costs of farming near urban development; how strong Ventura agriculture is compared to other agricultural areas; and the ways agriculture and related industries are interdependent with the rest of the local economy. GIS could show which growth patterns would be compatible with the continuation of agriculture in Ventura County. It could also be used to estimate how much funding would be sufficient—if federal, state, or local funds were available—to purchase easements from willing farmers for the protection of the most threatened land.

Some findings and conclusions of "Agriculture in Ventura County" confirm with statistics what "everybody knew" but had not documented. Others fly in the face of myths or conventional wisdom held by planners or pundits.

- **How valuable is Ventura agriculture to California agriculture as a whole?**

California has been the most productive agricultural state in the nation for the last 44 years, with more than twice the net farm income of the second-ranked state, Texas. While much smaller than Central Valley agricultural counties, Ventura ranks in the top five among all California counties for ten different commodities and is the primary producer for several important crops. The county's top three crops, in terms of cropland acreage, are lemons, avocados, and Valencia oranges. Ventura County produces 61 percent of the lemons grown in California and leads the state in celery and cabbage.

- **How productive is Ventura compared to the most productive agricultural counties in the state?**

Ventura County produces three and one-half times as much per irrigated acre as the state average. Ventura's net return per irrigated acre is more than three times that of Fresno, which is famed as the cornucopia of the Central Valley, and much higher than Monterey, another very productive coastal county. At the same time, Ventura does not depend on state or federal water or federal crop subsidies.

- **Would preserving Ventura County farmland be a giveaway to agribusiness?**

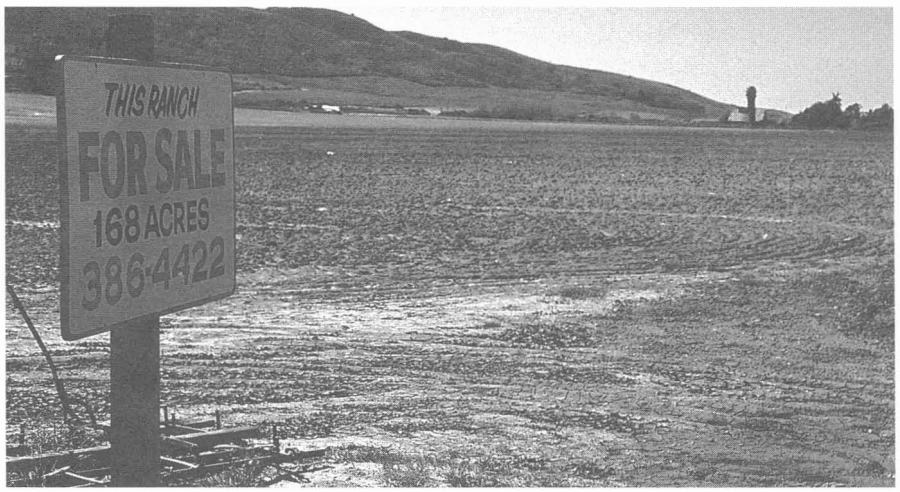
Many believe that in counties like Ventura, where agriculture is a billion-dollar industry, corporate agribusiness predominates and absentee landlords lease to non-owner farmers. In fact, most of Ventura's farms are owned by individuals or families. In contrast to other farming areas in California, Ventura has increasing individual rather than corporate ownerships, more and smaller farms, and more owner farmers than in the past.

- **Doesn't urban sprawl occur because it makes economic sense?**

The study concluded that the cities of Ventura County will lose money if they continue to convert farmland to low-density sprawl. A city's fiscal balance sheet improves with an efficient development pattern that converts only a modest amount of farmland that is already served by or close to urban infrastructure. The study also found that farmers provide more revenue than they require in government services while residents require more services than they pay for. Compared to current density

CROPS VS CONDOS

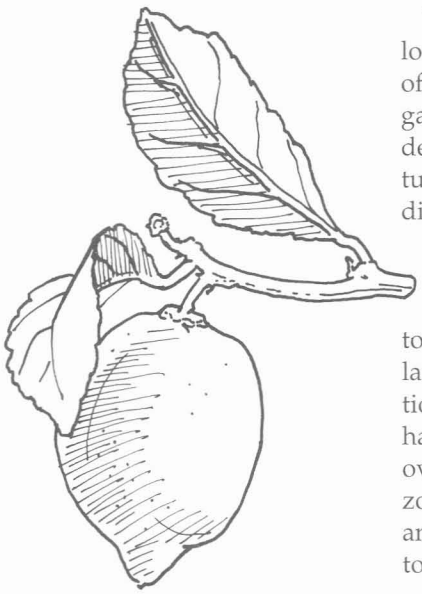
Facing page: City of Oxnard surrounding farms.
Below: Las Posas Valley



PETER S. BRAND

PETER S. BRAND

Strawberry harvest south of Oxnard



Ventura County produces 61 percent of the lemons grown in California.

patterns, even a modest change to more compact development in six Ventura cities would retain 6,710 more acres of land in agricultural use, add $10.1 million in annual cash flow to city governments, and retain 2,239 agriculture-related jobs, along with $120 million in annual agricultural sales.

The study shows that in Ventura County local decision-makers and developers have often worked at cross purposes. Past policy gaps have resulted in classic discontinuous development that has left islands of agriculture. Even when public policy did set clear directions for growth, developers were often able to ignore it and follow their own location logic, concentrating their activity toward the coast to the south and toward Highway 101 and ignoring farmland annexed long ago in favor of annexation and conversion of new areas. Farmers have had to deal with constant uncertainty over where farming would stay and where zoning changes would alter property taxes and land values, forcing them to give way to development.

Perhaps the worst effect of unpredictable and uncoordinated development has been on the market value of farms. A significant proportion of Ventura farmland is too expensive for farmers to buy despite the high returns they can expect from farming in this fertile area. At the speculative values created by the dynamics of zoning change, farmers cannot sell their land to other farmers, nor can farmers find affordable land near cities. The next step for the county is to design an affordable easement acquisition program that removes speculative value from the cost of farmland. Farmers would then be able to buy from farmers.

Although California has a reputation for progressive conservation planning, in farmland conservation it ranks low among the states. Many eastern states protect farmland on the basis of scenic benefits and historic values. In California, however, open-space values have so far been insufficient—except in Marin and Sonoma Counties—to establish conservation easement programs that would save the most threatened and valuable farmland. Yet California has the most to lose because its farmland is so productive. The economic arguments have hardly been used by conservationists.

In the West, many environmentalists have been so busy fighting with agriculture over water quality and supply issues that they have neglected the fundamental issue of farmland loss. It is important for conservationists to recognize that producing the most food for the least cost on the most suitable, fertile land has obvious environmental as well as economic benefits. Many California farmers, for environmental reasons or in response to the market, also participate in the quiet but significant trend toward lower-input, sustainable, or organic farming.

In Ventura County, what is now needed is a farmland conservation effort that addresses and engages the interest of farmers, planners, and conservationists. A variety of economic arguments is now available to help build that coalition. Without the farmers' voluntary participation, little can be accomplished, even if a public interest in agricultural easement acquisition programs exists. Likewise, if farmers are convinced by the Ventura study, among other factors, that concerted action is required to provide a predictable future for their business, they will need support from other interests to reach their goal.

The next great land-use revolution in California, which is already under way, involves the integration of farmland preservation, water conservation, and habitat restoration. Environmentalists and farmers should be natural allies in this revolution. ■

Peter Brand works for the Coastal Conservancy, and currently specializes in farmland preservation. He is the project director for the study here described.

For a copy of "Value of Agriculture to Ventura County: An Economic Analysis," contact Peter Brand at the Coastal Conservancy, 1330 Broadway, Suite 1100, Oakland, CA 94612.

WHAT TO DO ABOUT COW PIES IN THE EEL RIVER DELTA

DICK WAYMAN

DAIRY FARMERS in the Eel River Delta already had plenty of problems before they heard that government regulators were nosing around, telling ranchers that runoff from pastures was polluting the water.

For many of the 100 or so delta ranchers, the threat of a "regulatory hammer" looked like a threat to survival. "There's absolutely no money in producing milk, and beef prices are way down," said Dennis Leonardi, a third-generation rancher. "And we're in a minimum milkshed." If some of them went under, others could be pulled down: the local creameries might close.

Humboldt County dairies are much smaller than those in the state as a whole, averaging about 130 cows each compared to the statewide average of over 500, according to the 1992 Federal Census of Agriculture. This is one of the few areas where cows graze most of the year, instead of being confined in enormous barns. Few of the local ranchers had funds for any kind of long-term capital investment, much less for state-of-the-art pollution-prevention equipment and facilities.

Therefore, "rather than wait for the regulators to come to us, we decided to take a proactive approach," Leonardi said. He and six other dairy farmers formed the Sustainable Agriculture Committee of the Humboldt County Resource Conservation District (RCD) to look at the problem and options. The Farm Bureau and regulatory agencies joined the effort. Encouragement and $30,000 for research came from the Coastal Conservancy and was followed by further funds from the State Water Resources Control Board and the Environmental Protection Agency.

Grazing animals' wastes contribute to nonpoint source pollution, that is, pollution that does not flow into water from a specific site, like a sewage outfall or a dump site. This form of pollution has attracted increasing attention as municipal and industrial discharges have come under stringent regulatory control. The Environmental Protection Agency has found agriculture to be the leading source of surface-water pollution nationwide. Sediments, salt, chemicals, excess nutrients such as nitrogen and phosphorus, seep into groundwater and drain from farmlands into rivers, lakes, and the ocean. The federal Water Pollution Control Act and California's Water Code prescribe fees, fines, and other penalties for the release of pollution into surface and groundwater.

This county gets more rain than most of California, so animal wastes tend to leach into groundwater, where they can become a threat to human health. Wastes that run into streams and rivers can be toxic to fish, either directly in sufficient concentration or indirectly by encouraging the growth of algae that strip water of oxygen. In the Eel River Delta, the effect on fish is of particular concern because salmon and steelhead spawn in local streams.

The ranchers' committee came up with several approaches to the pollution issue and convinced fellow farmers that they had more to lose by avoiding the issue than they had in facing it head on. The options for action range from fencing cattle out of streambeds to diverting runoff into ponds, to the more complex and technical option of collecting manure from several farms for use in methane production. Based on the research done so far, the Conservancy and the RCD have applied for federal Clean Water Act funds to implement some of these approaches. The regulatory threat has receded as farmers have begun to plan ahead so as to comply with clean water standards.

The Eel River Delta dairy farms are important to the region's economy and food supply, and they are also a big part of the region's charm. Because farmers took the initiative, defusing a potential regulatory conflict, a mutually beneficial solution to the nonpoint-source pollution issue is now under way. ■

CAROL ARNOLD

Rich delta soil provides good pasture.

Dick Wayman is an agricultural economist and the Coastal Conservancy's project manager for the Eel River Delta.

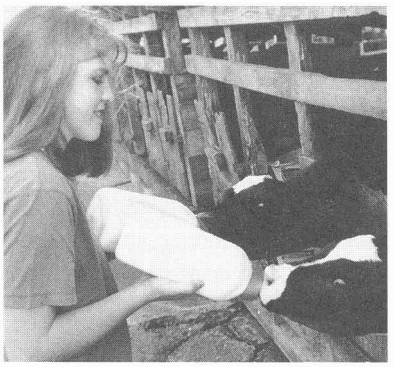
LAND TRUST/ GOVERNMENT PARTNERSHIPS ARE INCREASINGLY POPULAR

YOUR FARM IS MY GREEN-BELT

RASA GUSTAITIS
AND
DAVID HAYES

EVERYONE KNOWS it's near-impossible for most urban couples to buy a home, especially in scenic areas along the California coast. But think of the young people who want to be farmers. Unless they are born into a farm family, they had better look far inland, perhaps even out of state. Even if they stand to inherit land, they see rising pressures from urban encroachment.

Yet here is John Justi, 33, cultivating brussel sprouts atop a seacliff in San Mateo County while seagulls cruise overhead, harbor seals lounge on a beach just below, and commuters whiz by on Highway 1, just beyond his eastern fence. And there is Cerisse Corda, 14, up in Marin County, bottle feeding calves at the family's dairy ranch as she has been doing since she was a small girl, driving the tractor, feeding the cows, doing ranch chores as well as 8th grade homework from Petaluma Junior High School. The family ranch borders on the Petaluma River wetlands and is within earshot of Highway 101, a major commuter artery.



Plenty of people would pay millions of dollars for the land the Justis and Cordas farm, were it available for subdividing, if only for a few luxury homes. Both farms are within less than an hour's drive from downtown San Francisco. Both are living proof that it is possible to protect farmland against immense development pressures when enough will, creativity, and community effort is applied to such a goal. In both cases, protection was achieved by conservation-minded citizens allied with farmers, public agencies and local governments. Land trusts played an important role, supported by diverse community interests. As a result, entire regions, not only the local farmers, have been served.

John Justi's father, Aldo, was able to buy 600 plus acres, 150 of which the family is farming, thanks in large part to the Peninsula Open Space Trust (POST), which undertook to protect the 1,270-acre

MARIN AGRICULTURAL LAND TRUST

These pictures show that as Cerisse Corda has grown, so have her ranch chores. She is also an active 4-H Club member.

PHOTOS ON THIS AND FACING PAGE BY JOAN ROSEN

CROPS vs CONDOS

Cowell Ranch for agriculture, open space, wildlife habitat, and public recreation, and a partnership with the Coastal Conservancy. "This was always his dream," says John. "And it had always been out of his reach." John's grandfather came to the Half Moon Bay area from Lucca, Italy, shortly after World War I, started on a ranch as cook, then leased land to farm. So did John's father.

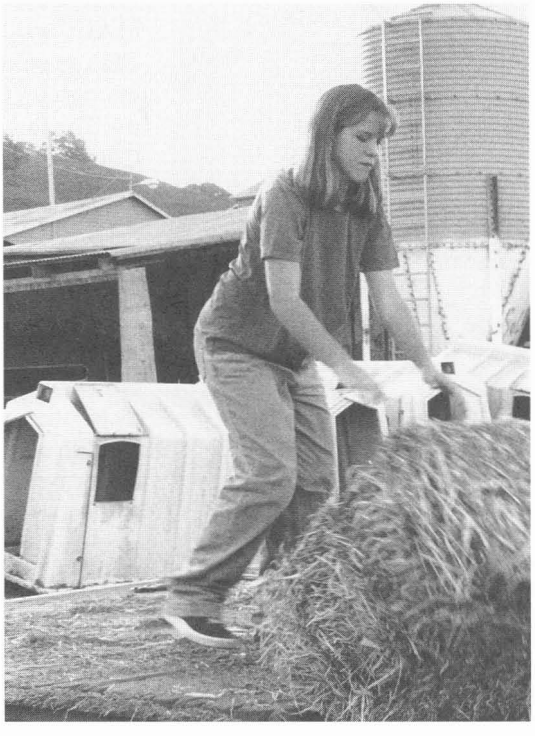
Cerisse Corda's family ranch, between the growing cities of Petaluma and Novato, is protected by strictly enforced agricultural zoning regulations. The county's dairy industry is also sustained by the Marin Agricultural Land Trust (MALT), which has bought development rights to 38 ranches, totaling 25,000 acres, in areas zoned for agriculture. These purchases, supported by funds from the state, county, and a local foundation, have extinguished the speculative real estate value of 20 per cent of the county's farmland. The sale of these rights has enabled ranchers to make capital improvements and install labor-saving equipment. Although neither zoning nor MALT's activities guarantee the long-range future of dairy ranching in this county, they have helped the industry stay healthy. Cerisse's father, Lester Corda, has not bought into MALT but sees it as an option. He feels relatively secure right now. "We're right between Petaluma and Novato," he says. "People like to look at green hills and black and white cows. The only other way they could get that is by painting the hills green and putting up black and white condos."

Corda was not just joking. It was to preserve open space and create a buffer to urban sprawl that many local residents have worked to preserve farmlands at urban edges. Gradually, people with these interests and farmers have come to realize that their separate needs complement each other and that, together, they can be stronger than the forces mustered against them.

Land trusts can be effective tools for such coalitions, and they have attracted increasing interest. Sonoma and Ventura are among coastal counties that now have agricultural land trusts, working in partnership with public agencies. "It's a nascent effort, just a few years under way," says Eric Vink, California field representative of the American Farmlands Trust. "A lot of it is fueled by the desire of urban residents to develop some open space between communities."

MALT: GREEN HILLS DECORATED WITH COWS

As local residents tell it, in 1970 this peaceful, sparsely populated landscape was about to become a northern Malibu. Caltrans was ready to widen two-lane Highway 1 and to cut two more highways linking Route 101 with the coast. The county's general plan



showed massive residential and coastal development, housing some 125,000 people. It seemed all over for the ranchers.

Then came the revolt. Citizens in the eastern part of the county saw a nightmare vision of urban snarls and acted to stop the engines of urban expansion. They did so by imposing strict agricultural zoning on mostly unwilling, but far less numerous, west Marin citizens. A new plan was revised, establishing strict agricultural zoning and a 60-acre minimum for parcels in areas designated for agriculture.

Few ranchers welcomed this: the land's development potential was money in the bank. Besides, they did not like to be told what they could or could not do with their property. To win their support, the anti-growth people had to learn to appreciate the ranchers' needs, troubles, and views. Eventually, a coalition of ranchers and anti-growth people formed, and out of it grew MALT, with a board of directors composed mostly of ranchers. With more than $1 million from the State Coastal Conservancy, matched by the Leonard and Beryl Buck Trust, administered by the San Francisco Foundation, this land trust bought development rights and conservation easements from willing farmers.

Now, however, MALT has almost run out of funds, says its executive director, Robert Berner. It is working to find new sources. A 1992 ballot measure that would have provided a $25 county-wide parcel tax for MALT and the Marin County Open Space District won 62 per cent of the vote but not enough for the required two-thirds majority. The financial resources of the Coastal Conservancy are rapidly shrinking.

THE COWELL RANCH STORY

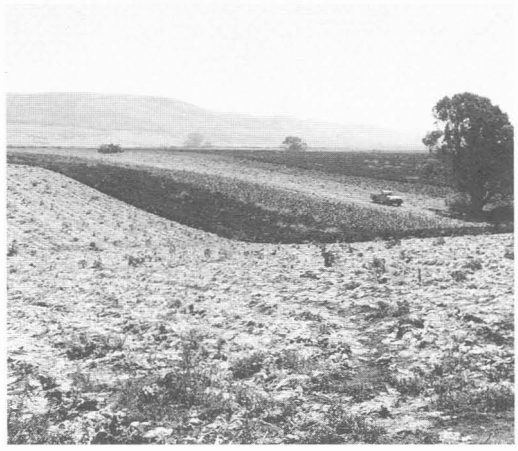
Aldo Justi was leasing land at the Cowell Ranch in 1986 when the owner, the Cowell Foundation, put the entire property up for sale, with an appraised value of $6.7 million. With its two miles of ocean frontage, its location within commuting distance of the Silicon Valley and San Francisco, and its scenic beauty, this land was most desirable real estate. It was zoned to allow for the construction of 17 single-family homes. The Justis' farming days seemed numbered.

Then POST set out to acquire the ranch for conservation. This was a daring move that required the land trust to go way out on a limb financially, but it worked because much work and talent were invested, help came from the Coastal Conservancy and other public agencies, and because luck played a part. But perhaps most crucial to success was the multi-benefit package built into the project. It would preserve farmland, wildlife habitat, and open space, and would also provide public access to a blufftop and a beach. Because it provides all these benefits, the Cowell Ranch project won the necessary community support. It took ten years to accomplish, but is now considered an unqualified success.

On September 19, a final milestone was reached with the opening of Cowell Ranch Beach. The brussels sprout harvest was in full swing as the first visitors walked the new trail at the northern edge of Justi's fields to the 131-step stairway that led down to the beach that had, until that day, been inaccessible to the public. (Newspapers called it the "secret beach.") John Justi stopped to talk with a few people, then went back to work.

Here is how the project worked.

- In 1986-87 POST conducted an intense fundraising drive, raising $2 million in six months for the needed downpayment. It also took on a $2 million loan, committing itself to purchasing the ranch whether or not other funds became available.
- In 1989 the State Coastal Conservancy bought conservation easements from POST. Because of the property's development potential, these easements represented the bulk of its value.



JAY JONES

DICK WAYMAN

CROPS vs CONDOS

The California Conservation Corps built the stairway to Cowell Ranch Beach.

- In 1991 POST sold the underlying fee title to 1,197 acres to two family farmers at an affordable price.
- In 1992 POST built a trail to the blufftop, stairs to one of the beaches, a visitors' parking lot, restroom, and interpretive signs. It donated these, along with 73 acres, to the Conservancy. The county, the state parks department, and the Coastal Commission had all advocated public acquisition of the Cowell Ranch beaches.
- In 1995 the Conservancy transferred these lands and facilities to the State Department of Parks and Recreation. One of the other two beaches is now protected for harbor seals, the third will eventually be opened to the public.

The process this land trust followed can serve as a model for others, but it can not be duplicated. "Each property and every owner's situation is unique," says John Wade, POST's director of land protection. "You have to look at the character of the land, the owner's desires and goals, and the planning and public policy arena." He adds that "it also helps immensely if there is an organization like the Coastal Conservancy to acquire development rights. Without that it may be doable, but it's very tough."

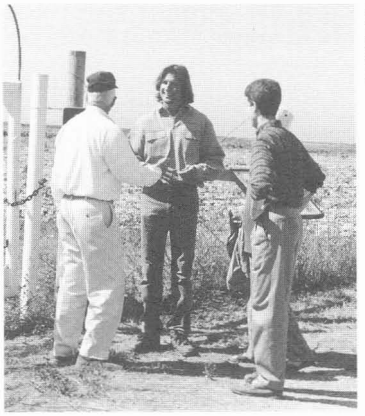
The timing was fortuitous. Just after POST had committed itself to buying the ranch, conservationists began to work on a major statewide bond initiative for parks, open space, wildlife, and agricultural preservation. Supporters in San Mateo County managed to earmark $7 million for the San Mateo coast and more than $5.1 million were subsequently allocated to Cowell Ranch. The Coastal Conservancy used these and other funds to buy easements over the entire ranch.

It's important, says Wade, to work closely with farmers "to make sure that recreational use, if any, does not intrude on farming, and to maintain the agricultural and economic function of the farm." A study on farmland conservation prepared for the City of Arroyo Grande (San Luis Obispo County) and the Coastal Conservancy, put it this way: "Farmland should be protected from urban encroachment, but not at the farmers' expense."

Land trusts can play a crucial role in securing the future of coastal agriculture, especially now as the public purse continues to shrink faster than wool in hot water. They can be most effective when they structure farmland preservation projects as part of a package that brings quality of life benefits and other rewards to a range of nonfarmers who live or work in the region. What's a farm to one person is a greenbelt to another. ■

David Hayes is the Coastal Conservancy's project manager for the Cowell Ranch project. Rasa Gustaitis is editor of Coast & Ocean.

JAY JONES

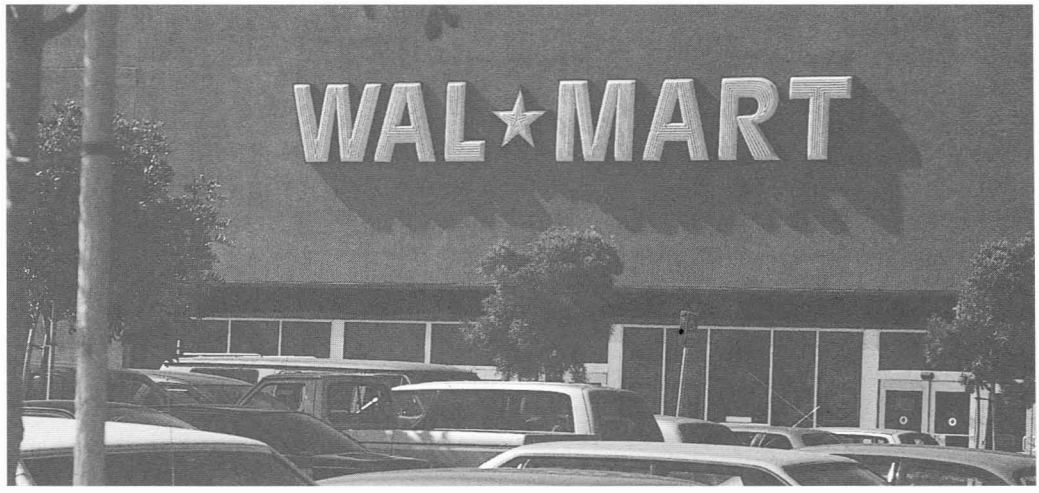


John Justi with well-wishers

AGRICULTURE IN NORTH COASTAL SAN DIEGO LACKS PROTECTION.

PAVING THE FLOWER FIELDS

DICK WAYMAN



PATTY MCDUFFEE

ON A MESA IN ENCINITAS, bulldozers are reshaping land that was, until recently, planted in tomatoes and flowers. Soon a resort with its own golf course and attendant residences and shopping center will occupy this ground. Here in north coastal San Diego County, where the soils and climate are ideal for growing high-value nursery crops, fields of poinsettia, ranunculus, and roses have long contributed to the regional identity and economy. But urban development has been encroaching on farmland at a furious rate.

The cities of Encinitas and Carlsbad, neighbors along the coast, have long been associated with floriculture, but neither city offers agricultural zoning that would help protect farmland from development. In these cities agriculture exists only under interim use permits. "That leaves it wide open. It's fair game for anyone," says Penny Dockry, executive director of the Resource Conservation District of Greater San Diego County. Prime farmlands within the coastal zone are afforded some protection through the state's Coastal Act, and farmers are offered the opportunity of gaining some tax relief through the Williamson Act. These measures, however, have done little to keep developers at bay in this county.

"I used to be on the frontier for agriculture, says Ben Hillebrecht, 65, a second-generation farmer near the inland city of Escondido. "There weren't any farms beyond us, it was brush. We were on the edge of imported water. Now I'm on the frontier again." There are houses almost all the way around his 200 acres. He continues to grow citrus, avocados, sweet corn, watermelon, and cantaloupe, and to sell his harvest at a roadside stand. But the farms will eventually have to go, he believes. "How can you justify farming on a piece of land that's worth $100,000 an acre, maybe more? The price of water and the other prices keep rising. When I was growing up, Escondido had 5,000 people, now it has 120,000 [up from 64,000 in 1980]. When I was 25 years old and planning to be a farmer, people already said, 'This is too nice a place to live to waste it on agriculture.' I've seen it coming down the pike. When I was a boy Orange County was all oranges; now they're gone."

Farmers face mounting obstacles as urbanization closes in. Their new residential neighbors might look favorably on open space and fields of flowers, but they complain about the dust and noise that farms inevitably generate at times. As the roads fill with commuter traffic, it becomes harder to move farm equipment around. Competition from residential and commercial users has raised San Diego County rates for agricultural water to among the highest in the state. In addition, flowers face intense foreign competition, including the rose and carnation growers of Ecuador and Colombia. Some of the county's growers are moving south, lured by cheap labor and land in Baja California.

Urban development seems to be winning out over agriculture in this region, but the battle is not over yet. According to Mike Cardosa, a Carlsbad grower, the county is still a preferred area for growing weather-sensitive flowers or flowers requiring high technology, such as ranunculus—despite cheaper land and labor elsewhere. In 1994, the county's nursery, flower, and vegetable farms, many of which are along the county's north coast, reported gross revenues of more than $670 million. After this money was spread around, it probably contributed over $2 billion to the regional economy. And that's not even counting the unquan-

tifiable value that farming adds to coastal towns. To live and work among fields of flowers is much different from living and working in a sea of urban sprawl.

Local governments have taken some steps to mitigate the losses. These steps will not save agriculture, but they can provide a bit of life support. Since the 1980s the city of Carlsbad has required a fee, generally ranging between $5,000 and $10,000 an acre, for developing on agricultural land. Until 1995, the funds collected were deposited in the Carlsbad Agricultural Improvement Fund, which is under the care of the Coastal Conservancy, to be used for projects designed to support agriculture. The irony here is obvious: the destruction of farmland paid for farmland protection. Still, a few useful projects materialized. Foremost among them was the construction of the San Diego International Floral Trade Center, just off Interstate 5 in Carlsbad. Before this privately-owned wholesale marketplace was opened in the late 1980s, buyers had to stop at widely scattered sales locations and greenhouses. Now they meet the sellers under one roof and trucks need only to back into a single loading dock to pick up a variety of nursery products grown in the area. The center was built as a joint venture of the Coastal Conservancy, local government, and the family-owned Carltas Company.

A loan from the Agricultural Improvement Fund also secured the future of a 70-acre ranunculus field, at least for a while. The flower fields are on a gently sloping hill facing the ocean. They are bordered by car lots, restaurants, and other commercial development and are part of a 447-acre property owned by the Ecke family, owners of Carltas Company. Most of the property was farmed until recently; now much of it is being built over. The many-hued field of ranunculus will form a backdrop to an amusement park, Legoland, which is soon to be constructed. This is a depressing prospect for some who remember the open flower and vegetable fields that were here for 30 years. Still, last spring 200,000 people visited the remaining field between March and May, and carried away thousands of bouquets and bulbs that spread to many homes and gardens.

The mitigation fees have also provided funding for the Carlsbad Agricultural Grant Programs, launched in 1988 and administered by the Resource Conservation District of Greater San Diego County. So far, almost two dozen projects have received small grants, including two farmers' markets, several school gardens, efforts to develop new flower varieties and production methods, and research into biological pest control. Several of the projects have received statewide recognition for contributing to knowledge about the commercial use of green wastes from residential yards and gardens and the recycling of water and solid materials (including chemical containers, plastics, and cardboard) from farming operations.

Whatever its merits and shortcomings, the Agricultural Improvement Fund has now lost its financial base. In early 1985 the City of Carlsbad returned most of the money in the Fund to the developers. It continues to collect the fee for developing on prime land, but no longer requires that the funds be used to support farming. About $2 million remains in the fund to be used for agricultural projects. Hillebrecht, though, says the grant program is "a disappointment." What will school gardens do to help keep farming alive, he asks. "When the kids grow up, how will they go into agriculture if they can't make any money? Nothing's done to reduce the cost of our water."

Hillebrecht believes that some farms will nevertheless continue to exist in the area, but "they will be isolated incidents." In Los Angeles, for instance, he says, some crops are grown under power lines. ■

CROPS VS CONDOS

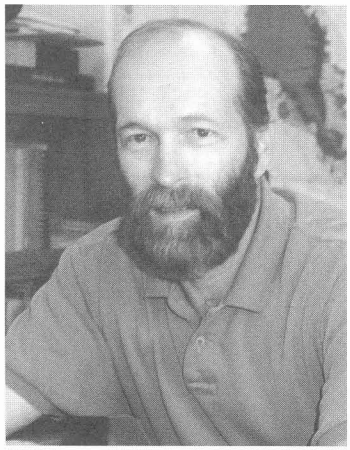
DICK WAYMAN

PATTY MCDUFFEE

Flowers and houses—Carlsbad

CAN A FARMER PROFIT *while also restoring wildlife habitat? Can endangered species be protected without making the farmer's life more difficult than it already is? Dennis Bowker, resource conservationist with the Napa County Resource Conservation District, says yes. Agricultural and environmental conflicts often turn out to be illusory when examined in terms of interest-based watershed stewardship. This is a down-to-earth, from-the-bottom-up, democratic approach, based on the assumption that the best answers come from the people who face the problem. In Napa County, it has helped to change land use practices and build partnerships among private landowners and government agencies.*

"WE HAVE TO KNIT THE WATERSHED TOGETHER"



RASA GUSTAITIS

"GET GOVERNMENT OFF YOUR BACK BY SHOULDERING A LITTLE RESPONSIBILITY..."

—Motto of the Napa County Resource Conservation District

DENNIS BOWKER: We regulate on the basis of the 0.1 percent who cause a problem, not for the other 99.9 percent who really want to keep their world functioning well.

COAST & OCEAN: So you start with an assumption of good will and common interest?

DB: No, not common interest. In fact, it's easier to come up with more creative solutions if you don't have common interest. Interest-based stewardship is based on personal self-interest and on the recognition that satisfying other people's self-interest is important to getting your self-interest satisfied. It's creating a different balance between the overall community interest and the individual interest.

C&O: For instance?

DB: Lately I've been working in watersheds all over the western U.S., and in one case, in Hawaii, a city was spending $250,000 on community outreach because so much mud was running down hillsides into the bay it was killing coral. So the city was trying to get the community involved in solving the stormwater problem, and the community wasn't coming alive. We went out to find out what people's interests were and found that one of them was keeping the carpets and their cars clean: they were always tracking in this weird stain from the mud. And when we made that connection, people all over town started getting concerned about stormwater runoff.

C&O: Sounds too good to be true.

DB: That's what a lot of people say at first; and some people won't even get involved in the interest-based process because they say it's a lot of pie in the sky, that people are basically evil. But when you use an interest-based approach good and bad don't enter into it. You do away with a lot of value judging and move in a direction that is much more efficient.

C&O: Is that happening in Napa County?

DB: In the Huichica Creek watershed, sedimentation was a real problem. The habitat of the endangered freshwater shrimp (*Syncaris pacifica*) was being degraded. Land use had changed as the area was sold by dairy ranchers to wine growers. Grape growers—for economic reasons and, we discovered later, for good geologic reasons—wanted to farm straight up and down the hills and till. Some environmental interest groups wanted regulations against tillage. We looked at that and said, "The issue here is sedimentation, so let's work on that to see if other options can be developed, rather than passing a regulation to deny a practice." We found creative ways to avoid sedimentation and still plant up and down the hills, in some cases to till and in others to plant grasses between the vineyard rows. As a result, landowners did not increase their costs. In many cases their maintenance costs decreased and the value of their crop increased. Habitat increased, sedimentation decreased. But it took everyone working

CROPS vs CONDOS

together as partners instead of getting locked into the usual adversarial process where you go to a hearing and someone throws up a proposal and you argue about it, and nobody remembers what the proposal was designed to do.

C&O: One would think tilling straight up and down would be a bad idea because of the erosion.

DB: Because of the structure of the soil on these hills, if they had cut sideways into the hill, you would have had massive sliding. So instead, we either planted grass everywhere or, in some cases, strips of grass to act as filters for the water running down, and in other places we would leave a lot of organic matter. There are also water diversion pipes, so the water does not run a long way down the slope. We were able to create specific solutions for each landowner and do whatever was best for each site. The type of equipment the farmer was using had a lot to do with it; the resources a farmer had: were they willing to put in expensive hardware? If they weren't, we'd find some less expensive way that would have different ramifications. With the Coastal Conservancy's help we were able to set up demonstrations of different kinds of practices.

C&O: So they did not lose their soil. And how did that help them get more for their grapes?

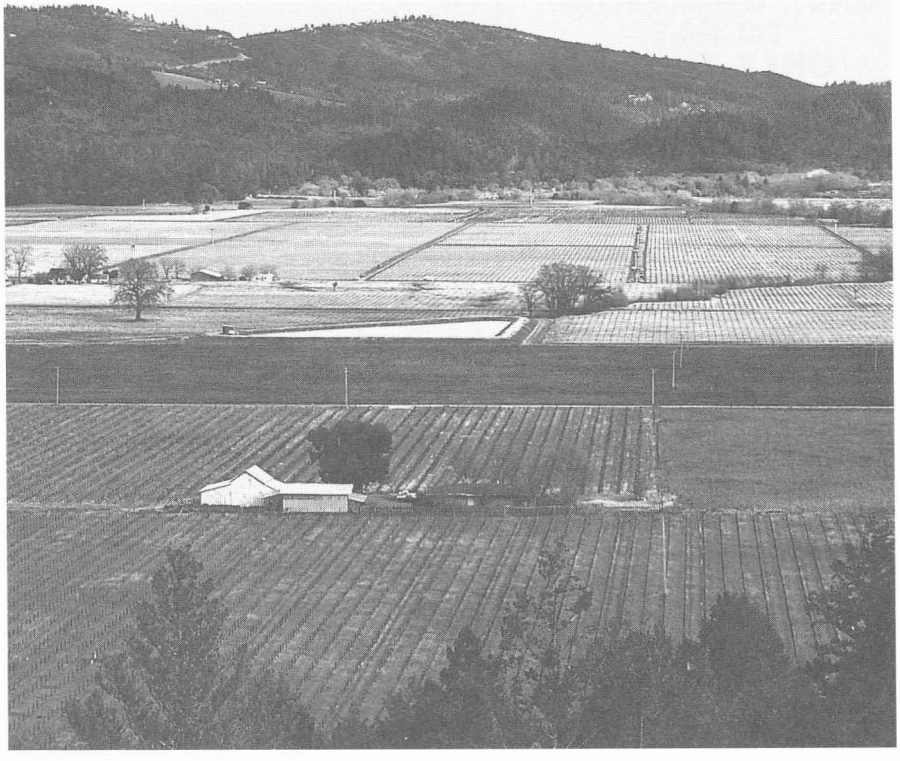
DB: With grapes, what's wanted is high varietal characteristics. When a plant is too vigorous, the grape may have a flavor like canned peas, or mown hay. By planting grass between the rows we were able to keep the leaf cover in balance with the fruit and get away from the grassy flavor. With just the right mix of cover crop we were able to change a grassy sauvignon blanc to a taste more like melons or papayas—not as a reaction to government regulation but as a way to develop higher-quality grapes. And because we did all this we now have hundreds of acres of native-grass lands that weren't there before.

C&O: And how are the shrimp doing?

DB: Very well. The growers in that watershed have sort of adopted the shrimp, not out of altruism, but basically, after working together we all came to a realization that the shrimp was like a gauge. As long as that habitat is in good shape then the huge investment per acre of grapes out there is in good shape; because the watershed is in pretty stable shape they can keep on growing.

C&O: I heard that a school has also adopted the shrimp in Huichica Creek, that it has a shrimp club.

DB: Brookside School in San Anselmo [Marin County]. They came out once to a meeting of the landowners, brought cookies they had baked and a big banner, and thanked the growers for the work they did to protect the shrimp. And they did some creek cleanups too.



NAPA COUNTY RCD

C&O: Great story. So Huichica Creek is in better shape now?

DB: The bottom part has changed from silt to gravel, and there are spawning grounds in the gravel for steelhead. And that's not after any million-dollar restoration projects, it's just because people did some simple things. This is not a project, it's a way of living—like having a healthy diet. Agencies frequently want hard projects, with dates, because of public accountability. We say, "We're just going to manage this watershed." The changes in attitudes, in the way we move every day, are far more significant in the long run than stream-bank armor and planting trees. That will happen in due time.

C&O: Without the Endangered Species Act, would you have had enough incentive?

DB: We focused on the issue of watershed equilibrium instead of on a law; on shrimp

habitat maintenance, not on the endangered species law. We developed the approach with biologists, regulators, watershed managers, homeowners, and farmers. The growers sat down with EPA pesticide regulators and drew up their own restrictions on use of chemicals. Alan Demerest of the EPA said, "This is terrific, it's far better than we could have done in Washington." The people to be regulated came up with the regulations and said, "We can live with these things. We'll protect the shrimp." The U.S. Senate is using Huichica Creek [seven miles long, with a 4,500-acre watershed] as a national model for the 1995 farm bill. I think we need an Endangered Species Act that will assist in the protection of species, without the paternalistic view that assumes local people don't know how to do the job. We would have better results.

"IN NAPA VALLEY. . . , THE REALIZATION HAS COME THAT IF ONE LEAVES ONLY GRAPEVINES TO EAT, ONLY THINGS THAT EAT GRAPEVINES WILL SURVIVE."

—From introduction to the Napa River Watershed Owners' Manual, *Napa County Resource Conservation District.*

NAPA COUNTY RCD

UNIQUE FORM OF GOVERNMENT

C&O: There's a certificate on the wall that recognizes your work, and it says that the resource conservation district has changed to meet the changing needs of agriculture in the county. Tell us about those changes.

DB: The [resource conservation] districts were set up as local-priority-setting boards, under state law at federal request. That's still a unique form of government. This district was formed in 1945. It was the first countywide RCD in the state. Early on, there was a lot of action to drain the wetlands of Napa for productive agricultural use and to build dams. And there was then—as there continues to be—heavy concentration on erosion control. Napa was the garden for San Francisco for a long time. Tomatoes and row crops were grown here and barged down the Napa River. Then, in the 1950s, the county gradually shifted from row crops to orchards, experimenting with terracing hillsides. In the 1960s, there came the realization that wildife habitat, water quality, soil erosion were all connected.

C&O: So you started working with farmers on the connections.

DB: The challenge was getting the government to participate with the landowners, rather than bringing something to the landowners for them to buy into. The other side of the challenge was that along with the command-and-control mentality we had to get the bitch-and-sue mentality out of the way. Once you get past that hump it's amazing how much gets done for how little money and, in roughly three-quarters of the cases, for higher profit for the landowner and greater protection for the watershed.

C&O: What kind of future do you envision for agriculture along the bay and the coast?

DB: I think watershed management will connect people. It will connect people in downtown Napa with the people on the slopes of St. Helena, for instance, so they will realize that what they do affects one another—not necessarily in the negative sense. Building an interest-based watershed stewardship changes the balance between the overall community interest and the individual human interest. As the community as a whole gets more involved in its watershed it will understand the function of agricultural land better and will begin to look at it as part of their world instead of as something owned by a subsidized guy who's out running over kangaroo rats with tractors. People are aware that farming is in trouble, but too many don't understand the role it plays in their lives. To say that it's not their concern, it's the farmers' problem, is like saying about a guy living in your basement apartment which has termites,"That's his problem." Understanding and rebuilding our communities will save agricultural land more than laws because laws don't protect anything; it's people's reactions to the laws that protect. The laws should follow the ethic. A watershed ethic protects agricultural land from disappearing.

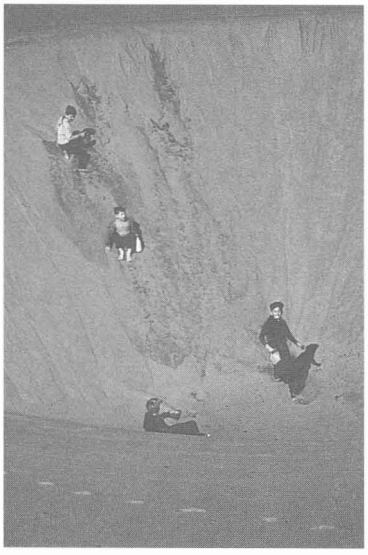
C&O: In the 1970s a few people talked about bioregions and watershed communities and they were considered radical. Now those terms appear in planning documents and government reports.

DB: Tom Waits wrote a song, it's got one of my favorite lyrics: "I never heard the melody until I needed the song." People are starting to need the song and beginning to hear the melody. We need to knit our watersheds together. ■

For information about interest-based watershed stewardship workshops, contact:
Napa County Resource Conservation District, 1303 Jefferson St., Suite 500B, Napa, CA 94559.
Telephone: (707) 252-4188,
Fax: (707) 252-4219.
Copies of the Napa River Watershed Owners' Manual *are available from the Napa County RCD at a cost of $25 to persons residing outside the watershed.*

The neighbors come calling

NANCY WARNER



BUILDING BRIDGES, MENDING FENCES AT THE NIPOMO DUNES PRESERVE

NANCY WARNER

TRAVEL 25 MILES SOUTH of San Luis Obispo on Highway 1, past Pismo Beach, Oceano, Nipomo, and Guadalupe, and you're in the Santa Maria Valley, with its fields of broccoli, lettuce, cauliflower, strawberries, and other row crops. Look to the west and you'll see white sculpted dunes rising above the green lines of vegetables. Ask someone what those dunes are called and you may hear "Pismo," "Callendar," "Oso Flaco," "Oceano," "Guadalupe," or "Mussel Rock." All these names refer to parts of an 18-mile-long sandscape that geographers know as the Nipomo Dunes Complex. It is a National Natural Landmark and has been described as "the most unique and fragile ecosystem in California."

Within this domain of enormous shifting sand formations the 4,000-acre Guadalupe–Nipomo Dunes Preserve extends across the San Luis Obispo and Santa Barbara County lines. Here the Nature Conservancy is striving to protect unique plants and animals while, at the same time, providing access to the public for fishing, hiking, and other recreation. This is a tough balancing act, and in attempting it we have learned some lessons that should be useful elsewhere.

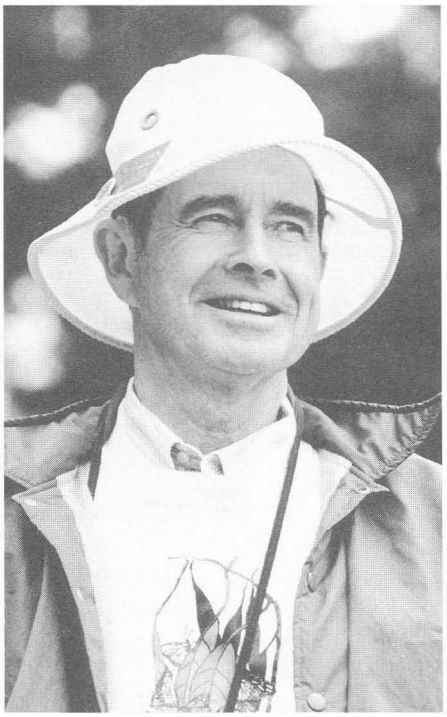
The particulars at stake in the Nipomo Dunes are unique, but the basic issue is much the same up and down the state. Californians value the coast's wildness and want natural areas to stay natural. At the same time they want to hike, swim, fish, surf, camp, and, where possible, ride horses and various vehicles along the shore. They feel passionate about free public access to their beaches and do not want to pay any more than they are already paying for the management of the public areas they love. Can these often conflicting interests be reconciled?

Within the preserve, along Guadalupe Beach, the endangered least tern scrapes a hollow in the open sand to lay two speckled, sand-colored eggs, exposed to predation and careless feet. Farther inland, undeterred by the blowing sand, the dune spectacle plant opens pink blossoms above succulent leaves, then forms a seed pod that resembles the eyeshades some people wear when trying to sleep in bright daylight. Like the rare dune thistle and many other plants in the harsh dune environment, it might have already been listed as threatened and endangered, had it been studied as much as some of the other rare plants on the central coast. If these plants are not protected now, the opportunity to assure their survival could be lost forever.

But people who live in the area also need to use the preserve, for it provides the only public access to the shore within five miles to either north or south. It's one of the few places in northern Santa Barbara County where you can walk on a beach. Residents of the town of Guadalupe come to catch fish for dinner; surfers from Orcutt and elsewhere come for the waves. For years, people have been walking dogs, riding horses, coming to see the giant coreopsis in bloom, and otherwise enjoying the multiple wonders of the great dunes.

The Nature Conservancy (TNC) thought it had worked out a reasonable balance among these diverse interests in 1992 when it set out to implement a management plan

Jack Beigle moved to Pismo Beach 11 years ago after retiring from Rockwell International in Pittsburgh, Pa. He and his wife, Grace, saw the dune landscape many years ago on a bicycle touring vacation and vowed to return to live here someday. Now they volunteer in state parks and work to protect the dunes. He leads nature walks in the Oso Flaco Natural Area for the Nature Conservancy and also serves as vice chair of People for the Nipomo Dunes. This local citizens' organization was formed in 1984 to protect the dunes from Pismo State Beach to Point Sal State Park.



Much has been accomplished, thanks to the Nature Conservancy and the Coastal Conservancy. At Oso Flaco, the footbridge and boardwalk have made it easier for elderly people and provide minimum-impact passage across the lake. Fishing on the lake and the beach has increased thanks to the improved access. Attendance has dropped because of the fee, but it's a big improvement to have an attendant in the kiosk to keep an eye on things. There are docent-led walks several times a month, free of charge. This is a rare place, Oso Flaco—a freshwater lake and stream through the dunes. You can stand on a dune, look downstream, and watch muskrats, teals, and red-winged blackbirds. Then you can look over the next dune and see shorebirds flying. It's a joy to volunteer in a place like this.

PORTRAITS: LAURA J. DICKINSON

Julie Fish is a bilingual education teacher in Santa Maria and lives in Guadalupe.

We moved here from Los Angeles because the beach here was wild and wonderful. For several years I got up early and took the dogs to the beach, so I know who uses it: a lot of Filipino and Mexican fishermen, mostly the poor. A lot of couples load up their kids and drive out there. The kids go out, the adults stay in the car. And there are the surfers, and the health-conscious walkers.

And here came the Nature Conservancy out of nowhere, and without talking with anybody they started charging $4 to go to the beach. They put up a guard hut and a gate. I was appalled. Seniors were upset that they couldn't just drive out and see the sunset. So I went to the library and looked up the laws on access to the beach. I took petitions around the town of Guadalupe. I asked "Do you want to pay to go to the beach?" and the answer was: "No."

We saw the Nature Conservancy as scientists who wanted a preserve on the beach that you don't step on. They would do it, the local people weren't smart enough to protect it. They didn't go to the schools, they didn't prepare us for this. We started a little revolutionary work: Free Guadalupe Beach.

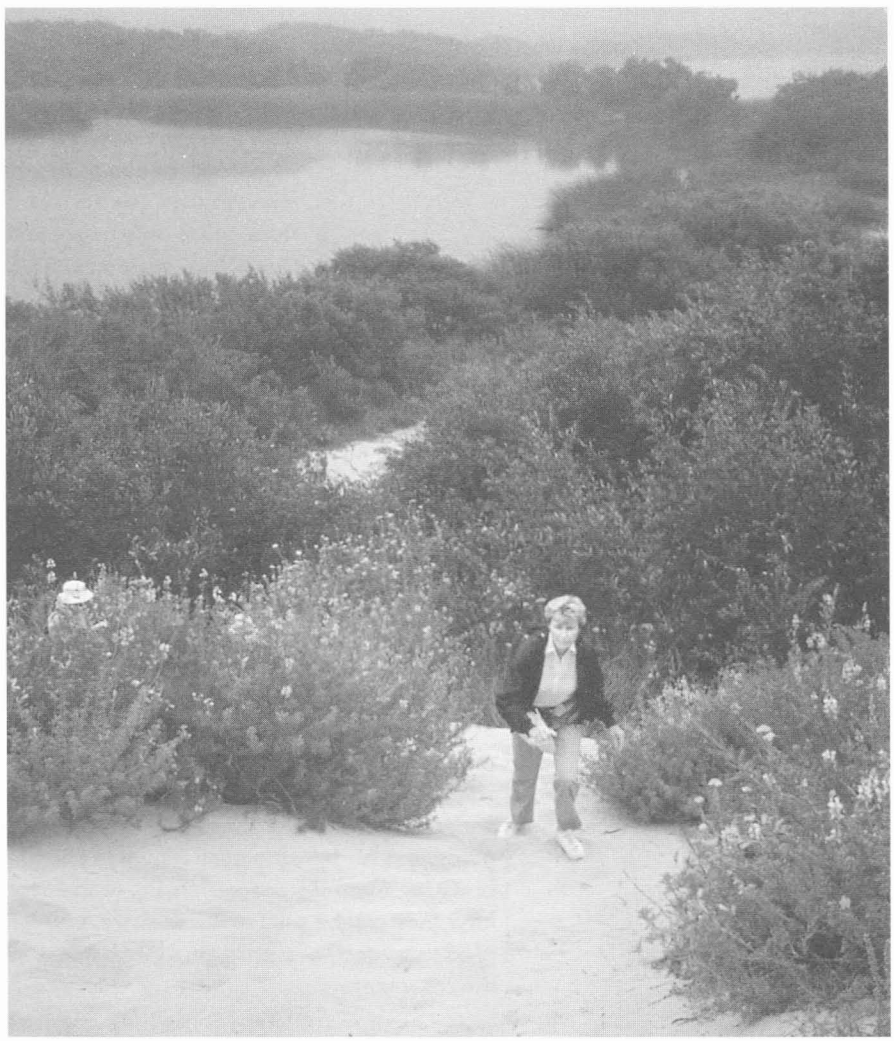
developed with funding from the State Coastal Conservancy. This plan was the product of more than ten years of study and discussion and had been approved by local governments as well as state and federal agencies. It included strategies for restoring habitat, established restrictions on dogs and horses, and provided that an interpretive center be built in the dunes near the preserve's southern entrance, which leads from Santa Maria to Guadalupe Beach. To the north, at the Oso Flaco Lake Natural Reserve Area entrance, a footbridge and boardwalk were to be constructed to provide better access and at the same time protect this unique freshwater lake and wetland. To help pay for management costs, there was to be an admission fee at the two preserve entrances. In the plan it was set at $3 per car per visit, or $30 for a year's pass, with a limited number of free passes available to local residents. TNC later decided to raise the single-entrance fee to $4, to be consistent with the newly set state parks fees.

What happened next was a shock to The Nature Conservancy, which takes pride in its nonconfrontational approach to conservation. As soon as the kiosks and iron rangers for fee collecting were erected and the new regulations were posted, outraged local citizens raised a storm of protest. They complained that they had not been consulted in any of the decisions these outsiders—as they saw TNC—had imposed on them. Public meetings about the management plan had taken place in Santa Barbara, San Luis Obispo, Sacramento, and San Francisco, but not in the town nearest to the dunes, Guadalupe, and no local advisory group had been formed. The ire focused on the entrance fee, on the restrictions on horses and dogs, and on the site selected for the visitor center. Graffiti appeared on the new kiosks: "Nature Conservancy get out."

Santa Barbara County supervisors responded to the furor by rescinding the entrance fee they had earlier approved, thus leaving TNC without adequate funds for effective management. Because it was on state park land, the fee at Oso Flaco was retained, but the number of people using that entrance decreased after it went into effect.

The Nature Conservancy is a private nonprofit conservation organization whose mission is to preserve native plants and animals and the natural communities they need to survive. In most of its preserves, public access is controlled and guided educational tours and research are emphasized. In this case, however, the preserve was created with funding from the Coastal Conservancy, which is a state agency with a mandate to provide public access. In addition, a part of the property—the Oso Flaco Lake Natural Area—was state park land. TNC had planned to conduct a user study along with a natural resources study. Under pressures of putting together a complex dune protection deal, the user study was omitted.

Now TNC took stock of what had gone wrong, understood its mistake, and moved quickly to make amends to the local community and to begin to revise the management plan with local participation. In that effort it came to learn about the people who live near the preserve and to understand that the Nipomo Dunes can be protected and restored only if neighbors join the



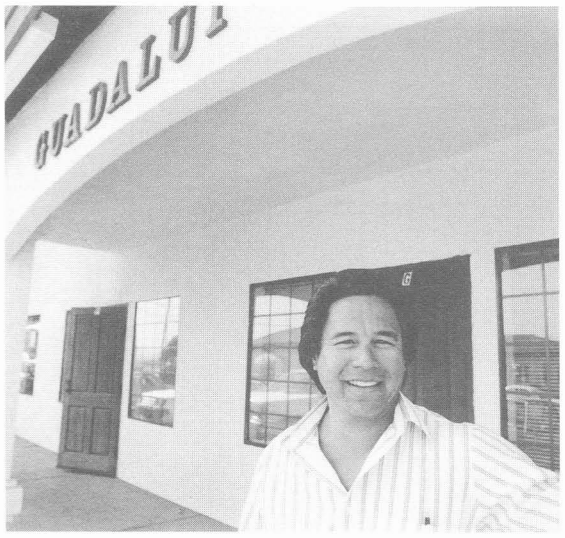
NANCY WARNER

effort. As had already been proven elsewhere, TNC learned here that neighbors can be the best stewards of places they value and possess in common as a community.

TNC recruited volunteers to lead regularly scheduled walks throughout the preserve, and went into local schools with a curriculum it developed to help teachers introduce students to the wonders of the dunes and the responsibilities associated with protecting them for the future. With the help of local volunteers and funding from the State Coastal Conservancy, TNC completed the footbridge across Oso Flaco Lake, which connects to a boardwalk trail designed to protect dunes and wetlands while also allowing people with limited mobility to go into the dunes. The organization also began to work with the local community to explore the possibility of locating the visitor center in the town of Guadalupe rather than in the dunes as originally planned.

Earlier this year, aided by a grant from the oil mitigation fund in Santa Barbara County, TNC launched a study of current uses of the preserve. This analysis helped to establish a meeting ground with local communities. It included personal interviews, public workshops, and surveys both at the two preserve entrances and at shopping centers in Guadalupe and Santa Maria. The public workshops, designed with the assistance of local leaders and activists, offered an opportunity for people with varied interests to interact while giving them insight into the challenge of managing this complex preserve.

The results of the study, presented at a public meeting in Guadalupe on October 26, show that the community is very interested in the dunes, that its diverse members are willing and able to look at the issues from many different angles, and that local residents are ready to participate more fully in the preserve.

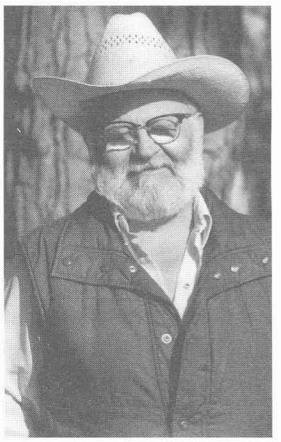


Aristón Julian is manager of the Community Health Center of Guadalupe.

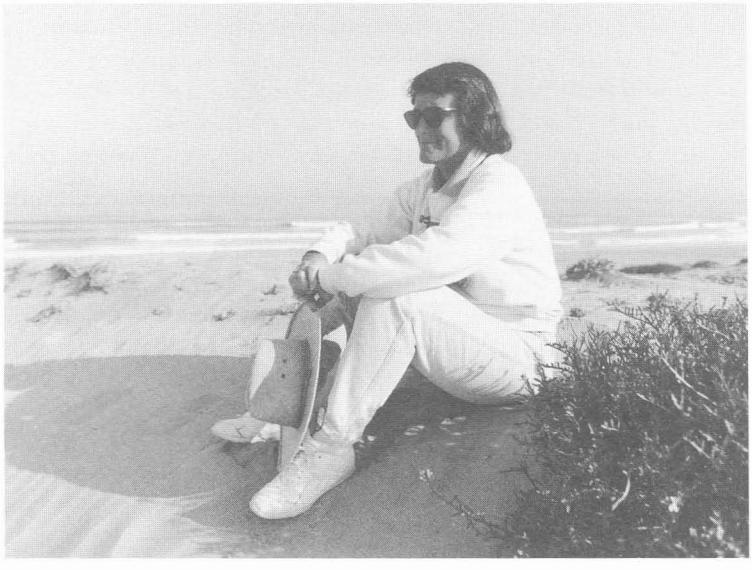
I support the Nature Conservancy. I was born here, and the coastal area was quite pristine when I was growing up. Then the dunes were almost destroyed by off-road vehicles, mainly outsiders. The Nature Conservancy didn't do the footwork necessary to have the backing of local residents when they began to manage the preserve, so they had to backtrack to mend fences. The surfers, who are mostly anglo and middle and upper class, were able to get to their political representatives quickly. Guadalupe residents, 85 percent Latino, didn't have the political clout, nor the voice. Most of them are low income people who used Guadalupe Beach for fishing and family outings. Even a fee of $1 a day could add up. Though free passes were available, they were distributed at locations that weren't familiar to many Spanish-speaking people. Since the fee has been rescinded, there has been a lot of progress. Building the visitor center in town, I think that's real positive. There should be a strong link with schools and with residents.

PORTRAITS: LAURA J. DICKINSON

Barry Stotts lives in Santa Maria and works to preserve equestrian access and to expand access for persons with special needs.



Guadalupe beach is the only North [Santa Barbara] County access to the beach that also connects to the Coastal Trail. But it wasn't the Nature Conservancy that closed the road to that beach to horses, it was the county. Trailers were getting stuck in the sand and blocking the parking lot. Right now we're trying to mend fences, make a new future, create new guidelines for beach access. Youth is one of the key elements to bring in. If you discuss with teens or pre-teens, on a level basis, how they can be part of the ecology, you'll find they will be glad to protect, preserve, and teach future generations about the resources.



Mary Perry has been studying endangered least terns for five years and snowy plovers for two years in the Nipomo Dunes, working with TNC and the State Department of Parks and Recreation.

Given the multiple uses of the preserve, the protection for the birds is good. Our least tern colony has been extremely successful.

At the beginning of the nesting season, in mid-March, TNC staff and volunteers put up a symbolic fence: posts with signs on them along the western and northern edge of the colony. That has kept the human population at bay. Staff at the kiosks hand out pamphlets and explain that if least terns are disturbed repeatedly they turn skittish. We're in a cooperative state with most of the public now. There's more interest. People say: "I didn't know we had an endangered bird here. Where did they come from?"

Most who use the preserve, the survey showed, live within a half-hour's drive. They are ethnically diverse, with wide-ranging and sometimes conflicting interests. Most value the preserve as a natural area offering both educational and recreational potential. They agreed that education for adults and children was a priority and advocated public involvement in the upcoming revision of the master plan. With regard to the visitor center, most felt that it was a good idea to build it in Guadalupe and that it should complement the school curriculum, providing after-school youth activities, hands-on learning, and teacher training, and should increase awareness of the special nature of the dunes preserve. Most respondents considered the fee at the Oso Flaco Lake Natural Area entrance fair. (There were no questions about a fee at the southern entrance, since that fee had been rescinded.)

According to those surveyed, TNC staff had recently worked hard to connect with the people of Guadalupe, had been given entrée to community groups by their leaders, but found it difficult to communicate with some of the Latino population. The consultant who conducted the survey, Steve Christiano, reported an enlightening conversation with a woman who pointed out to him that Guadalupe lacks a plaza—the traditional center in Latino villages and towns, the place where people come to visit and stroll, where young people meet and children play. The dunes were the nearest open space, and therefore were serving the function of a plaza, providing a community gathering place.

The results of the survey will guide TNC's next steps in revising the management plan. TNC is committed to building strong links with area neighbors. Some limits on public use of the dunes are essential if this priceless natural treasure is to be protected for future generations. Before the 1960s, when all the land now in the preserve was privately owned, local people traveled to the beach on roads built and maintained by ranchers and oil companies. They could clam, surf-fish, and enjoy community campouts there without paying a cent or seeing a single sign listing rules of behavior. In the mid-1960s, off-highway vehicle (OHV) enthusiasts discovered the thrills of climbing the dunes and racing up and down the beach, and before long thousands of dune buggies appeared. Although this sport brought some business to the local towns, the vehicles ravaged the landscape and intruded on farm operations. Fragile plant communities, which had anchored the dunes in place, were obliterated by destructive tires; as a result, sand began to move into the lakes, marshes, and farmlands. In 1982 this destruction was stopped when San Luis Obispo and Santa Barbara Counties adopted local coastal plans and restricted the use of OHVs to the newly acquired Pismo Dunes State Vehicular Recreation Area to the north.

Although local people continued to have free access, the future of the dunes was much in doubt in the ensuing years. One of

Mike Mills farms 200 acres near Oso Flaco, growing broccoli and occasionally celery.

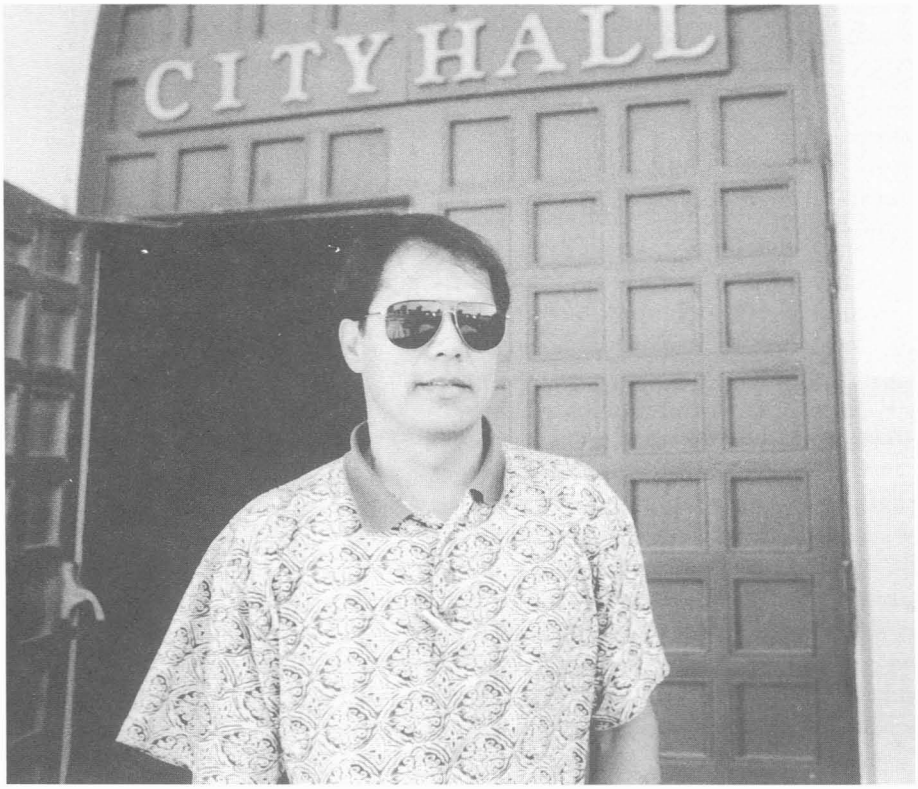
I'm a farmer who's a neighbor to the Nature Conservancy. That's oil and water—but it's worked. Our fields border the dunes and wetlands, and part of the dunes are on our ranch. We have some wetlands that are being lost by sand moving in. Once you take the brush off, the dune becomes a machine. It's stopped now, though it's too late.

When the dunes were open to off-road vehicles, people were camping in our driveways, driving over our crops and irrigation pipes. Since they've been taken out I've seen a phenomenal improvement. Wildlife and plant growth have come back. I don't see as many bare dunes anymore.

I'm 37; I've worked on the ranch full-time for 20 years and I came down here with my dad as soon as I could move a sprinkler pipe and pull weeds, and I can say that the wildlife situation is as good as it used to be. Coyotes visit every day. I've seen a wood stork and on occasion peregrine falcons. There's a family of raccoons in the trees, and I've seen a family of bobcats. In the fall the migration of birds—sometimes it's unbelievable the different types that show up at once. In the last few years the counts have been astounding. Of all the animals down there, the only problem we have is with starlings—they eat the sprouts. The migrating birds haven't been a problem except one year, maybe due to the drought, when some visiting geese decided broccoli was a delicacy and shooing them out was a daily routine for about a week. The occupation I'm in is so intense, I get frustrated sometimes. But I make the time to look around.

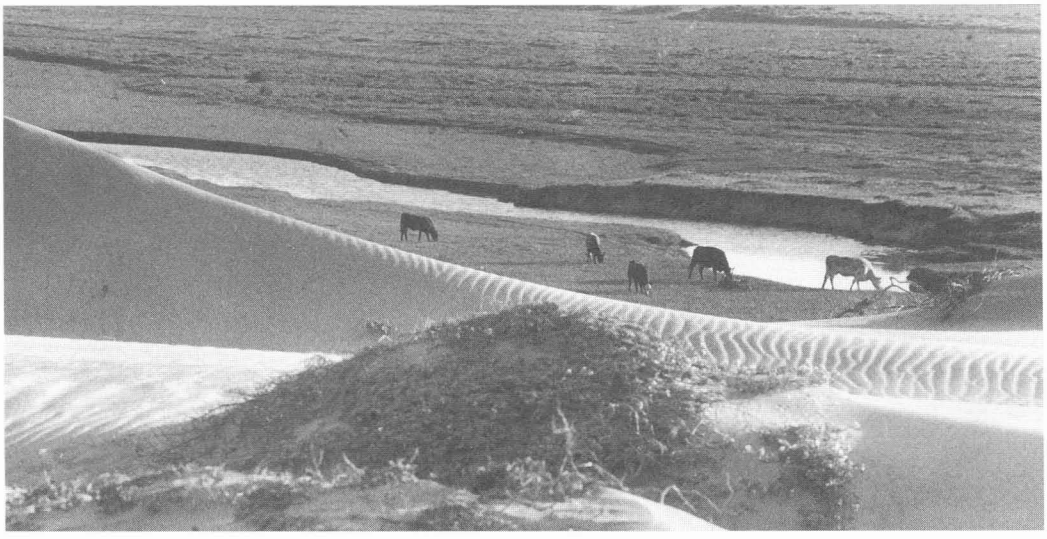
Part of protecting this place is opening it up so people can see what it is. The hill with the giant coreopsis is on our ranch. It's a ten-minute hike through the ranch, and an hour around the other way, through the preserve. We have some shortcuts so you can get there in five minutes. It's private, but we have it set up to take some people in. The Nature Conservancy preserves the wetlands and allows me to keep on farming. Everyone needs to respect everyone else's needs.

PORTRAITS: LAURA J. DICKINSON



Rennie Pili is the mayor of Guadalupe.

Building a visitor center in Guadalupe is a great idea, an excellent idea. I pushed it. It will help to get tourist traffic. Right now there's not a whole lot to attract tourists to Guadalupe. We envision a bike trail from the center to the dunes, and a lot of educational opportunities for the schools and the public. We hope that we can retrofit the Lantern Hotel [a two-story brick building that was damaged by fire some years ago]. The operating costs are of concern to both the Nature Conservancy and the Coastal Conservancy. But because of the building's size it would open opportunities for other groups to share space. And rebuilding the Lantern would send a good signal to other owners—mostly absentee owners—of the brick buildings here that must be brought into compliance with the seismic ordinance. Hopefully we can see this idea to fruition.



DAVID MIDDLECAMP

At the edge of the preserve, cattle graze at the mouth of the Santa Maria River. Not visible in this bucolic photo are the enormous Unocal oil spills beside the river. The extent of contamination has not yet been determined, nor has cleanup begun. It is known that both the ocean and the marine environment have been affected. How to work with neighbors, including ranchers and Unocal, will be a continuing challenge for the preserve's managers.

the principal landowners, the Pacific Gas & Electric Co., planned to build a nuclear power plant near Oso Flaco Lake, while others—Unocal, Shell, Thriftway, and Mobil—continued working to extract the heavy black crude that lies thousands of feet beneath the sparkling white dunes.

As people began to call for the protection of these priceless lands, TNC, the Coastal Conservancy, and others began to work toward securing a future for them. In 1987, after lengthy negotiations, the Coastal Conservancy provided funding to TNC to acquire a 567-acre parcel within the Mussel Rock Dunes. That land was later sold to Santa Barbara County Parks Department with the understanding that the proceeds would be used to manage the preserve. In 1988 voters passed Proposition 70, the California Parks and Wildlife Initiative, which provided $10 million for acquisition, restoration, and provision of public access in the Guadalupe–Nipomo Dunes. Using this money, two years later the Coastal Conservancy acquired 2,550 acres in the dunes from the Mobil Foundation, later transferring this land to TNC for long-term management. TNC entered into an agreement with the Off-Highway Vehicle Division of the State Parks and Recreation department to manage the 800-acre Oso Flaco Lake Natural Area. (The Division had bought the land in the 1970s for camping and OHV access, but later realized that its value as a natural area made such activities inappropriate.) In 1990 TNC received a grant from the Coastal Conservancy to write a long-term management plan for these properties and others that might be acquired with Proposition 70 funds and added to the preserve.

Had we spent as much time learning about the local community as we did about the distribution of plants and animals in the dunes, we would have understood far earlier the importance of these places as open space for people who live near them. We could have learned through more personal contact and special meetings, or through both—as we are learning now. People are part of the landscape, yet they did not get enough close attention. We did not realize that we were ignoring them, but we were—by not giving them a chance to plug in from the start. We have learned the hard way. Many other Nature Conservancy projects have more recently been launched the right way, with local involvement from the beginning.

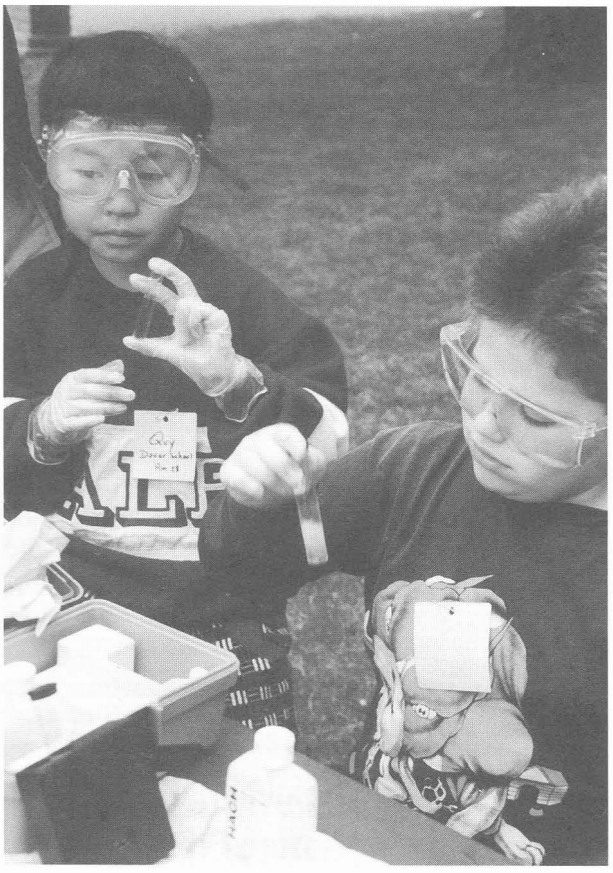
Acquiring lands is an important first step toward effective conservation; it rarely serves by itself, however, to protect the rare and beautiful species and landscapes that mean so much to us. Long-term conservation of natural lands relies on effective planning and day-to-day management. To balance public use with resource protection in heavily visited places such as the Guadalupe–Nipomo Dunes Preserve, a range of stewardship activities is needed. The commitment and involvement of local residents who regard the neighboring landscape as part of their home is essential if we are to keep what remains of the wild California coast. ■

Nancy Warner is the manager of The Nature Conservancy's Guadalupe–Nipomo Dunes Preserve.

To Become a Good Neighbor, a Nature Preserve Needs

- **A good local staff person—who lives and works in the community and who cares about the place and its people**
- **Good local citizen leaders**
- **A broad-based, collaborative process; a community vision**
- **A strategic approach—understand the ecosystem and the community; focus on key threats and opportunities**
- **Development of local institutions**
- **Outside expertise and support**
- **Successful action and results—"show me"**
- **Start up funds and continuity funds**
- **Clear principles**
- **Persistence, patience, flexibility, continuity of effort**

—Greg Lowe, The Nature Conservancy



ADELE HO

Lessons at Wildcat Creek

ELEANOR ELY

WILDCAT CREEK BEGINS its 12-mile journey to San Francisco Bay in Tilden Park, high in the East Bay hills, and winds on through Wildcat Canyon Park, descending into North Richmond and San Pablo. For seven more miles it flows past parking lots and commercial and industrial buildings, under a freeway, alongside roads, and behind modest houses.

In this last stretch the creek meets with the usual urban insults. Nearly everywhere people can get to the creekbed there is litter of broken glass, trash, and the inevitable shopping carts. (Cleanup crews recently pulled 18 carts from under a bridge overpass.) Yet, compared to many urban creeks, Wildcat has been fortunate. Only a few short stretches have been buried and encased in concrete. The banks are shaded by native trees most of the way. In fact, Wildcat is one of the last streams in the San Francisco Bay area with a virtually continuous riparian corridor.

Wildcat Creek has also been the site of creative restoration projects, in both its upper and lower reaches. In North Richmond, these projects were inspired not only by concern for the stream's health but, even more, by concern for the human community in the low-income neighborhoods nearby. To Lillie Mae Jones, member of the Wildcat Creek Watershed Council, the key issue has been, and remains: How can we affect the people who live here for the better, in terms of health and employment, for both youth and adults?

In the light of this urgent question, a creative and sensible idea has taken shape recently on Wildcat Creek. Elementary school children are monitoring water quality, getting hands-on science experience under the tutelage of high school students. The older students, in turn, get a taste of what it's like to be a teacher. Both groups are learning about the creek and will be able to provide information to local agencies to help assess conditions and pinpoint problems. The results of their efforts are amplified by adult volunteers, many of whom are students at the University of California, Berkeley. It's a happy confluence of education and action.

The monitoring began last spring as a pilot project initiated by the Urban Creeks Council, a local nonprofit organization. Third and fourth graders from nearby Dover School tested the creek's water weekly for temperature, turbidity, pH, con-

ductivity, ammonia, and dissolved oxygen. The older students who helped teach them the tests were juniors and seniors at Richmond High School, enrolled in a program designed to encourage minority students to become teachers.

Teacher Lana Martarella, who heads this program at Richmond High, says her students had already been studying creeks for several months before she heard about the project on Wildcat Creek. "My most important job is to give my students self-confidence," she explains. "Most of them speak English as a second language, and many will be the first in their families to graduate from high school. So I wanted them to become experts in something, and I decided on creeks."

At first, Martarella did not have a specific creek in mind—she simply knew that her students could build an integrated curriculum around the theme of creeks, creating lesson plans for math, science, English, music, and art. Then, in the spring, the Urban Creeks Council's Ellie Insley invited Martarella to participate in the pilot monitoring project. Martarella eagerly accepted. Insley came to the high school and taught the students how to perform the water quality tests. They began to visit Wildcat Creek weekly for testing. By spring they were confident enough to go to Dover Elementary School to teach the test procedures to third- and fourth-graders. With the help of the high school students, the elementary students began to test the same site the high school students sampled, but on a different day. Insley says that results so far indicate that the creek is in pretty good shape.

This year the program was expanded. Wildcat Creek is now being monitored at six sites. Students from two high schools and three elementary schools—all conveniently spaced along the downstream reaches—will test the water weekly at four downstream locations, while adult volunteers will use the same methods to monitor two upstream sites, inside the regional parks.

Data quality is being taken very seriously. Parallel testing to confirm the accuracy of the students' results is being done both at the local Region 9 EPA lab and by a City of San Pablo consultant. The City of San Pablo is also sending staff members to the schools to talk about how storm-water pollution affects fish and other wildlife. Adêle Ho, coordinator of the city's National Pollutant Discharge Elimination System Program, explains that all the San Pablo storm drains empty into Wildcat Creek, so the city is very interested in the creek's water quality.

The students are also working for Wildcat Creek in other ways. Last year, Dover School children organized and carried out a creek cleanup, distributing flyers to neighbors before the event. They also raised native plants and tree frogs in their classrooms and established them in the creek. Richmond High students cleaned up another site.

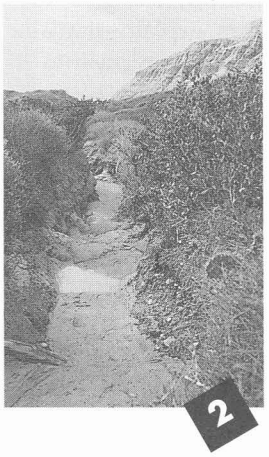
ADELE HO

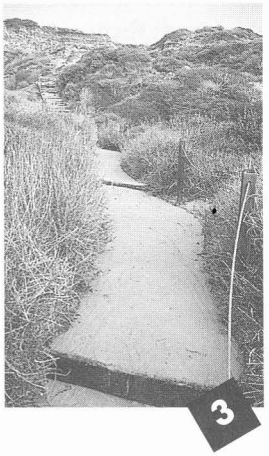
"Most of my students feel powerless," says Martarella. "I'm trying to show them they can take personal responsibility for their environment, both physical and social. The creek is a small but tangible way to do that."

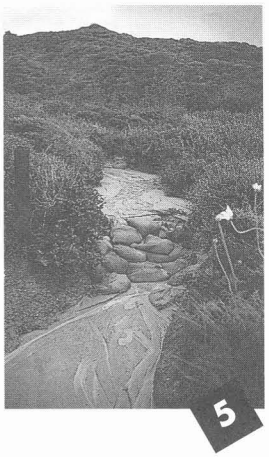
The Environmental Protection Agency provided funds for the program under the Clean Water Act as part of its effort to prevent nonpoint source pollution. But society is likely to benefit from this program in many other ways. ■

Eleanor Ely is the editor of The Volunteer Monitor, *a biannual newsletter. The fall 1995 issue focuses on urban watersheds and also includes a report on the Wildcat Creek project. For a free subscription, send request and SASE (78¢) to* The Volunteer Monitor, *1318 Masonic Ave., San Francisco, CA 94117.*

PHOTOS: WES FARMER







A Sandbag in Time

AS A DOCENT at the Torrey Pines State Reserve, I lead nature walks and also make it a habit to look around for things that might need fixing. That's how I noticed what was happening to the Beach Trail and also what had to be done. During heavy winter rains, water had cut deep into some of the trails, forming barrancas—deep, steep-sided washes.

One trail was so badly eroded it had to be closed, perhaps permanently (**1**). Soon the Beach Trail might also be lost, unless something were done to stop the process that had already begun (**2**). I noticed that another trail was just fine (**3**). On that trail, someone had placed sandbags and boards in strategic places to hold back the sand coming down with storm water. I got to work.

On January 21, 1995, sandbags and boards were placed across the trail to allow water to pond; the sediments would now settle behind the bags (**4**). By March 4, the barranca had filled in with sediment (**5**). Same spot, same day, looking toward beach (**6**). By April 25, the trail looked pretty good (**7**).

After last summer's heavy foot traffic, the trail acquired a rollercoaster look. But the coming rains will smooth it. I am ready. Twenty step-boards have been prepared for installation. They're 5'x12"x2" and have broad notches in the middle to allow the water to flow along the center of the trail. The apex board is at the same grade as the ground above the trail; a lower one will be raised as sediment builds up. I will do this, perhaps with some other hands helping, along the entire 160 feet of the Beach Trail.

Plants and people, including this docent, will benefit from this work. The plants on the edge of what was the barranca will be saved from falling into the trail. They will also have more water, for the sediments will hold groundwater well into the summer. People will have a safe path, and will look around more rather than focusing on what's underfoot. The Torrey pines here are among the rarest trees in the nation. They grow only here and on Santa Rosa Island, off Santa Barbara. I will keep coming by, and I'll keep my eye on the weather, knowing that this kind of work is never finished. ■

—Wes Farmer

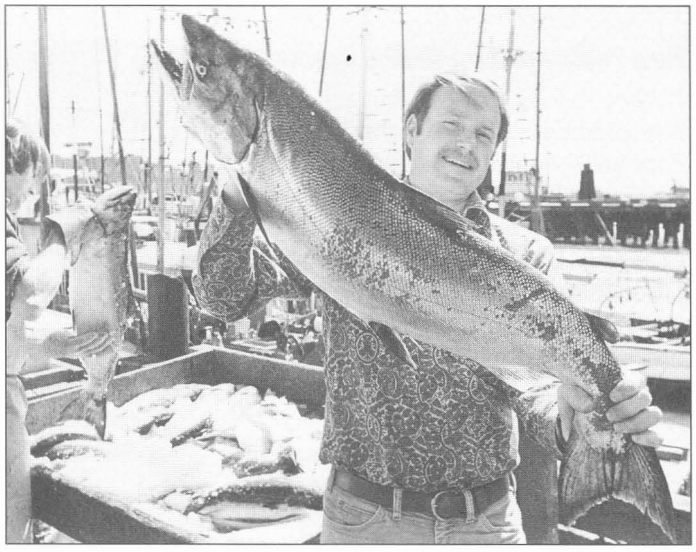
Wes Farmer is an artist, photographer, and naturalist, as well as a docent at the Torrey Pines State Reserve in San Diego County.

TOWARD RESTORING THE SALMON-HUMAN SYSTEM

ONLY A DRASTIC SHIFT in management philosophy can reverse the steep decline of wild salmon populations in the Pacific Northwest, according to a new National Research Council (NRC) Report. The report offers an approach that recognizes the importance of genetic diversity, ocean cycles, and the deleterious effects of hatcheries on wild populations. It takes account of the entire salmon environment, as well as of the uniqueness of each salmon stream. It makes recommendations "to prevent further declines or perhaps even rehabilitate the human-salmon system."

Upstream: Salmon and Society in the Pacific Northwest was produced by the NRC's Committee on Protection and Management of Pacific Northwest Anadromous Salmonids, which was formed in 1992 after Congress requested advice from the NRC on how to stop or reverse the decline of salmon populations on the West Coast. This comprehensive report, funded by the National Oceanic and Atmospheric Administration, offers a framework for regionwide management to balance healthy salmon populations with continuing human population growth. "Ways must be found for people and salmon to live together," it states.

"The 'salmon problem' in the Pacific Northwest is one that can be dealt with only if the diverse participants work together on the many issues that unfold over the long meandering path laid out by the salmon over their lives," writes John J. Magnuson, chair of the broad-based multidisciplinary committee. Wild salmon travel vast distances during their life cycle, as far inland as the Continental Divide and out into the ocean more than 1,000 miles. Some may travel many times that distance during the ocean phase of their lives, then return to spawn and die in the streams where they were hatched. Their decline has been caused largely by human activities.



BOB MAX

This salmon was caught off Sausalito in 1973.

Because, as the report points out, "salmon have great cultural, economic, recreational, and symbolic importance in the Pacific Northwest," major efforts have been made in the last decade to sustain them. At one time up to 10 million adult salmon returned to the Columbia River Basin alone. Now less than 10 percent of that number come back to streams in the entire Pacific Northwest. Most of these fish begin their lives in hatcheries.

The report states that "hatchery programs have been partly or entirely responsible for detrimental effects on some wild runs of salmon." An abundance of hatchery fish encourages overfishing of natural populations. Hatcheries have contributed to ecological changes in the salmon environment and reduction of overall genetic diversity. There is also "major concern about the effect of hatcheries on the carrying capacity of the rivers and the oceans."

The report recommends a rehabilitation strategy to protect what still works in the ecosystem and to encourage the natural regeneration of lost salmon habitat. This strategy includes these points:

- Hatcheries should be integrated into the overall goal of rebuilding wild salmon populations by promoting genetic diversity, rather than using them simply to keep overall numbers of salmon high. Those hatcheries that interfere with this goal should be dismantled, revised, or reprogrammed.
- Management should shift focus from limiting catch numbers to increasing the number of fish left to return to spawn.
- Before dams are relicensed, they should be required to show adequate fish passage provisions.
- Management should be cooperative, on a scale that encompasses entire waterway systems, considers ocean cycles and conditions, and also allows for local flexibility. As a first step, relevant agencies need to agree on a plan for recovery strategies before a salmon species is listed as endangered under the Endangered Species Act.
- An independent, multidisciplinary scientific advisory board should be created to ensure that the limited funds available for salmon research contribute directly to the solution of the problem and that management questions are answered in a timely and comprehensive manner. ■

Copies of Upstream: Salmon and Society in the Pacific Northwest, *will be available in spring 1996 from the National Academy Press, 2101 Constitution Avenue NW, Washington, DC 20418.*

New Public Access to Malibu Beach

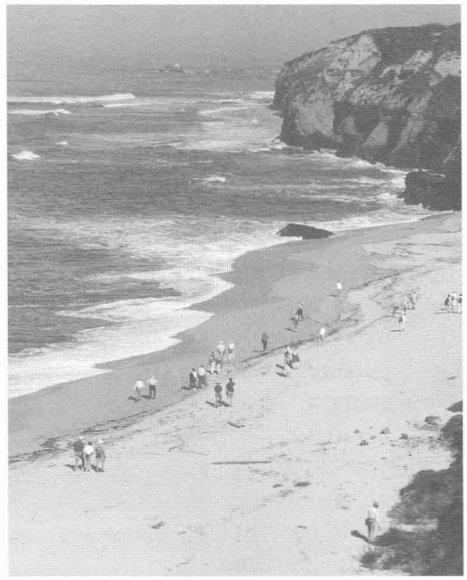
It's been a long struggle, but at last, two new public accessways to Malibu's Escondido Beach will be opened early next year. The Coastal Conservancy has worked out an agreement with the Coastal Commission and the Mountains Recreation and Conservation Authority (MRCA), that will make it easier for the public to reach the wide mile-long beach that is now only accessible from the ends.

The new pathways are along easements that had been dedicated for public access and had already been built but were not opened for lack of a management agency. Now the Conservancy has entered into a 20-year interagency agreement with the MRCA, which will operate and maintain the two accessways with the help of $82,000 from the Coastal Commission's Malibu Beach Access Fund.

Although Malibu is famous for its beaches, many miles of the Malibu coast are inaccessible to the public. The Los Angeles County Department of Beaches and Harbors and the State Department of Parks and Recreation are unwilling to operate accessways that generate no revenue, such as the two about to be opened. The City of Malibu is in the process of writing its Local Coastal Plan; it therefore has not yet developed any access policies, nor has it assumed operation and maintenance responsibilities for any dedicated accessways at this time. The Conservancy has been working to open up key access points in Malibu since 1979. Escondido Beach has long been a priority.

Recently, MRCA offered to assume responsibility for operation and maintenance of the accessways on Escondido Beach. MRCA is a joint-powers agency consisting of the Santa Monica Mountains Conservancy and the Conejo Recreation and Park District. It operates rural and urban parks in the Malibu area and the San Fernando Valley and has construction and maintenance crews as well as rangers on its staff. It maintains facilities along the nearby Escondido Falls trail.

DICK WAYMAN



Cowell Ranch Beach opened on September 19 (see page 20).

To allay some concerns about privacy and safety among local residents, the Conservancy and MRCA staff have designed a maintenance program that will include locked gates at night, regular inspections of the stairs, ranger services available on an on-call basis, and weekly trash pickup.

Unique Dune Landscape Will Be Protected with $2 Million

The California State Coastal Conservancy approved $2,045,000 for an unusual landscape conservation project that will expand the 4,000-acre Guadalupe–Nipomo Dunes Preserve in San Luis Obispo County while also protecting current sustainable human uses of wetlands, lakes, and farmlands. The project will add another 1,700 acres of protected land to the preserve. At least two-thirds of the added acreage will remain in private ownership, under agricultural or conservation easements. The Conservancy funds, approved in August, will be used to acquire property interests owned by Dune Lakes, Ltd., south of Grover City.

The Coastal Conservancy, in partnership with the Nature Conservancy (TNC), has saved the state $3 million in bond funds by opting for a public/private conservation partnership rather than acquiring this property outright. Proposition 70, the California Wildlife, Coastal and Park Land Conservation Act of 1988, allocated $10 million for protecting these dunes. Of that total, $4.5 million has already been spent on acquisitions. To purchase the entire Dune Lakes, Ltd., property outright would have cost another $5 million. The savings will make it possible to protect more land in the dunes.

The portion of the Dune Lakes, Ltd., land to be acquired outright will be transferred by the Coastal Conservancy to the State Department of Parks and Recreation, TNC, and the Land Conservancy of San Luis Obispo for long-term management. (See pp. 27-33 for more on the preserve.)

Chula Vista Nature Center

A flow-through seawater system will be built for the Chula Vista Nature Center, on South San Diego Bay, with the help of $400,000 from the Coastal Conservancy to the Bayfront Conservancy Trust. Since its opening in 1987, the Chula Vista Nature Center has relied on trucked saltwater for its exhibits. As a major public environmental education center for San Diego County and southern California, the center houses exhibits, classrooms, and research facilities for schoolchildren, the general public, and visiting research scientists. The saltwater intake will enable the center to improve its exhibits and thereby enhance public awareness of the region's estuarine and salt marsh environments. ■

Clean Ships, Clean Ports, Clean Oceans, *by the Committee on Shipborne Wastes: National Research Council. National Academy Press, Washington, DC: 1995, 355 pp. $42.95 (hardcover), $27.50 (paperback)*

Can we expect a day at the beach without broken glass, plastic, and other nasty signs of a throwaway society?

Clean Ships, Clean Ports, Clean Oceans, the most comprehensive review to date on marine debris, says yes—but only if we do a smarter job of translating legislative goals into workable procedures. In 1987, the United States ratified an international treaty, MARPOL 73/78 Annex 5, to control ship-generated garbage. That same year, Congress enacted the Marine Plastic Pollution Research and Control Act. Both the treaty and the law ban overboard disposal of plastic wastes and restrict other discharges based on type of material and distance from shore.

The National Research Council report notes an increase since 1987 in the number of ships that offload garbage in U.S. ports, rather than at sea. The report also finds evidence of a "slight improvement" in debris levels at beaches, based on surveys from annual beach cleanups.

However, the report highlights some major policy shortcomings. Too many ports fail to provide adequate waste reception facilities. Besides patrolling at sea for careless dumpers, the Coast Guard is responsible for insuring that ports have such facilities. The report would shift this responsibility to the U.S. Environmental Protection Agency, which is responsible for overseeing solid waste management on land. Because runoff from land is a major source of marine debris, the report calls for more integrated waste management systems. As an example of good garbage control, the report points to the Port of Oakland's program to supply dumpsters to ten marinas and to arrange for regular pickups. Also noted is an educational effort by the San Francisco–based Coastal Resources Center to promote recycling at a recreational marina in Half Moon Bay.

Cruise ships, which generate up to a ton of garbage daily, can overwhelm the waste-handling capacity of small resort islands. The report calls on the federal Maritime Administration to step up research and demonstration projects in onboard waste management—compaction, recycling, source reduction, and incineration. Because duties to implement Annex 5 are scattered among various federal agencies without any clear focus or accountability, the report recommends that Congress establish a national commission to oversee implementation, and report periodically to Congress. Given the environmental disinterest of the current congressional leadership, environmental groups should make their representatives aware of the report and of the opportunities to enhance beach cleanup.

Citizens can also help enforce Annex 5. One cruise ship was fined $500,000 for illegal trash disposal near the Florida Keys. The evidence: passengers' videotapes. The Coast Guard's toll-free number to report violations is 1-800-424-8802.

This report should be required reading for port officials, fleet operators, shipbuilders, and beach cleanup groups. For teachers, the report will add depth to field exercises in beach debris monitoring and serve as a source for student term papers on the subject. *Clean Ships* should be regarded as a handy reference, available when the latest trash slick, entangled seal, or stray toxic waste drum provides added motivation to learn more about marine trash.

Wesley Marx is author of The Frail Ocean *and a member of a National Research Council panel on marine monitoring.*

Indemnity for Access Providers?

Editor:

Thank you for an excellent, wide-ranging look at the issues of coastal access in your last edition. When the state's voters overwhelmingly endorsed the 1972 Save the Coast Initiative, Proposition 20, the freedom to get to the coast was foremost in proponents' concerns, Much of what was promised has been delivered, benefiting not only those of us lucky enough to live in California, but also the millions of visitors who come to the state to enjoy our coast. Nevertheless, you were right to raise a flag of caution that those gains could be lost. The kind of innovation and creativity you documented will be critically important in the future.

I was especially interested in your profiles of the nonprofit organizations that are working to expand public access. It is sad that organizations unselfishly working to serve the public by opening coastal access opportunities for the public are forced to do less than they want to owing to worries of lawsuits and insurance costs. Once again it seems no good deed goes unpunished. Couldn't the shield of insurance and indemnity against litigation that covers state parks somehow be extended to these organizations?

The reality of shrinking budgets for the public good will apparently be with us for some time to come. That means that those who particularly care about or benefit from access to the coast will have to step up and shoulder more responsibility for it. The good news is that people have shown themselves willing to do that—whether it is nonprofits who open accessways, or the thousands of volunteers who help on Coastal Cleanup Day or through the Adopt-A-Beach program. And now, as you noted in your article on the new Coastal Protection License Plate, people can lend a hand without even leav-

ing the comfort of their car! If every surfer, sunbather, whale watcher, diver, boater, birder, and beachcomber were to get a Coastal Plate as a personal badge of honor and commitment to the coast, their support would certainly go a long way to helping assure the coast will stay open for all of us.

Michael Klubock
Malibu Foundation

Understanding Cat Feeders

Editor:
A reader recently forwarded to us your Summer 1995 feature, "The Cat Rescue Movement vs. Wildlife Defenders." Pat Roberto did a good job of outlining most points of dispute. Neuter/release came to the U.S. in a big way as a result of our 1991–1992 project, which successfully created a rabies barrier of neutered and vaccinated feral cats between raccoons and domestic cats in Fairfield County, Connecticut. Success was measured by the absence of cat rabies cases to date in the neighborhoods where we conducted our project.

It is essential that the psychology of cat-feeders be understood. As Robert Calhoun and Carol Haspell reported in 1982 after extensive study of the sociology of cat-feeders in Brooklyn, many are elderly, socially isolated, and/or poor. They have a desperate need for companionship, they are often not allowed to keep animals in their apartments, and they empathize with the cats, whose existence often gives the feeders' lives meaning. They project their own fear of dying onto the cats, so resist efforts to remove and euthanize cats with all their might and wile. They will lobby against such efforts, will smash traps, will go on feeding regardless of fines and threats of jail terms. They usually can't and won't pay fines, and know they won't really go to jail.

On the other hand, every one of the several dozen cat-feeders we approached was talked into cooperating to improve the lives of the cats they fed, including the removal of every cat who could be tamed for adoption, the sterilization of every adult cat, and the immediate removal of all who might be suffering from illness or injury. We persuaded them to feed at regulated times and locations, removing leftover food. We convinced them that certain sites were unsuitable for feral cat colonies. The key to success in removing cats—permanently—was keeping the pledge that no cats would be killed, and the key to keeping cooperation was returning to the custody of the feeders those cats whose habitat was most suitable. The colonies left outdoors were primarily in areas of low wildlife use and high infestation by mice and rats. Most of those colonies no longer exist. The exceptions are places where strangers continue to dump kittens and pregnant cats. Some cat-feeders continue to monitor those sites. Others are now part of indoor fostering and adoption networks—and have developed social contacts they formerly did not have.

Our 1992 study of nearly 200 cat-feeders and rescuers concluded that only about 12 percent of the sites where feral cats are found are suitable for neuter/release.

Everyone involved in this issue needs to exchange information actively so that we have a better understanding of every aspect of feral cat/wildlife interactions. It should be quite possible to produce detailed documentation of the relationship between neuter/release projects and bird populations, if bird and cat people can be persuaded to share data.

Merritt Clifton
Editor, Animal People
Shushan, New York

Example of Success

Editor:
The article "The Cat Rescue Movement vs. Wildlife Defenders" (Summer 1995) was very interesting. I hope to see continuing coverage of this important matter in future issues.

Peter Lambert, a fellow peregrine watcher, and I worked closely with the State Parks Department in relocating the feral cats at Morro Rock State Ecological Reserve. Without the backing of State Parks, we would have had no authority to remove the cats in the first place and would have had to stand by while TTVAR [Trap, Test, Vaccinate, Alter, and Release] groups returned feral cats to Morro Rock. Associate State Park Resource Ecologist Vince Cicero made and posted signs warning against dumping or feeding animals, kept in close contact throughout the time we were trapping, acted as a liaison between us and other interested parties, and spent a good deal of time aiding in the actual trapping.

Morro Rock is now free of feral cats. The number of ground-nesting birds has increased dramatically, and the white crowned sparrows now sport tails. Once in a while I spot a lizard skittering across the rocks where cats used to sun themselves. This year two peregrine falcons fledged successfully. Most of the cats who used to barely survive in this relatively hostile environment now live where they are cared for.

Our success should serve as an example of what can be accomplished through diligence and cooperation.

Judy Sullivan
Los Osos, CA

Editor:
In case you haven't already been informed, the photo on page 8 of the Summer 1995 issue is not of Pacific Beach. It looks more like Oceanside.

John C. Leppert
San Diego

Indeed it is. Our faces are red, and it's not from sunburn. —*Editor*

JAN WATSON

IS THE OCEAN BLUE?

IF YOU STAND ON A SEACLIFF on a sunny day looking out over the Pacific, you will probably see the ocean as a sparkling blue. Yet from the beach or a sailboat, the water may look green or even gray that very same moment. So, what color *is* the ocean? Is it blue? If not, why do we persist in thinking that it is?

In photographs taken by astronauts orbiting the Earth, most of our planet is covered by vibrantly blue oceans. From these great distances, the color of the water is determined almost entirely by the physics of light. The longer wavelengths, which appear to our eyes as red, orange, and yellow, are absorbed and lost in the watery depths, while the shorter wavelengths of green, violet, and especially blue tend to be scattered and refracted back toward the surface. Minute particles suspended in the water, as well as the water molecules themselves, are responsible for the scattering of the shorter wavelengths. This behavior of light, in combination with our angle of observation, determines the apparent color of the ocean.

As we descend through the atmosphere toward the Earth's surface, the factors determining how we perceive the color of the ocean become increasingly complex. Reflections from the surface become more apparent, and meteorological phenomena can cause dramatic alterations; these external factors are further modified by our vantage point.

The ocean seldom looks simply "blue" from a blanket on the beach—we see bright sparkles of sunlight, foam from breakers, unabsorbed yellow light shining through cresting waves, swirling sand, both the reflections and shadows of clouds: myriad ceaselessly changing patterns and rhythms of color. Seen from a hilltop, a ship, or a plane, the whole picture changes.

The close observation of the interaction of light and water is endlessly fascinating. We may be surprised to notice how rarely the ocean looks really blue, and how challenging it can be to discover conditions that bring out its "true" color. Fortunately, we now know that if we rise above local conditions to the clarity of space, the ocean is, after all, truly blue.

—Hal Hughes

For more detailed information and interesting observations and experiments, see The Nature of Light and Color in the Open Air, *by M. Minnaert, reprinted by Dover Publications.*

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