It all started eighteen years ago when I acquired land within a U.S. National Park on St. John in the U.S. Virgin Islands. The land was above a white sand beach with coral reefs, endangered turtles, and abundant marine life. I was a New York developer with little background in sensitive development. However, years before, I had built housing within Fire Island National Park, a barrier island close to New York City. There, the Park Service had constructed elevated walkways to protect the rare vegetation from pedestrian traffic. At Maho Bay I decided to build similar walkways to protect the plants and to avoid erosion. Without these walkways, the heavy seasonal rains could wash top soil into the ocean, smothering the coral.

I designed a light inexpensive “tent-cottage” which could be built within the existing trees and plants. The walkways were built first, on hand-dug footings. Construction materials were wheeled along the walks and carried into place. Pipes and electrical cables were hidden under the walks rather than buried in trenches. The finished walkways flow naturally through the trees and foliage. We call the project Maho Bay Campground. Guests can traverse the steep hillside without trampling the forest floor. People fit comfortably into this natural setting.

We started small with only eighteen units and a modest cash investment. The campground won the 1978 Environmental Protection Award, was featured in the New York Times Travel Section, and attracted more customers than we could handle. We used the profits to add units a few at a time. Now, with 114 units, Maho Bay is one of the most profitable and highly occupied resorts in the Caribbean. And after eighteen years of operation and almost one million guest days, the property has been restored to a healthier wildlife and horticultural habitat than before it was developed.
use over one million gallons of fresh water each year for drinking,
washing, and flushing. The treated water is then used to irrigate the
hillside.

From a distance, you can hardly see the 130 tents and buildings
hidden in the foliage. This example of sensitive land use stimulated
massive free publicity which has caused high occupancy and result-
ant profits.

In November 1991, the Virgin Island Government and U.S.
National Park Service hosted a workshop on Sustainable Design at
Maho Bay. It was attended by over sixty renowned architects, engi-
neers, landscape architects, and naturalists. The result of the work-
shops was the book *The Guiding Principles of Sustainable Design.*
Authors addressed solar design, use of recycled building materials,
energy from wind power and photovoltaics, responsible waste dis-
posal, building ecology, and other aspects of sustainable design.

I was inspired to use these concepts! I acquired a parcel of prop-
erty adjacent to Maho Bay Campground and proceeded to design
Harmony, the world’s first luxury resort energized exclusively by
solar and wind power, and constructed with recycled materials.

I presented development ideas at public meetings to find what
would be acceptable to the people in the area, the U.S. National Park
Service, and the local planning department. This dialogue led to
partnerships with agencies that could be helpful, such as the Virgin
Islands Energy Office and Sandia National Laboratories. They
helped us demonstrate that nature consists of more than plants and
animals. It is also energy from sun and wind and nature’s ability to
recycle.

Perhaps our most meaningful relationship was with the Society
for Ecological Restoration. The premise of this society is that every
parcel of land has a historical point where it reached its height as a
balanced ecosystem. Once this point is identified, then there is a
clear path to restoration.

The Virgin Islands reached the height of its native habitat in
pre-colonial times, before Columbus landed in the “New World.”
That was before all the hardwood trees were cut and exported to
Europe for ship building, before the land was farmed and grazed and
heavy rains depleted the top soil. The land I purchased above Maho
Bay is a degraded forest with eroded top soil. Alien species have
replaced native plants and animals. Confronted with this condition,
I was led to the theory of ecological restoration and a new develop-
ment concept.

In conventional development the land is usually clear cut and
then re-landscaped with foreign exotics, such as grass and palm
trees, thereby eliminating the land’s value as a natural habitat.
Instead, we designed two-story buildings with a small footprint which could be placed between the trees. The units could then be connected by elevated pedestrian walkways.

Solar panels and a windmill were purchased early to be used to energize construction equipment. We saved money on a generator and diesel fuel. Construction components were chosen from recycled materials such as composite, built-up wood I-beams for floor joists. The floor decking is made from 100 per cent recycled newspaper. The siding is made from a composite of cement and recycled cardboard. It comes with a fifty-year guarantee, as do the roof shingles, also made from waste cardboard and cement. The shingles look like slate but are lighter and easier to work with. The ceramic floor tiles utilize post-industrial glass waste from a GTE light bulb manufacturing facility. The bathroom tiles and furniture tops are made from 73 per cent post-consumer glass bottles. Outside decking is made from recycled old tires. Lumber for walkways is treated with a new process called ACQ, which is rot and termite-proof, but less toxic than regular pressure-treated lumber. The shingles look like slate but are lighter and easier to work with. The ceramic floor tiles utilize post-industrial glass waste from a GTE light bulb manufacturing facility. The bathroom tiles and furniture tops are made from 73 per cent post-consumer glass bottles. Outside decking is made from recycled old tires. Lumber for walkways is treated with a new process called ACQ, which is rot and termite-proof, but less toxic than regular pressure-treated lumber. The shingles look like slate but are lighter and easier to work with. The ceramic floor tiles utilize post-industrial glass waste from a GTE light bulb manufacturing facility. The bathroom tiles and furniture tops are made from 73 per cent post-consumer glass bottles. Outside decking is made from recycled old tires. Lumber for walkways is treated with a new process called ACQ, which is rot and termite-proof, but less toxic than regular pressure-treated lumber. The shingles look like slate but are lighter and easier to work with.

To avoid disturbing the site, we devised construction methods that were incorporated into the design plans. Walkways were built first so workmen could traverse the slopes without trampling vegetation. For buildings farther from the road, footings were hand dug. Dirt was placed on the side of the trench to be covered by a slab. A concrete pump delivered concrete mix long distances without spillage.

From the adjacent hillside you hardly know a development is in progress. I’d like to contrast that with other developments at the same stage. Most have been constructed with little regard for erosion and aesthetics.

Our goal is to leave as much valuable flora as possible and to restore the habitat to its past glory by native-plant landscaping. Our plan emphasizes plants and trees that attract and support native birds and wildlife, to control insects and entertain the guests. Our bat houses, for example, host one of the world’s best bug-catchers.

At present, there is a feral animal population of stray cats, wild donkeys, goats, and mongooses. These have devastated indigenous plants and animals. With the help of park professionals, we will try to regulate the number of these feral animals. We will try to re-introduce land-nesting birds and native wildlife. You can imag-
Imagine the marketability of a resort where walls open up to cactus and turpentine trees, draped with orchids and air plants, and alive with parrots, iguanas, and parakeets.

Harmony should be like Maho, where we don’t just preach conservation and caring. It’s all around you. Right from the start you get a feeling of communal cooperation. We have a “help yourself center” where guests find free, unused food and supplies left by previous visitors. There is a small but ample store stocked with healthy foods, and products which are sensibly packaged, purchased in bulk, and environmentally friendly. Our self-service outdoor restaurant offers local foods. A few phone calls assure us that the shrimp we serve is caught in nets with turtle release devices, that the tuna we serve is not caught by nets that drown dolphins and other creatures. Conservation efforts include baking bread in our solar oven, serving vegetarian alternatives that encourage people to eat lower on the food chain, and making ice in our solar ice-making machine.

Our kitchen uses biodegradable cleaning products, and employs water and energy-saving devices. We use boric acid instead of persistent pesticides for roach control. All food waste is composted, and even on this arid island, we are able to produce some of our food from the use of compost and waste water.

The Pavilion is the center for interpretive functions. Park rangers give lectures on Wednesdays. On Tuesdays, the water sports people discuss fragile reefs and sea life and proper behavior while snorkeling, sailing, wind-surfing, or scuba diving. Other days you may find concerts, dances, lectures, or local cultural activities which bring people together. But most activities are designed to promote health, fitness, and appreciation of the natural world around us.

A valuable lesson that guests learn at Maho is how little one needs in life to be truly happy and comfortable. Harmony proves that a much more extravagant lifestyle can be sustained with even less energy consumption. At Harmony, one learns that solar and wind power can replace conventional utility systems and provide savings and environmental benefits without sacrificing the use of typical appliances. A computer terminal in each unit guides occupants through “off the grid” living and produces valuable data for recycling industries.

You might ask a developer: “Why choose to build an eco-resort rather than a more traditional hospitality facility?” BECAUSE, IT IS MUCH MORE PROFITABLE! What makes sense from an environmental and conservation point of view also saves money. Collecting rain water and conserving power and fuel saves thousands of dollars. Native plant landscaping and feral animal control programs
will lead to a heavily foliated, cooler landscape, replete with indigen-
ous wildlife, and with fewer biting bugs and little maintenance.

Waste water from our sewage treatment system is valuable for
irrigation and toilet flushing. Recycling programs can also generate
profits. A can compactor allows the Island to get enough aluminum
in a container to make shipping cost-effective.

Sally Fox has engineered the color right into the cotton plant so
there is no need for toxic dyes and bleaches. We use her fabrics for
linens, towels and upholstery, and native crafts for decorations.
Conservation of natural resources can be a marketing tool. Maho
Bay has developed a repeat customer list of almost 20,000 people
who enjoy a nature-based vacation. To my surprise, many of the
Harmony guests miss the “close-to-nature” feeling of the Maho Bay
tent-cottages, even though they enjoy the hot showers, private bath-
room and amenities of Harmony. Imagine! I build a $70,000 luxury
unit, and many guests still prefer the $7,000 tent-cottage.

We are now developing an “eco-tent” community at Estate
Concordia on land I own on the southeastern side of St. John. It
utilizes photovoltaic cells and a windmill to energize a refrigerator,
overhead fan, water pump, and electric lights. A cistern, solar hot
water heater, and a composting toilet will add bathroom con-
venience without intrusion into the environment. Space-age fabrics
reflect heat while providing great strength and protection.

Surely, we are riding on the tourist wave of the future.

Why choose to build an eco-resort rather than a more traditional
hospitality facility? Because —it is
much more profitable! What makes
sense from an environmental and
conservation point of view also saves
money.

STANLEY SELENGUT
Stanley Selengut is a civil engineer specializing in resort development. His varied career began in the 1950s when he
created a large-volume importing company specializing in South American native crafts. The company grew to service
1,100 stores and employed over 2,000 Andean Indians. His solutions to the problems of these villages led him to serve
as consultant to the Kennedy Administration, where he completed fourteen contracts in Latin America working for the
State Department and then worked as staff consultant in Industrial Development for the Office of Economic Opportu-
nity. A consulting assignment on low-income housing for the Rockefeller Brothers led him to the Virgin Islands National
Park in St. John. The 114 unit Maho Bay Campground is not only environmentally responsible, but also achieves a 95 per
cent high-season occupancy and is one of the most profitable businesses on St. John. He has recently developed a
research resort adjacent to Maho Bay Campgrounds called Harmony: A Center for the Study of Sustainable Resort
Development.

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