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# sustainable studio pikaia lodge galápagos

By Ayesha Khan



## RESORT BIONOMICS

An (LED-powered) beacon of green design in the Galápagos Islands



The Galápagos Islands haven't evolved much since Charles Darwin left their Pacific shores in the 19th century. Some estimates place the tortoise population as higher than the number of humans inhabiting the Ecuadorian isles, which are still very much a Petri dish of ecology and conservation. So ripe are its volcanic soils that blackberry seeds rumored →



**1.** Pikaia Lodge Galápagos sits 1,500 feet above sea level on the island of Santa Cruz.

**2.** The lodge's lobby area features locally sourced materials such as artisan-made rugs.

**3.** Natural ventilation and overhanging roofs for shade help keep energy consumption low.

**4.** The nearly 800-square-foot pool suite includes a ground floor terrace and floor-to-ceiling windows.







inspiration

It was an uphill battle to create the impressive lodge that sits on the 76-acre site today. “We always had in mind, during the design process, how difficult the construction process was going to be,” recalls local architect Humberto Plaza. “Except for local lava stones, all the construction materials needed to be imported from mainland Ecuador. And due to special laws that restrict the entry of labor onto the islands, finding qualified Galapagueño labor was also a big problem.”

The next challenge was conceptualizing a luxurious 5-Star resort that was minimally invasive to its environment and minimally wasteful. “We knew that the hotel needed to be analyzed from cradle to coffin,” Plaza explains. “The construction process, its operation, and its eventual disassembly needed to be as clean as possible.” He designed the project so that its footprint required little land movement, “respecting the original topography as much as possible,” he says.

“Using insulating materials such as polyurethane sandwich panels, natural ventilation, shade provided by the overhanging roofs, LED lights, and super efficient air conditioners guarantees little heat gain and very low energy consumption,” he adds. “Power is provided by photovoltaic panels, Eolic wind generators, and biodiesel, with very little electric energy being purchased from the local electricity company.”

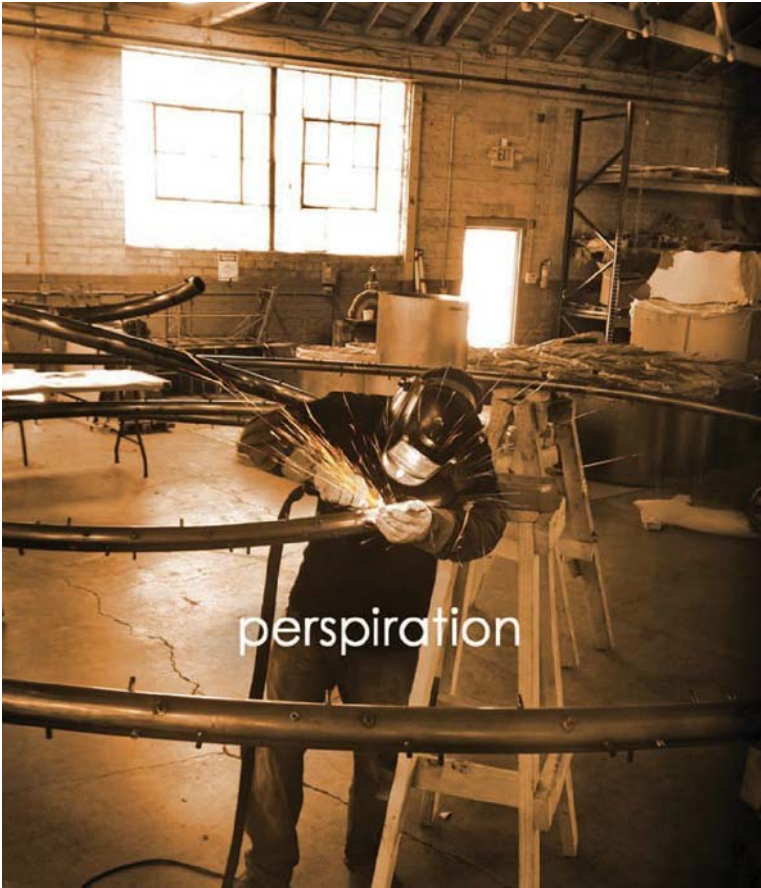
A complex system of water cisterns collects rain from the property’s pitched roofs and feeds a state of the art water treatment plant that provides filtered water for cooking, juices, drinking water, and ice, and dual-flush toilets and water-saving →

perspectives

## sustainable studio pikaia lodge galápagos

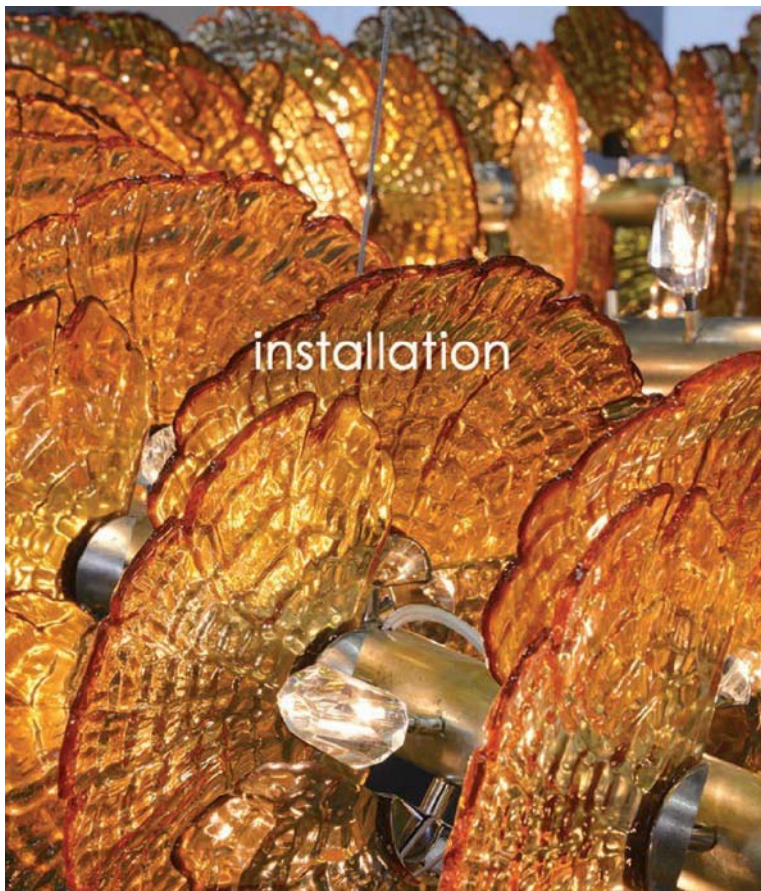
to have arrived on the soles of one Australian’s boots took root and spread like wildfire. Perilous bushes of blackberries threatened the revered tortoise population, but their extermination also poses a threat to other endemic plant life. This is how delicate the balance of nature is on the islands, so it’s not difficult to believe that building on them would not be taken lightly. Strict regulations, rigid inspections of all shipments to the islands, detailed building plans (down to eventual demolition), and a promise to hire local workers are some of the hurdles that developers must tackle.

Despite these stringent restrictions, Herbert Frei’s dream of opening a 100 percent sustainable ecolodge never wavered—and though it would take more than five years of permitting with the strictest of building departments, it would be well worth it. Frei—an experienced Galápagos tour guide and environmentalist—combed the islands for years before he procured the perfect piece of land, perched nearly 1,500 feet above sea level at the crater of an extinct volcano in the highlands of the central island of Santa Cruz. In fact, with only 3 percent of land free for use, Frei was lucky to find this former private cattle ranch for his lodge. 97 percent of the island is National Park land and protected from development. And here, it’s almost always sunny, relatively cool, and surprisingly mosquito free.



perspiration





Marangoni, which is set in a bed of local lava stone. Marangoni's work also appears in several focal points in the restaurant, whose design theme and name is Evolution. A DNA double-helix sculpture, also set in aluminum, sits at the center of the space, and doubles as a lava stone fireplace, while another sculpture depicts the evolution of man, and a third pays homage to the beaks of the Galápagos finch—an important catalyst to Darwin's theory.

Other arts and artifacts such as photoreal paintings of the Ecuadorian Amazon by artist Servio Zapata and artisan-made rugs and alpaca wool pillows are all locally sourced, minimizing the need for carbon-emitting transport from distant shores. Throughout the property, fossils serve as ideal artwork and centerpieces—both sustainable and relevant to the overarching theme of evolution.

But these important elements and many key construction materials almost didn't make it—the cargo ships carrying them sank in the Pacific, adding yet another challenge to the project, delaying its completion by several months and testing the patience of its project team. "Luckily, we had very capable people working on the project that worked hard to overcome the difficulties," Frei-Shephard says. It was the stalwart determination of a father-daughter team, however, bound by their common interest, which truly made Pikaia Lodge a reality.

Reluctant to take full credit, Frei-Shephard says of her father and the lodge: "We were together for the whole process, and we are very close—we have a lot in common. Our special connection really helped us on this project. I think the chemistry that we have was a must for something this important to him." **hd**

showerheads and taps are employed on property to help save water. Plaza's development team also went one step further in contributing to the ecological well-being of their site, replacing a cattle farm, ravaged by elephant grass overgrowth and deforestation, with 12,000 endemic trees, wild tortoises, and birds.

The resulting hotel, christened Pikaia Lodge (named for the first known vertebrate, *pikaia gracilens*, from which all modern vertebrates are thought to have evolved) is nothing if not impressive. "We can proudly state that Pikaia Lodge is definitely one of the most advanced ecolodges in the world," says Frei's daughter, Maria Elena Frei-Shephard, who was responsible for its interior design.

Her design directive was just as environmentally conscientious as the lodge's construction—after all she was right by her father's side in his quest for eco-perfection. Fourteen suites ranging in size from 463 to 550 square feet (one with its own pool) feature teak and bamboo harvested from sustainable Ecuadorian plantations and travertine imported from nearby Peru. Their location and orientation allow for them to be naturally cooled with little or no need for air conditioning. And Plaza designed a structure for the rooms, located on the side of a hill, which will be added to the property in the future. These will just skim the ground so that rainwater can flow underneath, ensuring sufficient absorption into the groundwater.

The lobby features a stunning aluminum tree of life sculpture (completely recyclable in itself) by Ecuadorian artist Larissa

