

The Fort That Time Forgot

Seventy miles off the coast of Key West you'll find a 19th-century wonder to explore. But time and tide are eroding the walls of historic Fort Jefferson.

By Carlos Harrison | From *Preservation* | November/December 2009

When you first see it shimmering on the horizon, [Fort Jefferson](#) seems like a fairy-tale castle floating majestically on the aquamarine sea—a secluded home for Neptune's throne.

Drawing closer, you discover what's truly there: a squat, six-sided, imposing fortification surrounded by a moat. It hunkers at the mouth of the Gulf of Mexico, as menacing as a blocking guard, perpetually poised against anything foolhardy enough to present a challenge. The fort's massive walls stand eight feet thick and 45 feet high. They're about a half-mile around, made of more than 16 million bricks, composing the largest brick stronghold in the Western Hemisphere.

But it's not just size that makes Fort Jefferson special. The fortress was the Stealth Bomber of its day, a marvel of engineering bristling with artillery that could put a 400-pound ball through the ironclad hull of a running ship three miles away. It was designed to accommodate 420 cannon, set in such a way that 75 could simultaneously zero in on a single target. And if that doesn't sound nasty enough, smaller cannonballs were to be heated in a furnace before firing so that the red-hot projectiles would set a wooden deck ablaze and ignite an enemy's gunpowder magazine.



Begun in 1846, gargantuan Fort Jefferson dominates the seven tiny islands that make up Dry Tortugas National Park.

Credit: Jeffery S. Taylor

For all its terrifying promise, Fort Jefferson never saw battle. It was 30 years in the making but never completed. It became better known as a notorious prison where Dr. Samuel Mudd and three other conspirators in Abraham Lincoln's assassination served their sentences.

I first began visiting this isolated spot miles off the coast of Key West when it was known as the Fort Jefferson National Monument. In 1992 the name changed to [Dry Tortugas National Park](#).

On my first visits, I flew out on a seaplane over water so clear I could spot a sea turtle swimming near the surface and its shadow dancing on the sandy bottom 20 feet below. I saw hatchling terns nesting by the thousands on the surrounding isles, packed so thick that their feathers made the islands appear blanketed with snow. And I envied the swimmers who had time to enjoy some of the finest snorkeling waters on earth—protected and practically pristine, a rich submarine environment of coral and tropical fish in brilliant, Technicolor splendor.

At the center of it all, for me, has always been the fort; in many ways, it seemed an old and faithful friend, valued for its unchanging nature. Over the years I noticed only slight cosmetic differences, the equivalent of a wrinkle here or a touch of gray. But the fort stood steadfast, seeming ageless against time.

Now, though, its decline is striking and rapid. My friend is gravely sick. Last summer, a chunk of an outer wall broke away. Then, last November, a section more than 20 feet wide separated and collapsed with a crash into the moat below. The only enemies the fort has ever encountered—waves, wind, and salt air—are winning.

"It's an extreme marine environment," says Kelly Clark, the exhibits specialist at Dry Tortugas National Park. "Every June to November, we have the added bonus of hurricanes. And now, sonic booms from military jets."

The National Park Service is fighting back. Clark oversees crews of expert masons who have been working inch by painstaking inch since 2007 in a snail-paced race to reverse the damage. They are expected to conclude their efforts next year.

They were called in to fix the walls, but what they're discovering runs deeper. Corrosion runs rampant through the interior metal work. The iron is festered with rust, and swelling and cracking the walls. Behind the two layers of brick façade, they have found the underlying concrete separated from the structure – two-foot-thick, tons-heavy sections threaten to drop away at any moment.

How you can Help...

The scope of the restoration work at Fort Jefferson is enormous. Despite an infusion of \$2.2 million in federal stimulus monies in April, only a portion of the total needed for a complete restoration is covered. You can contribute to the restoration effort by donating to the South Florida National Parks Trust (southfloridaparks.org). Specify that your

So on this trip, I go to see what the doctors have done. For the first time, I go by ferry. The Yankee Freedom II is a 100-foot-long aluminum-hulled catamaran that bounces and weaves over the waves. It takes 2 1/2 hours for the trip.

It takes us past the Marquesas Keys, the only atolls in the Atlantic. Majestic Frigate birds with giant wingspans – 7 foot or more – arc over the water. The sunlight splinters on the waves. Then the water changes from aqua to a deep blue-green, and the sea turns. The catamaran lurches sickeningly over nine-foot waves until we get close to the fort.

Then we're there, and it's breathtaking.

To use a cliché, Fort Jefferson was truly an engineering wonder: it has iron shutters set ingeniously in the walls so that the blast-gases from the firing cannon would pop them open a split-second before the cannonball shot past; then the shutters rebounded shut again, shielding the cannon and crews from incoming fire. In between each, the engineers installed venting gaps that would let one collapse without damaging the next. The outer two layers of bricks in the face were designed to break away when they were hit by shellfire, to absorb the shock and prevent it from damaging the fort's load-bearing structure. Now they're doing exactly what they were designed to do, but for the wrong reason.

“When the people get off the boats you can see it in their faces – they're mesmerized,” says Clark. “It's a pretty phenomenal structure, in a phenomenal place.”

Ponce de Leon first discovered the strategically located islands in the Florida Straits in 1513, and named them for their abundance of turtles – Las Tortugas, in Spanish. Because of the lack of fresh water, mariners who followed added the label “dry.”

Surrounded by treacherous reefs on the main route to the Gulf, they served as a hideout for pirates and the site of hundreds of shipwrecks. Victims include the 1622 Spanish plate fleet and the treasure-laden Nuestra Señora de Atocha. Even Robert Louis Stevenson made reference, in “Treasure Island”:

“His stories were what frightened people worst of all. Dreadful stories they were; about hanging, and walking the plank, and storms at sea, and the Dry Tortugas, and wild deeds and places on the Spanish Main.”

The place still sparks tales. More than one person nonchalantly tells me they've seen a ghost at the fort. One of the work-crew chefs, Mike Plouffe, says he saw one in his room. When he glanced away, it vanished.

When Clark hears the story, she remarks calmly, “Oh, yeah.” Then she tells hers, about a man coming toward her on the parade ground one night. As she got almost close enough to see his face, he disappeared.

When the United States began building a system of coastal forts, it chose Garden Key, a 16-acre spit of land, as home for “the Gibraltar of the Gulf.”

Construction began in 1846. Every bit of material had to be brought in. The closest brick came 500 miles, the concrete 1,400. And, with no drinking water on the islands, the engineers had to invent a system for providing fresh water.

The design was ingenious, but failed miserably. Standing in the fort today, you can still hear it working. About an hour after a downpour, the water filters down through the sand on the angled roof and gurgles down through channels in the walls into cisterns beneath the floor.

But as the massive walls went up, the foundation settled. Most of the cisterns cracked. Saltwater seeped in, turning the water brackish. “Men wrote home about drinking water with ‘wiggles,’” says tour guide Deb Hess. They meant mosquito larva, she says, “which they drank for the extra protein.”

By the Civil War, the invention of rifled cannon that could blast through masonry walls rendered the fort obsolete. It became a prison for Union deserters – a notorious hellhole where 80 percent of the men were ravaged by fevers, diarrhea and dysentery.

At its peak, it held about 800 prisoners. There were no bars, only guards with guns and miles of shark-filled water. They lived in muggy squalor, sleeping in cavernous gunrooms. Lincoln conspirator Sam Arnold wrote: “subsistence was horrible. The bread was a mixture of flour, bugs, sticks and dirt. Meat was rotten to such an extent that dogs ran from it.”

In 1867, yellow fever struck. Of the 400 people there, 270 caught it, 38 died. It began with pain, vomiting and fever. “After two or three days comes a lull,” a park historian wrote, “which leads either to recovery or to the last stage – marked by yellow skin, black vomit, bleeding and mental disturbances, after which the victim seldom recovers.”

All four hospital nurses died. So did the fort’s doctor. Mudd stepped in. His efforts won him a pardon.

“We’ve had hundreds of his relatives on this boat,” Hess says, aboard the ferry. “They want to see his cell, where he was kept.”

In 1875, construction stopped. The prison closed. By 1908, its military value faded. The Department of Agriculture took it, for a bird preserve. It became a National Monument in 1935.

Despite the designation, it lay largely forgotten after that, little more than a distant fishing spot. Ernest Hemingway once took refuge from a hurricane there. That was how he met Gregorio Fuentes, the Cuban captain who inspired *The Old Man and the Sea*.

Over the years, though, fishing folk, birders and other adventurers spread the word about this remote environmental wonderland. The number of visitors grew. But, until the current restoration project, hardly any money was spent on preservation. Now, it’s in dire need.

The worst is the wall they call Front Six: A gash in the rock reaches up from the ground like a wound – a sword slice cleaving crookedly all the way to the bone. It exposes layers of brick, crumbling mortar and rusted iron. Thick broken sections have fallen into the moat below. “This is the wall that takes hurricane hits,” says Clark. “The depth of deterioration is so severe here, it’s giving us a sneak peek of what we might encounter at Front Four.”

The \$15 million restoration contract planned for three years of work. But it’s looking like it will take much longer. Crews of 15 or so rotate in 15-day shifts, so a team is always working. But they only work half-years; they have to dismantle everything and leave for the six-month hurricane season.

And, always, there are delays. As I meet the foreman, Jason Peck, he's struggling to fix a pump. Like everything here, it has fallen victim to the salt air. "We try to bring two of everything," he says.

The attention to detail is meticulous, and laborious. Ken Uracius, the restoration company's project manager, helped recreate the natural cement used to build the fort – the key to its longevity. The masons scrupulously scrape away the deteriorating mortar and refill the gaps, one brick at a time. They reuse as much original brick as possible. Looking at the walls, the work the men have done is obvious: The smooth-faced replacements stand out brightly. Uracius says it's intentional. They're not trying to replicate how it looks now, he says, they're restoring it.

"This isn't Disney World," he says. "We're making it look the way it looked when it was new."

The work they're completing has value far beyond Fort Jefferson. "We're kind of setting the standard here," says Clark. They'll take the techniques to Fort Sumter next.

But the prognosis for Fort Jefferson remains bleak. The \$15 million for restoration will pay for Band-Aids; saving the fort requires major surgery. As the ferry pulls away, I wonder what will be left of my friend the next time I return.