





# Intruder Reef

Story and Photos by Erik Hildebrandt

*This article provides an auspicious epilogue to the Intruder's long history in Naval Aviation. Though no longer flying in naval service, the A-6 now fulfills a unique support role undersea.*

I thought I had walked in on the punch line of a bad anti-Navy joke. A former Army pilot told me (a little too gleefully) that a whole squadron of Grumman A-6 *Intruders* had been sunk off the coast of Florida, and suggested the Navy name its new *Intruder* base "Naval Air Station, Atlantis." When I checked out the story with Northrop Grumman's plant in St. Augustine, I was told it was indeed true. The A-6s, until recently the Navy's premier medium-attack

aircraft, were being dumped to make some sort of marine habitat. I learned how several dozen had ended up as fisheries.

In the 1980s, *Intruders* were being sent to Grumman's St. Augustine facility to be overhauled and refitted with new wings made of composite materials. Some of the all-metal wings were over 20 years old, and the Navy was concerned about metal fatigue. That fear was borne out in 1987 when a wing failed on an A-6 executing a high-G pullout during a practice bombing run at Naval Air Facility, El Centro, Calif.

The Navy established a replacement-wing program, and Boeing Military Aircraft won a contract to produce one-piece, graphite-

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A clipped-wing A-6 *Intruder* makes its final approach to "NAS Atlantis."



Above, the A-6s slated for the *Intruder* reef underwent demilitarization and decontamination before leaving Grumman. Below, for 30 years the *Intruder* was the Navy's "street fighter" with the latest attack technology, but nothing in its arsenal could win the budget battle to keep it flying.



epoxy composite wings for 120 aircraft. Grumman-St. Augustine retained control over the final reassembly of 72 planes, as well as manufacturing 120 kits to mate the Boeing wing to the fuselage. Eventually, an overhaul would extend the service life of 300-plus A-6s well into the 21st century.

Before the structural failure, the *Intruder* had earned a reputation as a rugged street fighter, able to deliver 15,000 pounds of bombs with pinpoint accuracy, in the black of night and in miserable weather, to targets 1,000 miles away. The airplane was developed after the Korean War in response to the Navy's need for a

low-level, long-range, all-weather attack jet. The *Intruder* embodied all that was new: inertial navigation, terrain-avoidance radar, integrated computer-controlled attack system, and side-by-side pilot and bombardier navigator seating for better crew efficiency. From its 1965 combat debut in North Vietnam, screaming in on targets at treetop level along the Ho Chi Minh Trail, to its 1991 role in Operation Desert Storm, the *Intruder's* ground attack proficiency had been continually enhanced. The latest *Intruder* variant, the A-6E, was the Navy's most

accurate and long-reaching attack aircraft with both conventional and nuclear capabilities.

"The thing I love about this plane is that it takes an honest, hard-working pilot to fly it well," said Lieutenant Patrick Day, an A-6 pilot aboard *Enterprise* (CVN 65). "You can't hide behind a sophisticated autopilot; there's no computer fly-by-wire to make you better than you really are. Flying the *Intruder* is all hands-on. The low-level overland bomb runs are where this plane really shines from a pilot's perspective. It's what tactical flying is all about: pushing over, rolling out, releasing and yanking 'til it

hurts to get away."

By the 1970s, the specialized single-purpose mission that built the *Intruder's* reputation had become its Achilles' heel. New airplanes, like the McDonnell Douglas F/A-18 *Hornet*, could take on more than one role. Additionally, modern ease-of-maintenance concepts were being built into aircraft entering the fleet, while the *Intruder's* 1950s design drove up maintenance man-hours. It became increasingly difficult and grossly expensive to tear the aircraft to the bone each time a new system had to be installed. Basic systems

designed generations earlier were becoming antiquated. It took 44 hours of maintenance per hour of flight time to keep an A-6 going. The F/A-18 requires only about a 17:1 ratio.

When the decision was made to retire the A-6, the upgrade program ended quickly. On 17 September 1993, Grumman received a stop-work order from the Navy. Employees at the company refer to that date as "Black Friday." In the course of one day, Grumman moved from upgrading 80 A-6s to preparing to tear them down. After the stop-work order, the

company laid off more than 300 employees.

Once word got around that the *Intruder* program had been canceled, several museums requested A-6s for their collections. A handful went to museums and a few were sent to naval bases to serve as "gate guards." But that hardly made a dent in the number of airplanes that were sitting at Grumman-St. Augustine marked for destruction.

Regardless of its disposition, each aircraft had to undergo demilitarization and decontamination. To prepare the planes for transporting, all hydraulic fluids, fuel bags and about 50 other items had to be neutralized,

removed, reutilized and inspected before they could leave Grumman. "Once they were clean and all the requests for airplanes had been filled, we began to sell the rest off for scrap. Quite honestly, it was depressing," said one employee.

In the midst of the gloom and doom at Grumman, a plan was hatched to assign a new mission to the *Intruder* and provide St. Augustine with an environmental and economic boost. The waters off Florida's northeastern shore consist primarily of barrier beaches with some rock reefs close to shore. A largely featureless ocean bottom stretches beyond these inner reefs for 50 miles to the gulf stream and continental shelf. This offshore oasis has supported the majority of the region's fish stock, both sport and commercial.

In the early 1980s, south Florida's first artificial reefs were deposited some five miles offshore in an attempt to attract marine ecosystems. By monitoring the new reefs as well as local commercial and sport fisheries, marine scientists proved that placing manmade objects on flat, sandy areas of the ocean floor attracts and supports a significant amount of marine life.

The majority of Florida's nearly 400 artificial reefs consist of concrete rubble from the ongoing demolition and replacement of the state's aging waterway bridges. But increased commercial demand for this recycled material sent prices skyrocketing. Communities interested in artificial reefs were searching for cheaper alternatives. It wasn't too big a leap to make the connection that Grumman's sanitized airplane fuselages could be used in the reef program.

The huge military training presence in St. Augustine during WW II regularly deposited airplanes into the surrounding ocean, and the crashes had littered local waters with an abundance of aluminum mini-reefs. The Florida State Department of Environmental Protection and the Navy gave the *Intruder* reef project a green light, and on 16 June 1995, a

bulldozer and a backhoe manhandled a barge load of 26 *Intruders* into the water 25 miles off St. Augustine. Five days later, another 18 followed.

Later, divers determined that bait fish arrive usually within the first hour of sinking a reef, followed by toothy species like amberjack, king mackerel and barracuda after the first week. Within a year, the bottom fish and the tiny reef pickers that eat the algae are living there full time. There is so much fishing on the *Intruder* reef now that on weekends divers and fishermen can hardly get near it.

In July 1996 I traveled to Grumman to take photos of the final drop of 26 airplanes, rinsed of toxins and stripped of their former glory, and laid out in two lines awaiting the barge.

The sound of the crane tearing at the airplanes was enough to make you ill if the rocking boat hadn't already. The crane would grab a jet by the scruff of the neck and try to

force it into the water. The *Intruders* seemed to resist, repeatedly breaking loose and crashing down on the airplanes beneath them.

By the time the last few jets were left on the barge, I had gotten all the pictures I wanted from the surface and was poised to shoot the last airplane as it sank. It remained upright, floating on the surface longer than the others. I swam near and it slowly banked toward me, air rushing out everywhere in breaths of mist. With one last gasp, the *Intruder* slipped below the surface. The airplane swam directly under me in a gentle right turn, streaming bubbles. In 30 seconds, it had disappeared. ✈

Mr. Hildebrandt is a professional photographer and writer who resides in Minneapolis, Minn. He recently completed his first book, *Blue Water Ops*, on U.S. carrier aviation, which is being published by Howell Press and is due out in November.

This is an edited version of the article "Burial at Sea," which appeared in the December 1996/January 1997 issue of the Smithsonian's *Air & Space* magazine. Photos © Erik Hildebrandt.



Once guardians of the skies, these *Intruders* now provide an artificial reef where marine life flourishes.