



SHORELINES – March 2008

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Terminal Groins

The subject of terminal groins has been a hot and controversial topic lately – even a passive follower of coastal issues can find something in the newspapers on almost a weekly basis regarding the topic.

Most of us are aware of the State's ban on "hard" oceanfront and inlet erosion control structures. Despite some of the advantages these structures may have to combating erosion, State policy makers and elected officials have decided time and again that the negative effects to neighboring environments, limitations to public access, and degraded aesthetic values these structures can cause do not outweigh the underlying benefits. Most of the hard structures that do exist along the State's oceanfront have been grandfathered in (e.g., the Iron Steamer seawall here in Pine Knoll Shores, the Cape Hatteras groin field, and the Masonboro jetties), or have received special permission to be used to save historic sites, such as the Fort Fisher rock revetment.

The ban on hard structures has been in place since 1985 as codified in the State's Administrative Code (15A NCAC - 07H .0308 and - 07M .0201). Moreover in 2003, the State General Assembly, by virtue of Session Law 2003-427 amended North Carolina's General Statutes to include a new provision banning hard structures along the oceanfront as well (Article 7, Part 3, § 113A-115.1.).

So what exactly is a hard structure? Well, in general there are four types usually constructed out of timber, steel, concrete, or large rocks; (1) a **groin**, which is a permeable or impermeable shore perpendicular structure designed to trap sand and extends from the dry sandy beach and into the ocean, (2) a **jetty**, which is essentially a groin but is juxtaposed adjacent to an inlet in an effort to stabilize an inlet channel, (3) a **seawall**, which is orientated shore parallel and close to the dune line/high tide line to protect property from waves and tides, and finally (4) a **breakwater**, which is typically orientated shore parallel and positioned further out to sea to protect harbors or can be submerged to provide a "speed bump" for incoming waves.

But wait, what in the blazes is a terminal groin then? Well it's sort of a morphing of a jetty and a groin. Yes, terminal groins are located immediately adjacent to an inlet, but rather than serving to stabilize an inlet for navigation purposes, a terminal groin's primary function is to trap sand. Hence the name terminal groin – *terminal* meaning at the end of an island, and *groin* is used in its traditional sense as a shore perpendicular sand trap. Ideally, a terminal groin will impound only enough sand to straighten the shoreline adjacent to a tidal inlet. Any additional sand would move either over or around the groin toward an inlet.

In last year's long session of the State General Assembly, Senate Bill 599 (entitled *Inlet Stabilization Pilot Program*) was introduced and passed in the Senate by a 41 to 8 margin. The bill essentially allows terminal groins to be constructed as a pilot program. The applicant must prepare an Environmental Impact Statement, and demonstrate the

financial resources necessary to remove the structure if adverse impacts are demonstrated to outweigh the benefits of the terminal groin. The State House could move to vote on the bill in this upcoming 2008 short session of the General Assembly, or the bill could stall. If the bill does stall, then it would have to be re-introduced in both chambers in 2009-10.

S599 has drawn a lot of opposition with an overall feeling that terminal groins alter the natural beauty of beach and may prevent sand from migrating around inlets to feed adjacent beaches. Proponents of S599 believe that while hard structures along the open ocean coast is still a bad idea, there needs to be some additional tools available to communities to sustain sandy shorelines near inlets and similarly, retain sand placed on the beach from nourishment projects. Presently, the only options now available to communities near inlets are either inlet relocation or retreat.

What does all of this mean for Bogue Banks? That's a complex answer and would take a few months worth of print space to complete. No community or government agency has taken an official position on S599 in Carteret County, and some have contended that the rock groin at Ft. Macon acts as a terminal groin already. If S599 is passed later this year, then we'll revisit the subject here in the *Island Review*. However in the interim, please don't hesitate to call the Shore Protection Office at 252 393-2663 if you have any questions.

Author's note – The Town of Emerald Isle adopted a resolution of support for S599 subsequent to the preparation of this piece.