



The State of Surfing in Delaware

1.0 Introduction

The purpose of this report is to summarize the current state of Delaware's surfing amenities, in response to ongoing concerns by the Delaware Chapter of the Surfrider Foundation (DE SRF) and by the local surfing community in general. The quality and availability of surfing opportunities in Delaware has historically been limited, and ongoing beach management activities have further deteriorated surfing conditions.

2.0 Background

Like many states in the Mid Atlantic, surfing in Delaware general began in the 1960s. Surfing has increased in popularity in Delaware and by 2013 has become a mainstream recreational activity. Access to surfable waves has not increased as the demand for them has risen, and many factors have actually led to decreased surfing opportunities. DE SRF supports efforts to collect data to substantiate the increase in demand, loss of surfing areas, and economic impacts associated with surfing.

3.0 Historical Delaware Surfing Locations

The Atlantic Ocean coast of Delaware is only about 25 miles long, and yet this small stretch of shoreline has historically produced quite a few areas with surfable waves. From north to south, the following areas have, at least at some points in time, been routinely surfed:

- Cape Henlopen State Park (Herring Point)**
- Cape Henlopen State Park (Gordons Pond)**
- Rehoboth Beach**
- Dewey Beach**
- Delaware Seashore State Park (primarily Tower Road and adjacent areas)**
- Indian River Inlet (north side)**
- Indian River Inlet (south side)**
- Bethany Beach**
- Fenwick Island**

While surfable conditions may occasionally exist elsewhere in Delaware they were not considered significant enough to include in this report. The vast majority of all surfing in Delaware has taken place in one of these nine locations.

4.0 Surf Break Factors

DE SRF believes that research is needed to document factors that have created the few quality surfing areas that exist in Delaware. Of the nine historic surfing locations listed in Section 3.0, six are centered around surfing adjacent to stone and timber groins and jetties.

Table 1. Delaware Surfing Areas by Break Type

Historic Delaware Surf Breaks by Bottom (break) Type		
Stone Inlet Jetties	Stone/Timber Erosion Control Groins	Sand bottom without any Shoreline Management Structures
Indian River Inlet North	Cape Henlopen Herring Point	Dewey Beach
Indian River Inlet South	Cape Henlopen Gordon's Pond	Delaware Seashore (Tower Road)
	Rehoboth Beach	Fenwick Island
	Bethany Beach	

Indian River Inlet and Cape Henlopen Herring Point are where the vast majority of surfing takes place in Delaware. Other locations such as Rehoboth Beach, Tower Road, Bethany Beach and Gordon's Pond have been surfable at times. Even when these breaks were working, the vast majority of the rideable waves were located immediately adjacent to rock and timber groins. Most historical surfing in Delaware, and most of the surfable areas in Delaware, appears to be closely related to hard structures.

Groins and jetties tend to accumulate sand on the "updrift" side of the structure, direct sand flow around the ends of the structure sometimes resulting in local shoreline erosion on the "downdrift" side of the structure. The majority of Delaware sees a net littoral flow of sand from south to north, so the updrift side of groins and jetties in Delaware is the south side of the structure. The localized interruption in the flow of sand along the coast near these structures (and the resulting shoreline offset) is what creates the occasional quality surfing conditions. Herring Point is a good example of the surfing conditions created when a groin interrupts the flow of sand.



Figure 1- Aerial Photograph of Herring Point – note beach offset from south to north sides



Figure 2- Waves at Herring Point Groin – Surf Break Created by Groin Effects

5.0 Beach Nourishment

While surfing in Delaware has clearly been impacted by beach erosion control and inlet stabilization structures (groins and jetties) since the 1970's there have been few if any new hard shoreline erosion control structures built. Management of beach erosion now favors the dredging of

sand onto the beach to widen beaches through beach nourishment. Most surfers agree that beach nourishment has negatively impacted surfing in Delaware by steepening shore slope angles causing waves to break closer to shore, and by burying groins in sand. Bethany Beach, Rehoboth Beach, and Cape Henlopen State Park Gordon's Pond are examples of former surfing locations which have become generally unsurfable due to federal beach nourishment projects burying the groins which previously supported surf breaks.

Table 2. Years of Beachfill Projects in Delaware

Community	Years of Beach Nourishment Projects – Source: DE DNR
Fenwick Island	1962, 1988, 1994, 1998, 2004, 2008, 2011 2013
South Bethany Beach	1962, 1989, 1994, 1998, 2008, 2011 2013]
Bethany Beach	1961, 1962, 1989, 1992, 1994, 1998, 2008, 2009, 2011, 2013
Indian River Inlet	1957, 1962, 1963, 1972, 1975, 1978, 1982, 1990, 1992, 2013
Dewey Beach	1962, 1993, 1994, 1998, , 2005, 2009, 2011, 2013
Rehoboth Beach	1962, 1998, 2005, 2011, 2012, 2013

6.0 Impacts of Beach Management on Surfing

Three main types of Shoreline Management activities in Delaware have had a direct impact on surfing.

Groins and Jetties. As was discussed in Section 4.0, stone and timber groins and jetties have created surfable waves in locations such as Cape Henlopen State Park, Rehoboth Beach, Bethany Beach and Indian River Inlet. The illustration Figure 3 below shows an example of the impacts of groins, which disrupt littoral drift and create and enhance surfing quality.

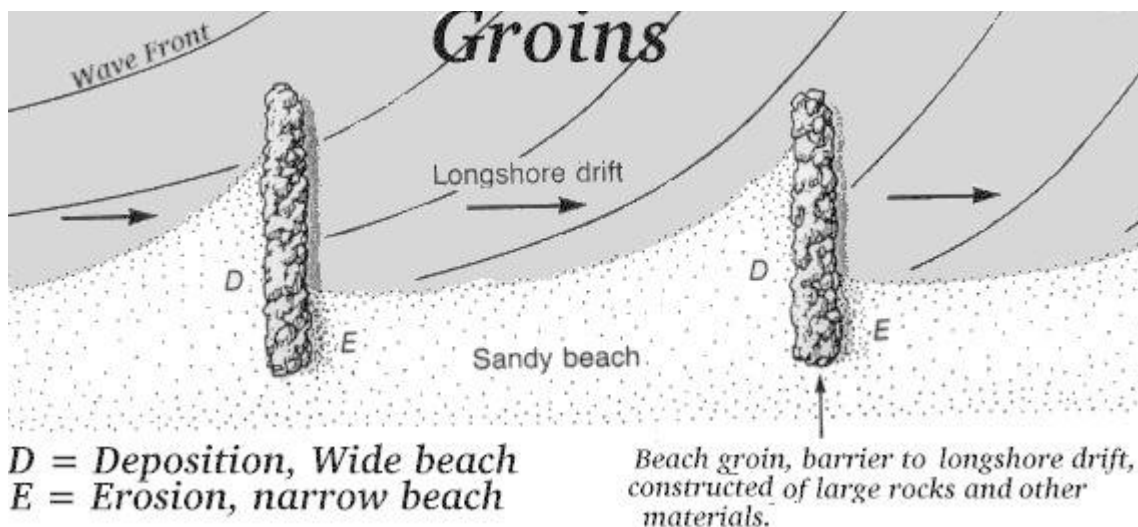


Figure 3 - Effect of Groins on littoral sand flow

Sand Pumping at Indian River Inlet. Since 1990, the U.S. Army Corp of Engineers (ACOE) Have operated a system to pump sand across Indian River Inlet to address the blockage of littoral flow (long shore drift of sand) caused by the rock inlet jetties which were built in the 1930s. Figure 4 below shows the sand bypassing operation which takes in sand accumulating on the south side of Indian River Inlet (as south to north sand flow is blocked by the jetties) and deposits the sand on the north side of the Inlet.

Clearly, this operation can and does impact surfing on both sides of the inlet. Consensus among longtime surfers is that the Indian River South Side break has been harmed by the sand bypassing. South Side is rarely surfable, and is favored by body boarders who like the powerful waves which break close to the beach.

Indian River North Side was a very popular surfing spot from the 1960's until recently. Between 1990 and 2010, surfing at Indian River Inlet remained consistently good with the bypassing operation pumping sand annually. Since around 2010 there has been worsening erosion at Indian River North Side, loss of offshore sand bars and this former popular spot has waned. For more information on this surf break see Section 8.0. Surfers would like to see this sand by-passing system operated in such a way as to enhance, or at least not harm, these two popular surfing and body boarding spots.

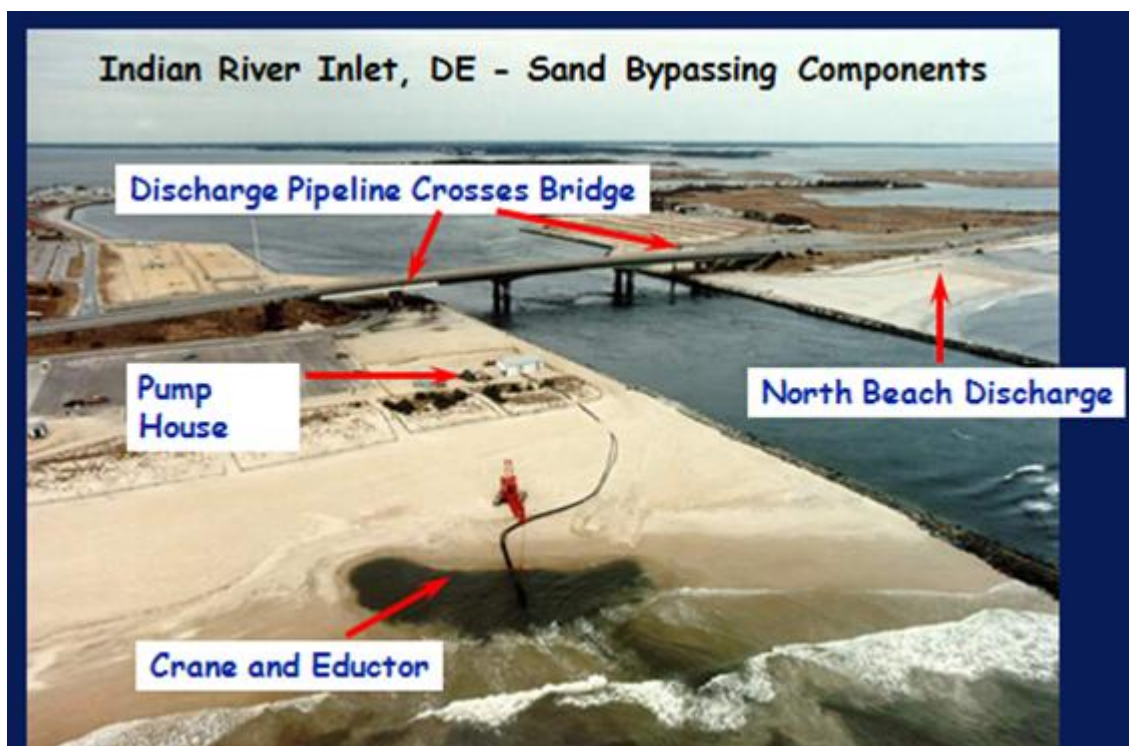


Figure 4 - Indian River Sand By-pass Overview

Beach Nourishment. Among Delaware's Surfing Community, beach nourishment is almost universally considered to have had a negative impact on surfing, by causing shore break conditions

where none existed before, or where shore break was less frequent. Cape Henlopen Gordon's Pond, Rehoboth Beach, Dewey Beach, Delaware Seashore Tower Road, Indian River Inlet North Side, Bethany Beach, and Fenwick Island are Delaware former surfing locations which have been negatively impacted by beach nourishment. As of 2013, seven of the nine historic surfing locations in Delaware listed in Section 3.0 have been negatively impacted by beach nourishment.

7.0 Surfing Access and Restrictions Issues

Delaware's surfing access is generally not a problem. The remaining areas with surfable waves (Cape Henlopen State Park and Indian River Inlet) have adequate parking and allow surfing and body boarding. Historically when surfable waves existed in communities such as Rehoboth Beach, Dewey Beach, Bethany Beach, and Fenwick Island, surfing was unrestricted in the fall, winter and spring, but was prohibited between 10 a.m. and 5 p.m. during the summer months when the Beach Patrols were on duty.

Mobile surf fishing remains an issue at Herring Point in Cape Henlopen State Park where fishing lines can obstruct surfing. The DE SRF Chapter has advocated that a small stretch of beach north of the north groin where surfing is popular be closed to mobile surf fishing vehicles during the summer months. During the summer of 2012 and 2013, Herring Point was virtually the only surfable spot in Delaware and surfing was often hindered by people fishing only because Delaware Regulations require anyone who parks a vehicle on the beach be "actively surf fishing".

There are also concerns that should Indian River Inlet North Side recover from the 2013 beach nourishment project and become surfable once again, the expansive park improvements will add more swimmers to the lineup. Indian River North Side is Delaware's primary designated surfing spot and can easily accommodate 50 surfers when it is breaking. While the designated surfing status gives surfers "priority" over swimmers, swimming is not prohibited and it is not clear how a large influx of swimmers will be regulated by the Park, considering that Indian River North Side is not a guarded beach. Additionally, if the park improvements result in more swimmers during years that North Side does not have a surfing break due to the 2013 beach nourishment project, DE SRF is concerned that there would be pressure to eliminate the Designated surfing area status.

8.0 Conclusion – Net Recent Reduction in Surfing Amenity

Delaware has suffered from a loss of surfing opportunities at the same time as there are more people surfing now than ever. The remaining consistent surfing area in Delaware (Cape Henlopen Herring Point) has become terribly crowded, and was always a small spot to begin with as the waves are only surfable immediately near the groins. This has led to crowding concerns, conflicts, and injuries to surfers.

As was stated in Section 3.0, in the past 10 years between 2003 and 2013, the number of surfable locations in Delaware has decreased from 9 to 3 and one of the remaining 3 surfing spots was heavily impacted by a 2013 beach nourishment project (Indian River North Side). During 2013, the

majority of Delaware surfers either endured infuriating and dangerous crowded conditions at Cape Henlopen Herring Point or drove an extra hour south to surf Ocean City or Assateague in Maryland.



Figure 5 - Surfable waves in Bethany Beach (left) and Rehoboth Beach (right) in 2003 prior to federal beach fill projects

DE SRF believes that shoreline management activities in Delaware should not and need not create an exodus of surfers from Delaware to Maryland and elsewhere. Beach nourishment projects have been performed in Ocean City Maryland since the 1980s and have been designed in such a way that surfing has only been temporarily impacted by the projects and quality surf breaks usually return within a month or two of the dredging ending.

9.0 Opportunities for Improvements in the State of Surfing in Delaware

The State of Surfing in Delaware will continue to deteriorate unless shoreline managers begin to consider surf break restoration in the design and implementation of projects. This will only happen if the surfing community is able to influence these management activities, an influence which has been minimal in the past. With the exception of the groin replacement at Herring Point (a project which demonstrated the potential success in collaborative shoreline management planning) most projects have been designed and implemented with little or no consideration of surfing.

Currently, property protection and tourism are the main considerations for shoreline management. Beach nourishment projects designed to protect property and increase tourism revenues will likely continue to negatively impact surfing.

The use of finer (rather than coarser) grained sand for beachfill projects has been shown to widen beaches without steepening beach slopes to the detriment of surfing and swimming conditions. Beach fill projects done in Dewey and Rehoboth in 1998 using finer sand from Hen and Chicken Shoal, and Ocean City Maryland using finer grained sand have improved or at least maintained quality surfing and swimming conditions. The 2013 NSIRI Beachfill project listed surfing preservation and sand grain size in the ACOE Environmental Assessment of the project.

The Delaware SRF Chapter advocates surfing conditions to be considered in the planning, management and project design, and believes this will only be possible if improved communication can exist between the surfing community and the DE DNREC and ACOE.



Figure 6 - Surf break at Gordon's Pond State Beach in 2003. Stone groins here produced good surf until buried in sand flowing out of the federal beach fill project in Rehoboth Beach, an unintended project side effect on the State Park Beach

Efforts are underway to establish the Economics of Surfing in order to show that surfing generates significant economic activity. While property protection, infrastructure protection and tourism are huge considerations, establishing that surfing recreation also provides economic benefits may result in projects (like Herring Point) that provide both protection and surfing preservation.

Establishing advocacy for surfing is critical. Fishing, hunting, bird watching, boating, and other aspects of coastal tourism have established advocacy organizations which are more effective than surfers in communicating with decision makers. The DE SRF Chapter is a small volunteer organization which lacks the voice and clout of many other groups. Increased outreach and participation is critical if surfing is to be preserved or enhanced in Delaware.