

MESSAGE FROM PRESIDENT KATHERINE S. ABRAMS

THIS HAS BEEN A VERY BUSY AND PRODUCTIVE PERIOD FOR SA MEMBERS. In October, there was a petition by a builder for permission to build on two plots in the "Sippowisset" Subdivision (specifically Gunning Point). Landowners affected by this action and some members of SA organized to deal with this challenge. The subject has been before the Conservation Commission in November and is now scheduled for a second hearing on March 15. The SA did issue a letter to the Conservation Commission supporting the group's activity. The article in this newsletter by Arthur Gaines describes the situation in detail. The Beebe Woods Committee continues to be active and the detail is also supplied in this newsletter. The Winter Social is scheduled for March 19 at the West Falmouth Library. Mark your calendars, and a reminder will be sent closer to the event.

Any questions and comments can be sent to my email (ksakms@aol.com) or feel free to call at 508-548-0310.

A Dismantling of Falmouth's Open Space Protection

(adapted from an op-ed that appeared in the Falmouth Enterprise in November)

by ARTHUR GAINES

THE VALUE AMERICANS PLACE ON OPEN SPACE has been expressed for over a century with the official protection of national parks, state public lands, and, in Falmouth, the incorporation of common areas and beach access in early subdivisions. Indeed the process continues as groups like the 300 Committee and The Salt Pond Areas Bird Sanctuaries, Inc., continue to acquire and protect special natural places. Now, as buildable land becomes increasingly scarce and costly, we are finding developers seeking to skirt these protections, and to develop open spaces that have been considered sacrosanct for a century.

A case in point is the "Sippowisset" subdivision in Falmouth, on the shore of Buzzards Bay. Established by John C. Haynes in 1897, this neighborhood spans the area from Gunning Point to Hamlin Point. Haynes' layout of house lots, together with designated common lands (including roads and ways, beach access, and land surrounding the beach pond, provided a stable pattern for development that assured lot owners of predictable growth in their community. It set aside natural amenities as part of the subdivision to be enjoyed in perpetuity. The pond and surrounding lands at Sippowisset have come to be called the Pond Reservation, and as house lots have been successively built upon over the years, these areas have increased in their value to all of the community.

It is alarming that now a developer has filed plans to build a 5-bedroom house on the Pond Reservation. His project would undo the thoughtful planning and stability that has spanned 100 years. If this is permitted here, then what other common or open areas in Falmouth communities are safe?

In the case of Sippowisset Pond Reservation, recent progress in environmental protection reinforces the early safeguards. The Massachusetts Natural Heritage Program for protecting habitats that support rare species designates the Pond Reservation as one of 17 sites in Falmouth deserving special protection. State and local wetland protection laws reinforce the protection intended by Haynes over a century ago. The Pond Reservation has been categorized as "undevelopable" in Town Assessor records for decades. This designation is

reiterated by the state Supreme Court, which twice upheld the Falmouth Conservation Commission's denials of applications to build on the Pond Reservation. But the stakes are high, and the present application presents a tailored picture supporting the developer — newly reduced resource areas and buffer zones; self-serving priorities; omitted information; unsubstantiated assertions; questionable siting, permitting, and engineering of the septic system—ironically, supported by obfuscated opportunities for public and agency review.

Wetlands aspects of this issue were aired at a hearing of the Falmouth Conservation Commission on Wednesday, November 30. The Sippewissett Association sent a letter strongly opposing the permit, and Sippowisset neighbors spoke out against it. The ConCom appeared skeptical of the proposal, but took no action. The issue was to be taken up again at meetings on Jan. 18 and Feb. 15, but the developer requested continuances until the next meeting on Mar. 15. It is essential as we move ahead that proper civic process be strictly adhered to, with due deference to the clear environmental protection priority indicated by the Natural Heritage Program. We will no doubt be treated to arcane legal arguments. Given the established habitat value of the Pond Reservation, the site deserves all of the legal and regulatory protection possible. The conduct of Town review of this application will stand in the limelight.

The Sippewissett Association board discussed this issue at its Feb. 2 meeting, and adopted a resolution expressing shared concern at a number of generic environmental issues raised by this case, including the enforcement of environmental, zoning and septic regulations, prescriptive easement rights, and FEMA velocity zone review. A number of residents of Sippowissett have organized to ensure that no development occurs on the lot that violates any laws and regulations, and the Board voted to make a Sippewissett Association contribution to that effort.

Arthur Gaines and his wife Jennifer have lived in Falmouth for 28 years and own a house in the Sippowissett subdivision.

The Sippewissett Shoreline – What’s Goin’ On Here?

by DR. R. JUDE WILBER

INTRODUCTION

Recent storms have caused some alarming changes to the Sippewissett shoreline, as the accompanying pictures illustrate (Figure 1). We asked local geologist

the Sippewissett shore, the sand moves north during the summer with the mild but persistent SW breezes. In the winter, the sand is pushed mainly on-shore by westerlies or is moved south by winds

- cobbles, pebbles and different grades of sand – are “stretched-out” along the stream. As the stream flows it eventually enters a coastal embayment: a low, broad valley such as Woodneck. The finest material – generally medium and fine sand – is concentrated in these embayments. Once you get sand into an embayment, (or “Pocket”) it is very difficult to get it out again. Therefore these sites are known as the sand *Sinks* - the places where the sand comes to rest. These are areas of “constant beaches” and sand dunes.



Figure 1a: The December 9, 2005 storm had significant effects on the Sippewissett coastline. A 5’ deep storm channel cut through the coastal dune and temporarily drained the Gunning Point salt pond. This was the first time the pond had been breached in over 40 years. (photo by Hartley Hoskins)

THE SIPPEWISSETT SHORELINE

The Woodneck embayment can be used as the type area for understanding the entire Sippewissett Shore. This embayment is defined by highlands to the south and to the north. The area between bounding highlands is known as a coastal cell - the fundamental unit for which the *Source-Stream-Sort-Sink* scenario occurs. For Woodneck, the northern border is the short segment of upland (Saconneset Hills) that is

Jude Wilbur to write a background article for the newsletter to give us some sense of what processes are at work, what we might expect in the future, and what steps we should be considering in terms of mitigating the damage and adapting to the inevitable.

SOME BASICS OF COASTAL PROCESSES

All of the Cape Shore is what is known as a naturally mobile sedimentary shoreline - with the key word here being “mobile”. The Father of Coastal Sedimentology (the study of how shorelines change over time) is none other than Henry David Thoreau. In the first four pages of the “Highland Light” chapter of his *Cape Cod*, HDT outlines all the important process and products of Cape shorelines. The most important concept here is that the upland (bluffs) are always undergoing erosion. They are always in a pattern of natural retreat, and in the process, are always “giving” sediment – mostly sand – to the coastline. Thus the Bluffs are known as the *Source* for all coastal sand. This sand does not stay at the site of erosion but is moved along the shore by a process know as *littoral drift*. The net direction of transport is determined by seasonal winds. For example, for



Figure 1b: The Cape Codder bluff was one of many Sippewissett banks and beaches that were eroded by the 4 foot storm surge wave in Buzzards Bay. (photo by Bob Busby)

from the NW. On the whole, the net direction of sand movement - over decades and centuries - is to the north.

The Source area grades shoreward into what is know as the Coastal *Stream*, which features lateral transport of sediment along the shore. These are known as “flowing beaches”. Within this stream there is a general *Sorting* of the material supplied by the bluff - that is, the big things (boulders) tend to stay close to the source and the finer material

found just north of the inlet. To the south, the cell extends much further - all the way to the upland of the Cape Codder. The net transport direction is North (to Woodneck Beach). The Cape Codder Bluff is the main sediment source and this is a very well-defined cell. Understanding what “should” happen here is quite easy.

Two images can tell the whole story for this cell. The first shows the Cape Codder Bluff, circa 1890 (Figure 2). Here we see the typical

House, above Buzzards Bay shore. Lovely run-about launch in foreground. Courtesy SPNEA.



Figure 2: The Cape Codder Bluff, circa 1890 (from the Book of Falmouth, p. 375)

natural coastal bluff of the Cape and Islands - the one that even made the license plate!! The bluff is made up of sand and gravel, which lies at a distinctive angle to the water - that angle being 34°. This suggests a bluff that has not been attacked by a storm in some time (years perhaps) and has adjusted its slope to accommodate the sediment lost from the toe-of-the-slope during the last storm. The photo shows a pebble/cobble beach; the sand has moved mainly north from this headland to “feed” Woodneck Beach. Some of the sand has also flowed south to form the beach that bars Gunning Point Pond - in the pocket to the south of CC Bluff. Thus, in 1890, erosion of the CC Bluff was the “keystone” Source for two coastal cells, one large, one small.

The rest of the story is told by any photograph taken of this same bluff in the last 60 years. A long continuous wall of concrete and granite has taken over, effectively sealing off the “giving” bluffs from the Buzzards Bay shore and eliminating further retreat. This “Great Wall of Sippewissett” has indeed protected upland property, but it has just as surely spelled doom for Woodneck Beach and the formerly sandy beach at Gunning Point Pond. The process is known as Starvation - no Source - no Stream - no Sink. And gradually, sand is lost from the

whole system. In response to starvation, those areas that have any sand - beaches and dunes - become the “responsive” areas to storms. In a process known as *coastal auto-cannibalization*, they literally eat themselves away, losing sand offshore to deep water (gravity is forever), and onshore - into marshes and ponds. Woodneck is in the terminal stages of cannibalization.

The most disturbing aspect of armoring is a domino effect that devastates all the shore and associated ecosystems. This is not a process that is constant over time, but one that accelerates as it proceeds. People who can remember the Woodneck of 1950, 1970 - or even 1990 - are now witnessing the final demise of the once-beautiful beach.

For the Quisset-to-Woodneck segment, only one coastal cell resembles the native shore. This is the Flume Pond embayment, which has limited armor directly to the north and south - although massive armor begins within a few hundred feet in either direction. Moreover, in just the last 8 years, the Flume Pond beach/dune line has been breached by westerly storms. Large volumes of sand have poured into the pond to form two large “storm deltas” - large sheets of sand which now fill ~30% of the pond.

THE RESPONSE

What can be done? Any plan would require more discussion than can appear here, but I believe that there are essentially two options: 1) Armor the rest of the coast - give up entirely on any type of native shore and just “live with the rock”. This option clearly protects upland property and allows it to stay geographically fixed. The opposite option: 2) “Disarm” the shore and let it restore itself - including most particularly, the beaches and bluffs. This option means that buildings that lie close to a “giving” bluff would have to - eventually, not immediately - be moved back from the retreating shoreline. Any decision about managing this beautiful stretch of coast would have to engage the Sippewissett Association and residents from every affected neighborhood, within and beyond Sippewissett.

Dr. R. Jude Wilber is a geologist who has been studying Falmouth shores, in detail, for over 12 years and is working on a book on the history and evolution of the shorelines of the Cape and Islands. His company, the Capella Consulting Group does coastal environmental work, and he is an assistant professor at Massachusetts Maritime Academy.



Update on Beebe Woods Wildfire Preparedness

by Janice Hayes and Maureen Conte

OVER THE LAST YEAR, the Beebe Woods Management Committee (BWMC) has been working with Fire Chief Brodeur and other town officials on ways to reduce wildfire risks in Beebe Woods. Barnstable County Extension had catalyzed wildfire interest with education in each Cape town, wildfire consultant’s services, and funding assistance.

In spring 2005, a fire risk consultant hired by the county produced a draft report for Beebe Woods. Techniques she recommended included reduced-fuel buffer strips 200 feet wide (not clear-cutting) to slow fire spread. Some buffers included widened trails and safety circles to provide better public safety and better access to the woods for firefighters and equipment. In response to this report, the BWMC prepared a grant
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**The Sippewissett Association
PO Box 501
Falmouth, MA 02541**

Winter Social March 19 at West Falmouth Library!

(Update on Beebe Woods Wildfire Preparedness continued)
application for a small demonstration project in Beebe Woods near the hospital complex. The objective was to provide residents with a concrete example of the consultant's recommendations, as well as to provide some measure of fire protection to the medical complex.

Last fall, the demonstration project was approved by the Falmouth Conservation Commission (ConCom). However, the grant proposal was rejected by the county as ineffective due to the lack of a safety circle for the public, firefighters, and their equipment, and insufficient width of the trail buffer.

On November 30th, the Beebe Woods Management Committee returned to the Conservation Committee with the expanded project recommended by the county. This plan called for converting 1/3 mile of the walking trail near the hospital complex into a fire buffer that would allow access of fire vehicles, lined on both sides by a 100-foot-wide strip with reduced fuel

load, and including a fuel-reduced circle sufficient to allow the fire vehicles to turn around. The proposal also included a 200-foot fuel-reduced buffer around the Heritage Assisted Living Facility. In total, fuel reduction of approximately 11 acres in Beebe Woods was proposed.

After lengthy discussion, the ConCom denied approval of the Beebe Woods trail portion of the project, citing both environmental concerns and the lack of any clear plan for follow-up assessment. The Sippewissett Association had notified its members of the meeting of ConCom, and several members spoke effectively against the revised proposal. However, there was unanimous support for the 200-foot reduced fuel buffer around the Heritage complex. The Heritage buffer, which would be largely on Cape Cod Healthcare property, would seek private funding. This area may provide residents with a better idea of what reduced fuel treatment would look like if implemented in Beebe Woods.