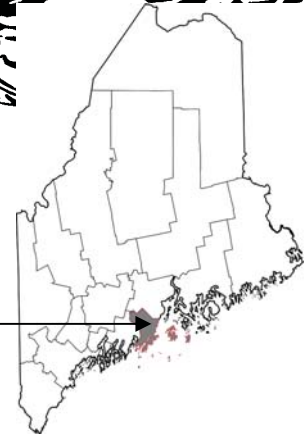


FLOOD INSURANCE STUDY



KNOX COUNTY, MAINE (ALL JURISDICTIONS)

Knox County



COMMUNITY NAME	COMMUNITY NUMBER	COMMUNITY NAME	COMMUNITY NUMBER	COMMUNITY NAME	COMMUNITY NUMBER
ANDREWS ISLAND	230967	HIGH ISLAND	230964	PUDDING ISLAND	230941
APPLETON, TOWN OF	230073	HIGH LEDGE	230946	RAGGED ISLAND	230940
BAR ISLAND	230974	HOG ISLAND	230934	ROBINSON ROCK	230989
BIRCH ISLAND	230966	HOPE, TOWN OF	230226	ROCKLAND, CITY OF	230076
BRIG LEDGE	230947	ISLE AU HAUT, TOWN OF	230227	ROCKPORT, TOWN OF	230077
CAMDEN, TOWN OF	230074	LARGE GREEN ISLAND	230936	SADDLE ISLAND	230982
CAMP COVE LEDGE	230945	LASELL ISLAND	230983	SAINT GEORGE, TOWN OF	230229
CAMP ISLAND	230962	LITTLE GREEN ISLAND	230935	SEAL ISLAND	230948
CLAM LEDGES	230970	LITTLE HURRICANE ISLAND	230973	SHAG LEDGE	230942
CRESCENT ISLAND	230955	LITTLE POND ISLAND	230960	SOUTH THOMASTON, TOWN OF	230078
CRIEHAVEN, TOWNSHIP OF	231034	LITTLE TWO BUSH ISLAND	230980	SPECTACLE ISLAND	230963
CROW ISLAND	230978	*MALCOLM LEDGE	230952	TENPOUND ISLAND	230633
CUSHING, TOWN OF	230224	MARBLEHEAD ISLAND	230954	*THE HOGSHEAD	230943
DIX ISLAND	230965	MARK ISLAND	230988	THE NUBBLE	230933
EAST GOOSE ROCK	230990	MATINICUS ISLE PLANTATION	230603	THOMASTON, TOWN OF	230079
EGG ROCK	230991	METINIC GREEN ISLAND	230932	TWO BUSH ISLAND	230477
FISHERMAN ISLAND	230953	METINIC ISLAND	230931	UNION, TOWN OF	230080
FLAG ISLAND	230972	MINK ISLAND	230976	VINALHAVEN, TOWN OF	230230
FRIENDSHIP, TOWN OF	230225	MOUSE ISLAND	230986	WARREN, TOWN OF	230081
GOOSE ISLAND	230987	MUSCLE RIDGE, TOWNSHIP OF	230979	WASHINGTON, TOWN OF	230082
GOOSEBERRY KNOB	230959	NETTLE ISLAND	230969	WHEATON ISLAND	230456
GRAFFAM ISLAND	230975	NORTH HAVEN, TOWN OF	230228	WHEELER BIG ROCK	230939
GREAT POND ISLAND	230961	OAK ISLAND	230957	WOODEN BALL ISLAND	230950
GREEN LEDGE	230944	OTTER ISLAND	230956	YELLOW LEDGE	230981
HERRING LEDGE	230937	OWLS HEAD, TOWN OF	230075		
HEWETT ISLAND	230971	PLEASANT ISLAND	230977		

*No Special Flood Hazard Areas Identified



Effective: July 6, 2016

Federal Emergency Management Agency

FLOOD INSURANCE STUDY NUMBER
23013CV000A

Figure 1 is a profile for a hypothetical transect showing the effects of energy dissipation on a wave as it moves inland. This figure shows the wave elevations being decreased by obstructions, such as buildings, vegetation, and rising ground elevations and being increased by open, unobstructed wind fetches. Actual wave conditions may not necessarily include all of the situations shown in Figure 1.

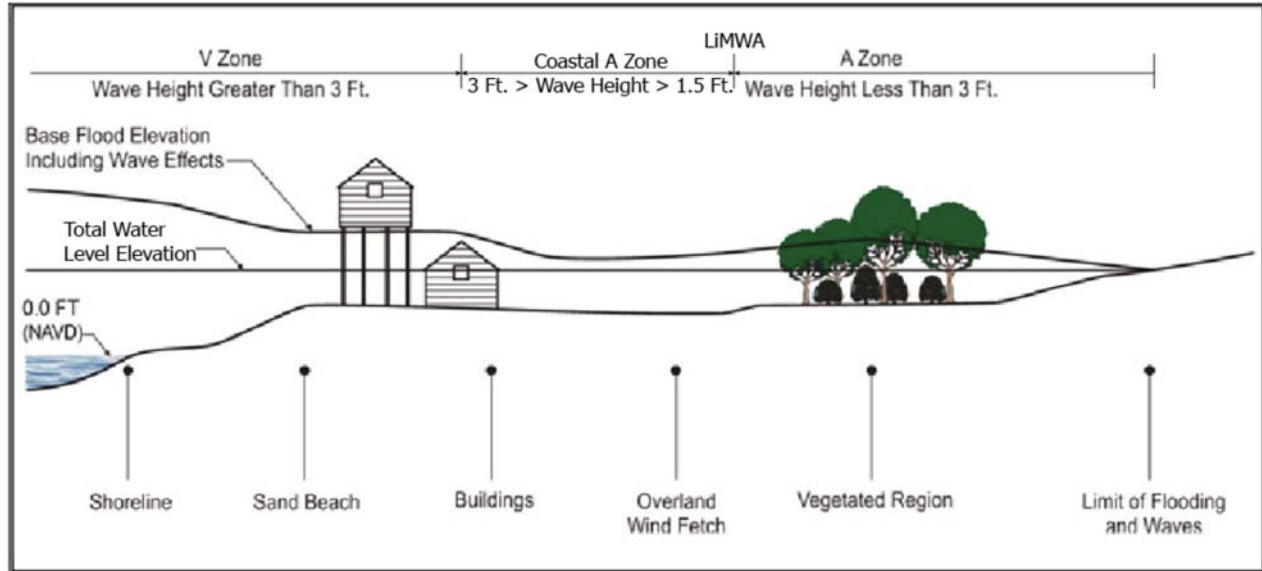


Figure 1 - Transect Schematic

Table 8 – Transect Data Location

TRANSECT	STILLWATER ELEVATION (FEET NAVD88 ¹)				TOTAL WATER LEVEL ² 1-PERCENT-ANNUAL-CHANCE	ZONE	BASE FLOOD ELEVATION (FEET NAVD88 ^{1,3})
	10-PERCENT-ANNUAL-CHANCE	2-PERCENT-ANNUAL-CHANCE	1-PERCENT-ANNUAL-CHANCE	0.2-PERCENT-ANNUAL-CHANCE			
1	*	*	9.3	*	11.0	AE	13
2	*	*	9.2	*	10.0	VE	13-14
3	*	*	9.1	*	10.6	VE	13
4	*	*	9.1	*	10.6	VE	13
5	*	*	9.1	*	10.3	VE	13-14
6	*	*	9.1	*	10.1	AE/VE	11/14
7	*	*	9.1	*	9.5	AE	11
8	*	*	9.1	*	11.0	AE	12
9	*	*	9.2	*	9.5	AE	10-11
10	*	*	9.2	*	11.3	VE	14
11	*	*	9.3	*	11.1	VE	13
12	*	*	9.4	*	11.5	AE	13
13	*	*	9.6	*	11.3	AE	13

¹North American Datum of 1988

²Including stillwater elevation and effects of wave setup

³Due to map scale limitations, BFEs shown on the FIRM may represent average elevation for the zone depicted

*Data not available

Table 8 – Transect Data Location (*continued*)
STILLWATER ELEVATION (FEET NAVD88¹)

<u>TRANSECT</u>	<u>TOTAL WATER LEVEL²</u>					<u>ZONE</u>	<u>BASE FLOOD ELEVATION (FEET NAVD88^{2,3})</u>
	<u>10- PERCENT- ANNUAL- CHANCE</u>	<u>2- PERCENT- ANNUAL- CHANCE</u>	<u>1- PERCENT- ANNUAL- CHANCE</u>	<u>0.2- PERCENT- ANNUAL- CHANCE</u>	<u>1-PERCENT- ANNUAL- CHANCE</u>		
46	*	*	9.0	*	10.8	VE	19
47	*	*	9.0	*	10.8	VE	14-16
48	*	*	9.0	*	11.1	VE	21
49	*	*	9.0	*	10.5	VE	12-14
50	*	*	9.0	*	11.3	VE	14
51	*	*	9.1	*	11.3	VE	16-17
52	*	*	9.1	*	11.1	VE	19
52A	*	*	9.2	*	11.5	VE	18
52B	*	*	9.2	*	12.1	VE	17
52C	*	*	9.2	*	12.0	VE	16
52D	*	*	9.2	*	10.9	AE	11-12
53	*	*	9.1	*	9.3	AE	10-11
53A	*	*	9.2	*	12.1	VE	16
54	*	*	9.1	*	11.4	VE	19
55	*	*	9.1	*	10.6	VE	17
56	*	*	9.2	*	10.7	VE	15
57	*	*	9.1	*	10.3	AE	12
58	*	*	9.0	*	10.8	AE	12
59	*	*	9.0	*	11.0	VE	14
60	*	*	9.0	*	11.1	AE	12
61	*	*	8.9	*	10.9	VE	13
62	*	*	8.9	*	10.3	AE	12
63	*	*	8.8	*	10.0	AE	12
64	*	*	8.8	*	13.1	AE/VE	18/18-19
65	*	*	8.8	*	10.0	AE/VE	10/13
66	*	*	8.8	*	13.1	VE	19
67	*	*	8.8	*	13.1	VE	26
68	*	*	8.9	*	13.3	VE	22
69	*	*	8.8	*	10.1	AE	12
70	*	*	8.8	*	10.1	AE	11
71	*	*	8.8	*	14.2	VE	18-20
71A	*	*	8.7	*	11.8	VE	14-18
72	*	*	8.7	*	14.1	VE	17-21
73	*	*	8.7	*	11.7	AE/VE	20/20
74	*	*	8.7	*	12.2	VE	15-18
75	*	*	8.7	*	11.2	AE/VE	12/14-17

¹North American Datum of 1988

²Including stillwater elevation and effects of wave setup

³Due to map scale limitations, BFEs shown on the FIRM may represent average elevation for the zone depicted

*Data not available

Table 9 provides a description of the transect locations, the 1-percent-annual-chance coastal stillwater elevations, and the maximum 1-percent-annual-chance wave crest elevations.

Table 9 - Transect Descriptions (*continued*)

Transects	Location	Elevation (FEET NAVD88) ¹	
		Stillwater 1-percent- annual-chance	Maximum Wave Crest 1-percent-annual- chance ²
61	At the shoreline of the Atlantic Ocean, in the Town of Vinalhaven, extending approximately 1,292 feet northwest near Browns Head Light Road, in Red Lion Island	8.9	13
62	At the shoreline of the Atlantic Ocean, in the Town of Vinalhaven, extending approximately 909 feet southwest near Crockers River Road and Long Cove Road, in Red Lion Island	8.9	12
63	At the shoreline of the Atlantic Ocean, in the Town of Vinalhaven, extending approximately 2,680 feet southwest near Old Harbor Road and City Point Road, in Red Lion Island	8.8	12
64	At the shoreline of the Atlantic Ocean, in the Town of Vinalhaven, extending approximately 11,880 feet south near Skoog Park Road and Sands Road, in Red Lion Island	8.8	19
65	At the shoreline of the Atlantic Ocean, in the Town of Vinalhaven, extending approximately 1,352 feet southwest from the Medical Center Loop, in Red Lion Island	8.8	13
66	At the shoreline of the Atlantic Ocean, in the Town of Vinalhaven, extending approximately 10,929 feet southwest from Cranberry Shores Road and Balance Rock Road, in Red Lion Island	8.8	19
67	At the shoreline of the Atlantic Ocean, in the Town of Vinalhaven, extending approximately 6,678 feet from Narrow Island Road, in Red Lion Island	8.8	26

¹North American Vertical Datum of 1988²Because of map scale limitations, maximum wave elevations may not be shown on the FIRM

NOTES TO USERS

This map is for use in administering the National Flood Insurance Program. It does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size. The **community map repository** should be consulted for possible updated or additional flood hazard information.

To obtain more detailed information in areas where **Base Flood Elevations (BFEs)** and/or **floodways** have been determined, users are encouraged to consult the Flood Profiles and Floodway Data and/or Summary of Stillwater Elevations tables contained within the Flood Insurance Study (FIS) Report that accompanies this FIRM. Users should be aware that BFEs shown on the FIRM represent rounded whole-foot elevations. These BFEs are intended for flood insurance rating purposes only and should not be used as the sole source of flood elevation information. Accordingly, flood elevation data presented in the FIS Report should be utilized in conjunction with the FIRM for purposes of construction and/or floodplain management.

Coastal Base Flood Elevations shown on this map apply only landward of 0.0' North American Vertical Datum of 1988 (NAVD 88). Users of this FIRM should be aware that coastal flood elevations are also provided in the Summary of Stillwater Elevations table in the Flood Insurance Study Report for this jurisdiction. Elevations shown in the Summary of Stillwater Elevations table should be used for construction and/or floodplain management purposes when they are higher than the elevations shown on this FIRM.

Boundaries of the **floodways** were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the National Flood Insurance Program. Floodway widths and other pertinent floodway data are provided in the Flood Insurance Study Report for this jurisdiction.

The AE Zone category has been divided by a **Limit of Moderate Wave Action (LIMWA)**. The LIMWA represents the approximate landward limit of the 1.5-foot breaking wave. The effects of wave hazards between the VE Zone and the LIMWA (or between the shoreline and the LIMWA for areas where VE Zones are not identified) will be similar to, but less severe than those in the VE Zone.

Certain areas not in Special Flood Hazard Areas may be protected by **flood control structures**. Refer to Section 2.4 "Flood Protection Measures" of the Flood Insurance Study Report for information on flood control structures for this jurisdiction.

The **projection** used in the preparation of this map was Universal Transverse Mercator (UTM) zone 19. The **horizontal datum** was NAD 83, GRS 1980 spheroid. Differences in datum, spheroid, projection or UTM zones used in the production of FIRMs for adjacent jurisdictions may result in slight positional differences in map features across jurisdiction boundaries. These differences do not affect the accuracy of this FIRM.

Flood elevations on this map are referenced to the North American Vertical Datum of 1988. These flood elevations must be compared to structure and ground elevations referenced to the same **vertical datum**. For information regarding conversion between the National Geodetic Vertical Datum of 1929 and the North American Vertical Datum of 1988, visit the National Geodetic Survey website at <http://www.ngs.noaa.gov> or contact the National Geodetic Survey at the following address:

NGS Information Services
NOAA, NNGS12
National Geodetic Survey
SSMC-3, #9202
1315 East-West Highway
Silver Spring, Maryland 20910-3282
(301) 713-3242

To obtain current elevation, description, and/or location information for **bench marks** shown on this map, please contact the Information Services Branch of the National Geodetic Survey at (301) 713-3242, or visit its website at <http://www.ngs.noaa.gov>.

Base map information shown on the Flood Insurance Rate Map (FIRM) was produced by Woolpert, Inc. at a scale of 1:400, from aerial photography dated 2012 or later.

The **profile baselines** depicted on this map represent the hydraulic modeling baselines that match the flood profiles in the FIS report. As a result of improved topographic data, the **profile baseline**, in some cases, may deviate significantly from the channel centerline or appear outside the SFHA.

Corporate limits shown on this map are based on the best data available at the time of publication. Because changes due to annexations or de-annexations may have occurred after this map was published, map users should contact appropriate community officials to verify current corporate limit locations.

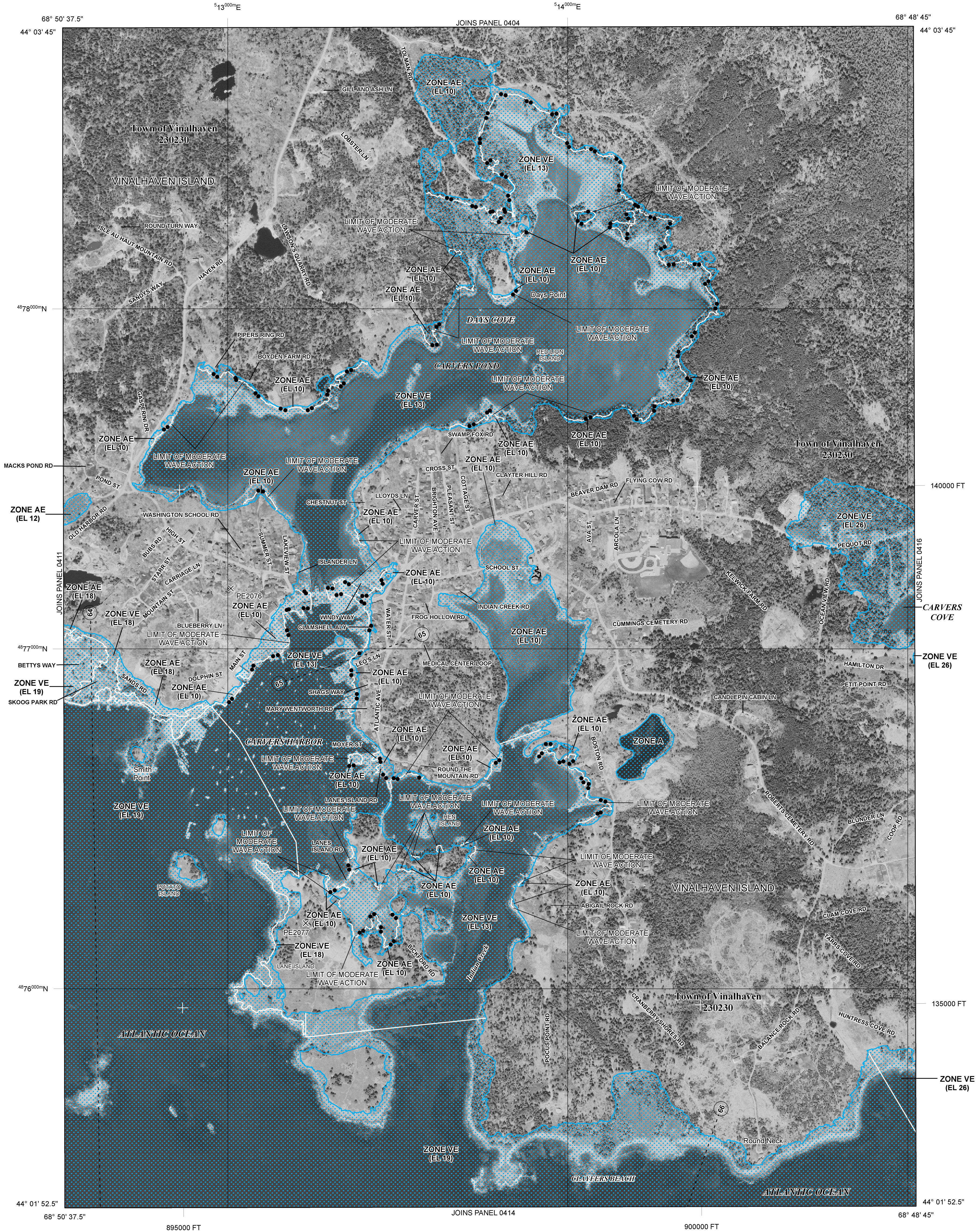
Please refer to the separately printed **Map Index** for an overview map of the county showing the layout of map panels; community map repository addresses; and a Listing of Communities table containing National Flood Insurance Program dates for each community as well as a listing of the panels on which each community is located.

For information on available products associated with this FIRM visit the **Map Service Center (MSC)** website at <http://msc.fema.gov>. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the MSC website.

If you have **questions about this map**, how to order products, or the National Flood Insurance Program in general, please call the **FEMA Map Information eXchange (FMIX)** at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA website at <http://www.fema.gov/business/nfp>.

State of Maine Floodway Note: Under the Maine Revised Statutes Annotated (M.R.S.A.) Title 38 § 439-A, 7C where the floodway is not designated on the Flood Insurance Rate Map, the floodway is considered to be the channel of a river or other water course and the adjacent land areas to a distance of one-half the width of the floodplain, as measured from the normal high water mark to the upland limit of the floodplain, unless a technical evaluation certified by a registered professional engineer is provided demonstrating the actual floodway based upon approved FEMA modeling methods.

Only coastal structures that are certified to provide protection from the 1-percent-annual chance flood are shown on this panel. However, all structures taken into consideration for the purpose of coastal flood hazard analysis and mapping are present in the DFIRM database in S_Gen_Struct.



LEGEND

- SPECIAL FLOOD HAZARD AREAS (SFHAs) SUBJECT TO INUNDATION BY THE 1% ANNUAL CHANCE FLOOD**
The 1% annual chance flood (100-year flood), also known as the base flood, is the flood that has a 1% chance of being equaled or exceeded in any given year. The Special Flood Hazard Area is the area subject to flooding by the 1% annual chance flood. Areas of Special Flood Hazard include Zones A, AE, AH, AO, AR, A99, V, and VE. The Base Flood Elevation is the water-surface elevation of the 1% annual chance flood.
- ZONE A** No Base Flood Elevations determined.
- ZONE AE** Base Flood Elevations determined.
- ZONE AH** Flood depths of 1 to 3 feet (usually areas of ponding); Base Flood Elevations determined.
- ZONE AO** Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- ZONE AR** Special Flood Hazard Areas formerly protected from the 1% annual chance flood by a flood control system that was subsequently decertified. Zone AR indicates that the former flood control system is being restored to provide protection from the 1% annual chance or greater flood.
- ZONE A99** Area to be protected from 1% annual chance flood by a Federal flood protection system under construction; no Base Flood Elevations determined.
- ZONE V** Coastal flood zone with velocity hazard (wave action); no Base Flood Elevations determined.
- ZONE VE** Coastal flood zone with velocity hazard (wave action); Base Flood Elevations determined.

FLOODWAY AREAS IN ZONE AE

The floodway is the channel of a stream plus any adjacent floodplain areas that must be kept free of encroachment so that the 1% annual chance flood can be carried without substantial increases in flood heights.

OTHER FLOOD AREAS

ZONE X Areas of 0.2% annual chance flood; areas of 1% annual chance flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 1% annual chance flood.

OTHER AREAS

ZONE X Areas determined to be outside the 0.2% annual chance floodplain.

ZONE D Areas in which flood hazards are undetermined, but possible.

COASTAL BARRIER RESOURCES SYSTEM (CBRS) AREAS

OTHERWISE PROTECTED AREAS (OPAs)

CBRS areas and OPAs are normally located within or adjacent to Special Flood Hazard Areas.

- 1% Annual Chance Floodplain Boundary
- 0.2% Annual Chance Floodplain Boundary
- Floodway boundary
- Zone D boundary
- CBRS and OPA boundary
- Boundary dividing Special Flood Hazard Area Zones and boundary dividing Special Flood Hazard Areas of different Base Flood Elevations, flood depths, or flood velocities.
- Limit of Moderate Wave Action
- Limit of Moderate Wave Action
- Base Flood Elevation line and value; elevation in feet* (EL 987)
- Base Flood Elevation value where uniform within zone; elevation in feet*

*Referenced to the North American Vertical Datum of 1988

- Cross section line
- Transect line
- Geographic coordinates referenced to the North American Datum of 1983 (NAD 83) Western Hemisphere
- 1000-meter Universal Transverse Mercator grid values, zone 19
- Bench mark (see explanation in Notes to Users section of this FIRM panel)
- River Mile

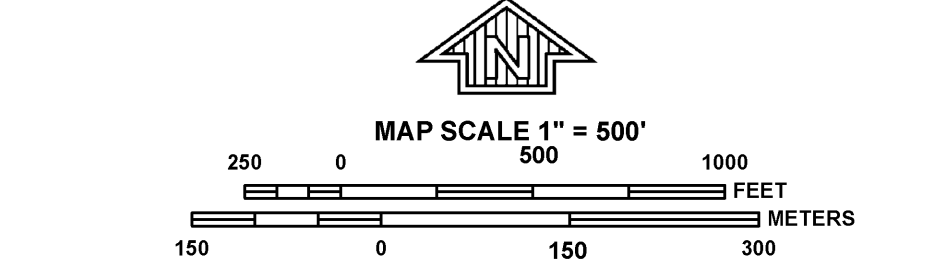
MAP REPOSITORIES
Refer to Map Repositories list on Map Index

EFFECTIVE DATE OF COUNTYWIDE FLOOD INSURANCE RATE MAP
July 6, 2016

EFFECTIVE DATE(S) OF REVISION(S) TO THIS PANEL

For community map revision history prior to countywide mapping, refer to the Community Map History table located in the Flood Insurance Study report for this jurisdiction.

To determine if flood insurance is available in this community, contact your insurance agent or call the National Flood Insurance Program at 1-800-638-6620.



NATIONAL FLOOD INSURANCE PROGRAM

PANEL 0412D

FIRM
FLOOD INSURANCE RATE MAP
KNOX COUNTY,
MAINE
(ALL JURISDICTIONS)

PANEL 412 OF 925
(SEE MAP INDEX FOR FIRM PANEL LAYOUT)

CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
VINALHAVEN, TOWN OF	230230	0412	D

Notice to User: The **Map Number** shown below should be used when placing map orders; the **Community Number** shown above should be used on insurance applications for the subject community.

MAP NUMBER
23013C0412D
EFFECTIVE DATE
JULY 6, 2016
Federal Emergency Management Agency

[Help](#)

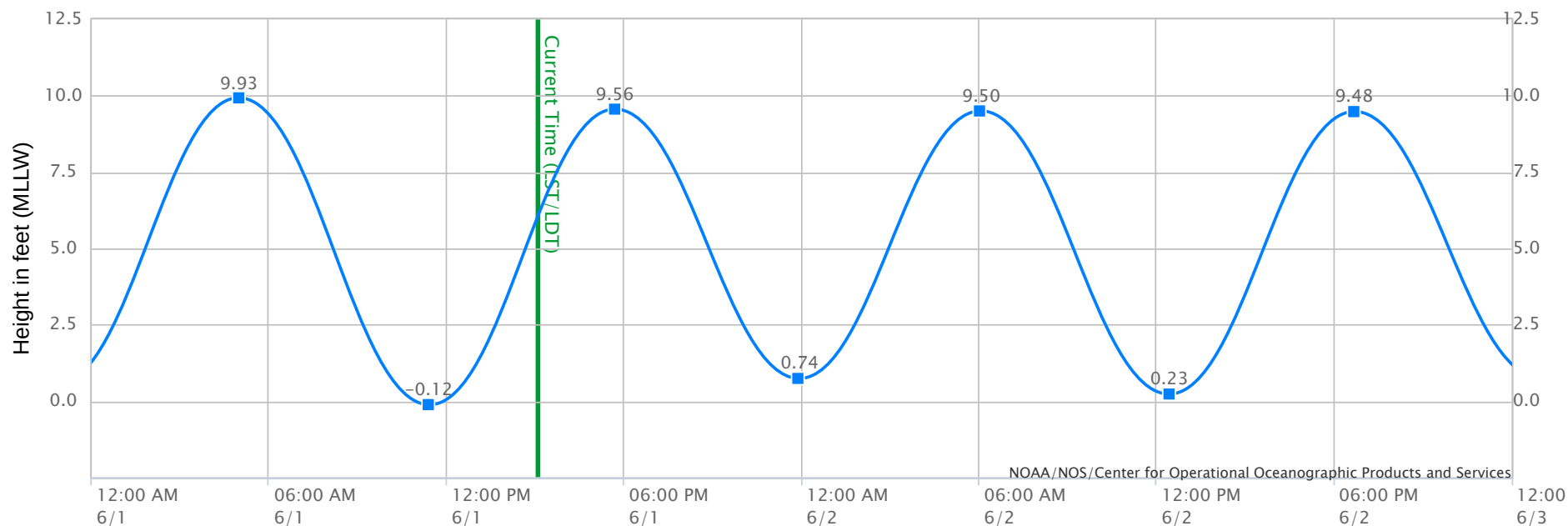
Print

NOAA/NOS/CO-OPS

Tide Predictions at 8414776, Vinalhaven, Vinalhaven Island ME

From 2017/06/01 12:00 AM LST/LDT to 2017/06/02 11:59 PM LST/LDT

Subordinate Station | Ref. Station (Bar Harbor 8413320) | Time offsets (high: 9 min. low: 10 min.) | Height offsets (high: *0.87 ft. low: *0.88 ft.)



Note: The interval is High/Low, the solid blue line depicts a curve fit between the high and low values and approximates the segments between.
Disclaimer: These data are based upon the latest information available as of the date of your request, and may differ from the published tide tables.

High/Low Tide Prediction Data Listing

Station Name: Vinalhaven, Vinalhaven Island, ME

Action: Daily

Product: Tide Predictions

Start Date & Time: 2017/6/1 12:00 AM

End Date & Time: 2017/6/2 11:59 PM

Source: NOAA/NOS/CO-OPS

Prediction Type: Subordinate

Datum: MLLW

Height Units: Feet

Time Zone: LST/LDT

Date	Day	Time	Hgt	Time	Hgt	Time	Hgt	Time	Hgt
2017/06/01	Thu	04:58 AM	9.93 H	11:25 AM	-0.12 L	5:41 PM	9.56 H	11:55 PM	0.74 L
2017/06/02	Fri	06:03 AM	9.50 H	12:25 PM	0.23 L	6:41 PM	9.48 H		