



Appendix B: OBX Hazard Mitigation Plan

Annex B Dare County Unincorporated Areas

B.1 PLANNING PROCESS

The table below lists the HMPC members who represented Dare County unincorporated areas.

Table B.1 – HMPC Members

Representative	Agency/Department	Position or Title
Drew Pearson	Emergency Management	Director, Dare County Emergency Management
Donna Creef	Planning	Planning Director
Noah Gillam	Planning	Planner
Pat Weston	Citizen-Hatteras Island	Homeowners Association President, engaged citizen and community volunteer
Glenn Rainey	Citizen-Colington	Volunteer Fire Department Chief
Buddy Shelton	Citizen-Mainland Dare	Engaged Citizen and building inspector
John Finelli	Citizen-Martin Point	Homeowners Association member and planning board

B.2 COMMUNITY PROFILE

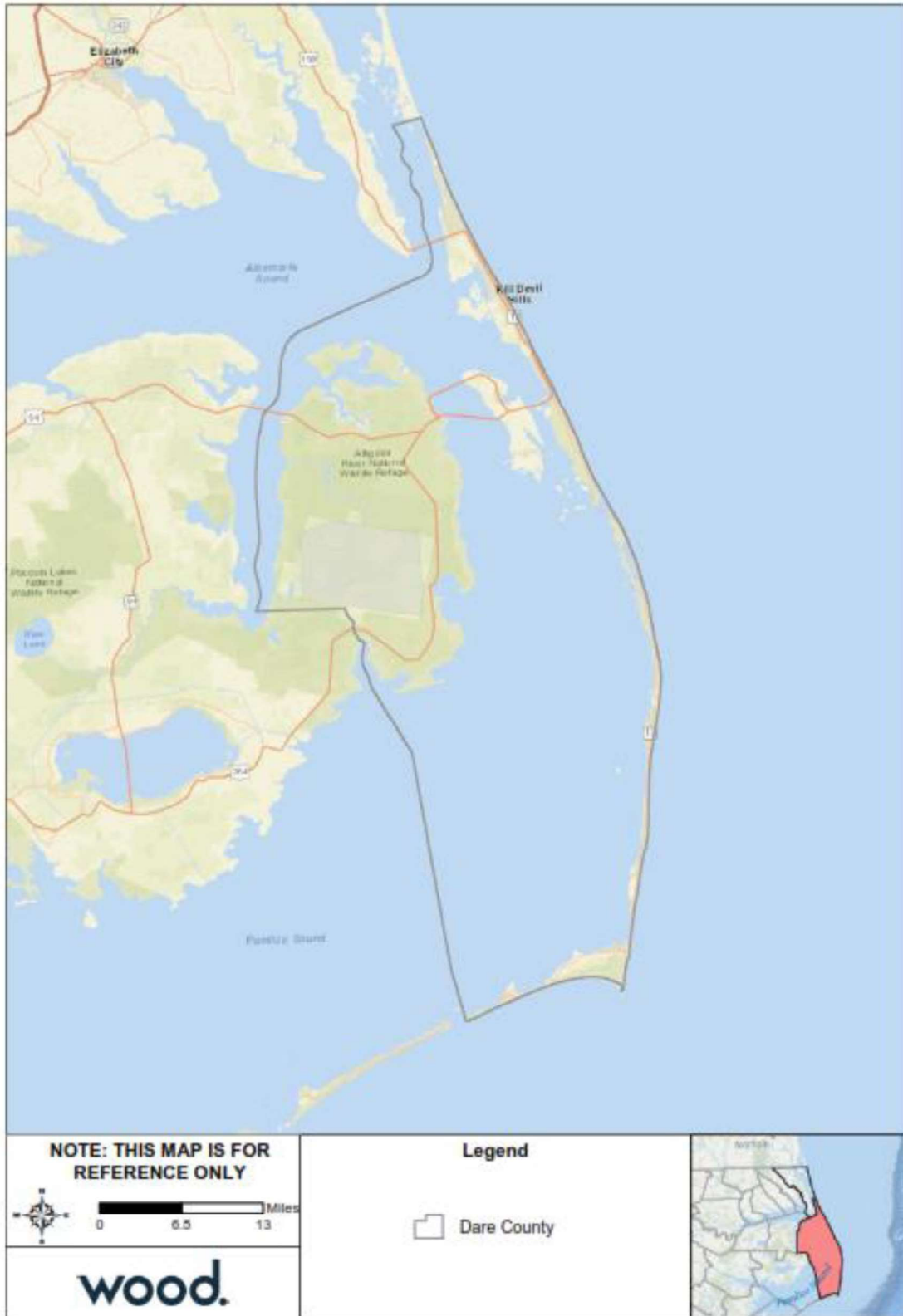
Geography

Dare County is located in the northeastern corner of the Coastal Plain of North Carolina. Its land area encompasses mainland, Roanoke Island, and barrier islands. The County comprises a total land area of 383.23 square miles, 354.64 square miles is unincorporated.

According to data from the U.S. Fish and Wildlife Service’s National Wetlands Inventory, there are approximately 6,895 acres of wetlands in the unincorporated areas of Dare County.

Figure A.1 shows a base map of Dare County.

Figure B.1 – Location Map, Dare County



Source: U.S. Census Bureau

ANNEX B: DARE COUNTY UNINCORPORATED AREAS

Population and Demographics

Table B.2 provides population counts and growth estimates for Dare County's unincorporated areas as compared to the Region overall. Table B.3 provides demographic information for Dare County's unincorporated areas as compared to the Region.

Table B.2 – Population Counts, Unincorporated Dare County, 2010-2017

Jurisdiction	2000 Census Population	2010 Census Population	2017 ACS Population Estimate	Total Change 2010-2017	% Change 2010-2017
Region Total	48,157	57,467	60,659	3,192	5.55%
Unincorporated Dare County	15,126	16,691	17,312	621	3.72%

Source: US Census Bureau Decennial Census 2000, Decennial Census 2010; American Community Survey 2013-2017 5-Year Estimates

Note: Unincorporated areas statistics calculated by subtracting jurisdiction counts from the county total.

Table B.3 – Racial Demographics, Unincorporated Dare County, 2017

Jurisdiction	White, %	Black, %	Asian, %	Other Race, %	Two or More Races, %	Persons of Hispanic or Latino Origin*, %
Region Total	91.0	3.5	0.5	2.2	2.7	5.7
Unincorporated Dare County	97.2	1.3	0.6	3.1	2.4	6.2

Source: US Census Bureau, American Community Survey 2013-2017 5-Year Estimates

*Persons of Hispanic origin may be of any race, so also are included in applicable race categories

Asset Inventory

The following tables summarize the Critical Infrastructure and Key Resources (CIKR) and high potential loss facilities identified in IRISK for Dare County. Critical facilities, which include a subset of identified assets from the CIKR dataset as well as facilities identified by the HMPC, are shown in Figure B.2 on the following page and summarized in Table B.6. The County provided information is not included in IRISK vulnerability assessments. Note that the IRISK counts are by building; where a critical facility identified by IRISK comprises a cluster of buildings, each building is counted and displayed.

Table B.4 – Critical Infrastructure & Key Resources by Type

Jurisdiction	Food and Agriculture	Banking and Finance	Chemical & Hazardous	Commercial	Communications	Critical Manufacturing	EM	Healthcare	Government Facilities	Nuclear Reactors, Materials and Waste	Postal and Shipping	Transportation Systems	Energy	Emergency Services	Water	Total
Dare County	18	14	0	553	0	100	1	11	101	1	1	51	5	10	13	879

Source: NCEM Risk Management Tool

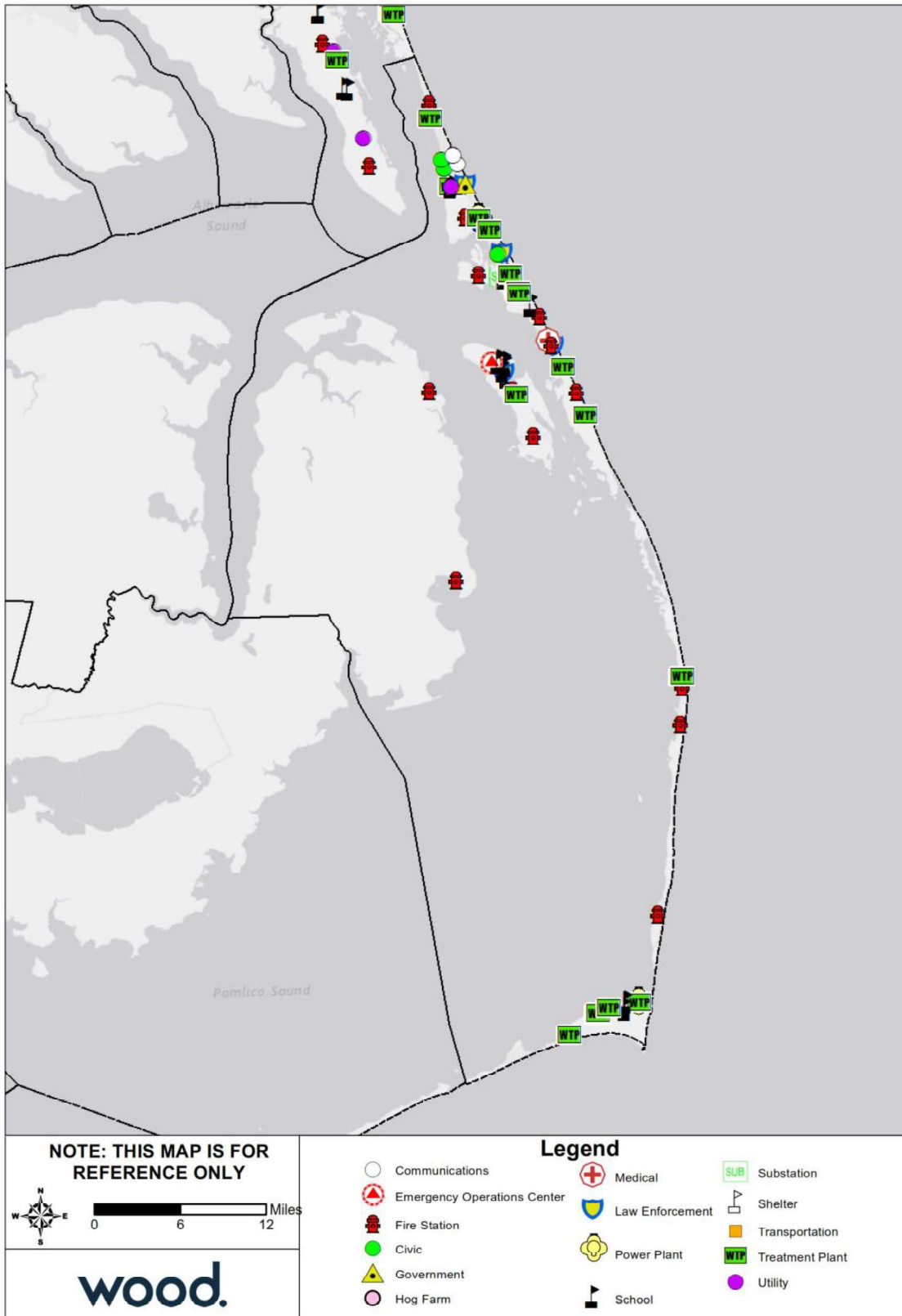
Table B.5 – High Potential Loss Facilities by Use

Jurisdiction	Residential	Commercial	Industrial	Government	Agricultural	Religious	Utilities	Total
Dare County	37	15	0	12	0	1	2	67

Source: NCEM Risk Management Tool

Outer Banks

Figure B.2 – Critical Facilities, Unincorporated Dare County



Source: NCEM IRISK Database, HMPC input, GIS Analysis

Table B.6 – Critical Facilities, Unincorporated Dare County

Facility Type	Count
Emergency Operations Center	2
Fire Station	11
Power Plant	1
School	5
Treatment Plant	14
Total	33

Source: NCEM IRISK Database, HMPC input, GIS Analysis

To supplement the asset inventory and provide a clearer picture of the current asset exposure in Unincorporated Dare County, current parcel data was evaluated to identify recent development not included in NCEM’s IRISK database. Based on this assessment, Dare County has experienced nearly a 9 percent increase in building value exposure compared to IRISK estimates.

Table B.7 – Recent Development Not Included in IRISK, Unincorporated Dare County

Recent Improved Parcels		IRISK Buildings		Percent Change	
Count	Value	Count	Value	Building Count	Building Value
945	\$207,054,100	13,634	\$2,386,317,125	6.9%	8.7%

Source: County parcel data, retrieved November 2019; IRISK database building footprints

Note: This information is not incorporated into the risk assessment, which was prepared using IRISK. However, this summary of recent development provides some context to understand the degree to which the IRISK exposure and vulnerability numbers differ from current conditions.

There are 15 listings on the National Register of Historic Places for Dare County unincorporated areas, including one historic district. These sites are listed in the table below.

Table B.8 – Historic Properties, Unincorporated Dare County

Ref#	Property Name	Status Date	Category	City
01000558	Ballance, Ellsworth and Lovie, House	5/25/2001	Building	Hatteras
09000847	Midgett, Rasmus, House	10/21/2009	Building	Waves
13000780	E.M. CLARK (shipwreck and remains)	9/25/2013	Site	Cape Hatteras
13000781	DIXIE ARROW (shipwreck and remains)	9/25/2013	Site	Ocracoke
13000782	EMPIRE GEM (shipwreck and remains)	9/25/2013	Site	Cape Hatteras
15000541	LIGHT VESSEL 71 (shipwreck)	8/19/2015	Site	Buxton
15000806	U-701 (submarine) shipwreck and remains	11/12/2015	Site	Buxton
15000864	U-576 and BLUEFIELDS (shipwrecks and remains)	12/8/2015	Site	Hatteras
74002299	USS MONITOR	10/11/1974	Site	Cape Hatteras
75001253	Oregon Inlet Station	12/23/1975	Building	Rodanthe
76000164	Chicamacomico Life Saving Station	12/12/1976	Building	Rodanthe
78000266	Cape Hatteras Light Station	3/29/1978	District	Buxton
78000268	Hatteras Weather Bureau Station	2/17/1978	Building	Hatteras
93000997	Salvo Post Office	9/23/1993	Building	Salvo
100002802	C.S.S. CURLEW (side-wheel steamer)	8/31/2018	Structure	Mann's Harbor

Source: National Parks Service, National Register of Historic Places, October 2018

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Housing

The table below details key housing statistics for Dare County unincorporated areas as compared to the Region overall. Growth in housing units as a percent change was greater in the unincorporated areas as compared to the Region overall.

Table B.9 – Housing Statistics, Unincorporated Dare County, 2010-2017

Jurisdiction	Housing Units (2010)	Housing Units (2017)	Housing Units Percent Change (2010-2017)	Owner-Occupied, % (2017)	Vacant Units, % (2017)	Median Home Value (2017)
Region Total	47,945	49,616	3.5%	74.5	49.6	\$285,000
Unincorporated Dare County	12,351	13,052	5.7%	70.2	43.7	--

Source: U.S. Census Bureau 2010 Decennial Census, American Community Survey 2013-2017 5-Year Estimates

Note: Owner-Occupied and vacant-unit measures are reported as a percent of the total number of housing units.

Economy

The following tables present key economic statistics for Dare County unincorporated areas as compared to the Region overall.

Table B.10 – Employment Statistics, Unincorporated Dare County, 2017

Jurisdiction	Population in Labor Force	Percent Employed* (%)	Percent Unemployed* (%)	Percent Not in Labor Force* (%)	Unemployment Rate (%)
Region Total	32,463	61.7	3.3	34.4	5.0
Dare County	19,503	63.0	3.5	33.3	5.2

Source: U.S. Census Bureau, American Community Survey 2013-2017 5-Year Estimates

Note: This table reports only the civilian labor force. The labor force in armed services accounted for 0.6% of the population 16 and over across the region. *Population employed, population unemployed, and Population not in labor force are reported as a percent of the total population aged 16 years and older.

Table B.11 – Percent of Employed Population by Occupation, Unincorporated Dare County, 2017

Occupation	Management, business, science and arts (%)	Service (%)	Sales and Office (%)	Natural Resources, Construction, and Maintenance (%)	Production, transportation, and material moving (%)
Region Total	30.6	18.7	27.8	14.0	8.9
Dare County	30.9	19.8	28.0	12.5	8.8

Source: U.S. Census Bureau, American Community Survey 2013-2017 5-Year Estimates

Land Use and Future Development

The Dare County Planning Department is responsible for land-use planning in the unincorporated areas of the County. The County is currently updating their Land Use plan as of January 2020 and it has not yet been made available to the public. Current and future land use and development information provided below came from the 2009 Land Use Plan Update.

Current Land Use

Since the County has island geography and narrow strips of land, much of the development is located around the main transportation corridors. This resulted in the creation of multiple villages within unincorporated areas. There are 15 unincorporated “village” areas addressed in the 2009 Land Use Plan Update. These include Avon, Buxton, Frisco, Hatteras, Rodanthe, Waves, Salvo, Martin’s Point, Colington, Roanoke Island, Wanchese, Manns Harbor, Mashoes, East Lake and Stumpy Point. The County is currently

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divided into six land use categories. These categories are shown below with their total acreage in Table B.12.

Table B.12 – Land Use, Unincorporated Dare County

Land Use	Total Acres	Percent of County (%)
Residential	6,814	3.20
Commercial	1,057	0.50
Industrial	91	0.05
Institutional	2,056	0.97
Public	186,176	87.45
<i>Total Developed</i>	<i>196,195</i>	<i>92.17</i>
Undeveloped	16,681	7.83
Total	212,876	100

Source: Dare County 2009 Land Use Plan Update

Public land is undeveloped Federal, State, or County property. Institutional land use includes locations such as churches, hospitals, and schools. Most of the County is developed (92%) with 87 percent of the County land classified as public. Since most of the County is public land, there is competition for the remaining 13 percent. Much of the privately-owned land has already been developed.

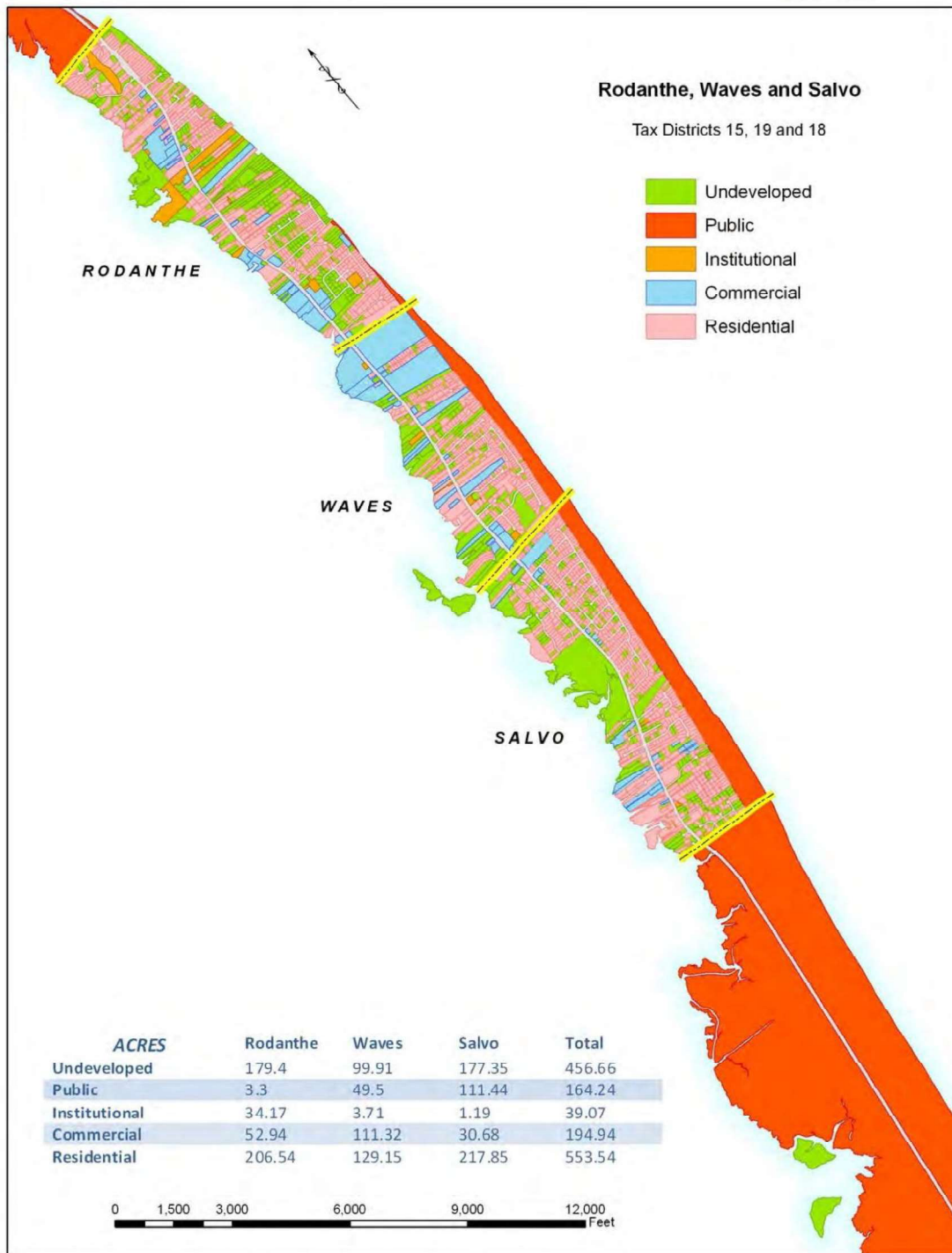
Future Development

As mentioned in the 2009 Land Use Plan Update, development will continue into the coming years with an emphasis on residential structures and limited commercial development. There is some re-development potential for some properties but that is difficult to predict. Development on Hatteras Island will most likely continue to outpace development in other areas of unincorporated Dare County.

Future development within the county will use the same six classifications as it already uses. Figure B.3 through Figure B.13 on the following pages show the future land use maps of unincorporated Dare County as envisioned in the 2009 Land Use Plan Update.

Figure B.3 – Dare County Future Land Use Map, Rodanthe, Waves, and Salvo

MAP 13A

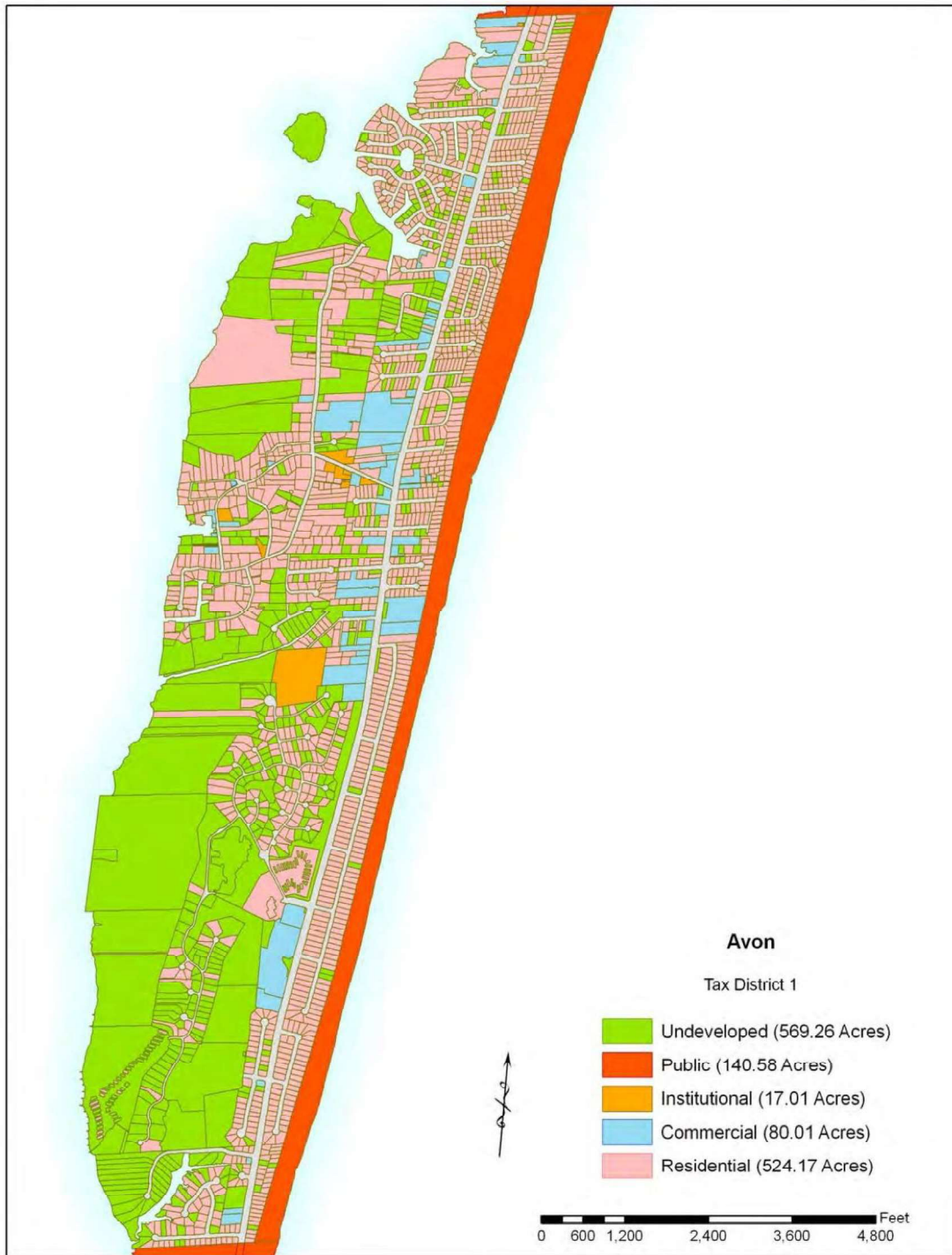


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Source: Dare County 2009 Land Use Plan Update

Figure B.4 – Dare County Future Land Use Map, Avon

MAP 13B

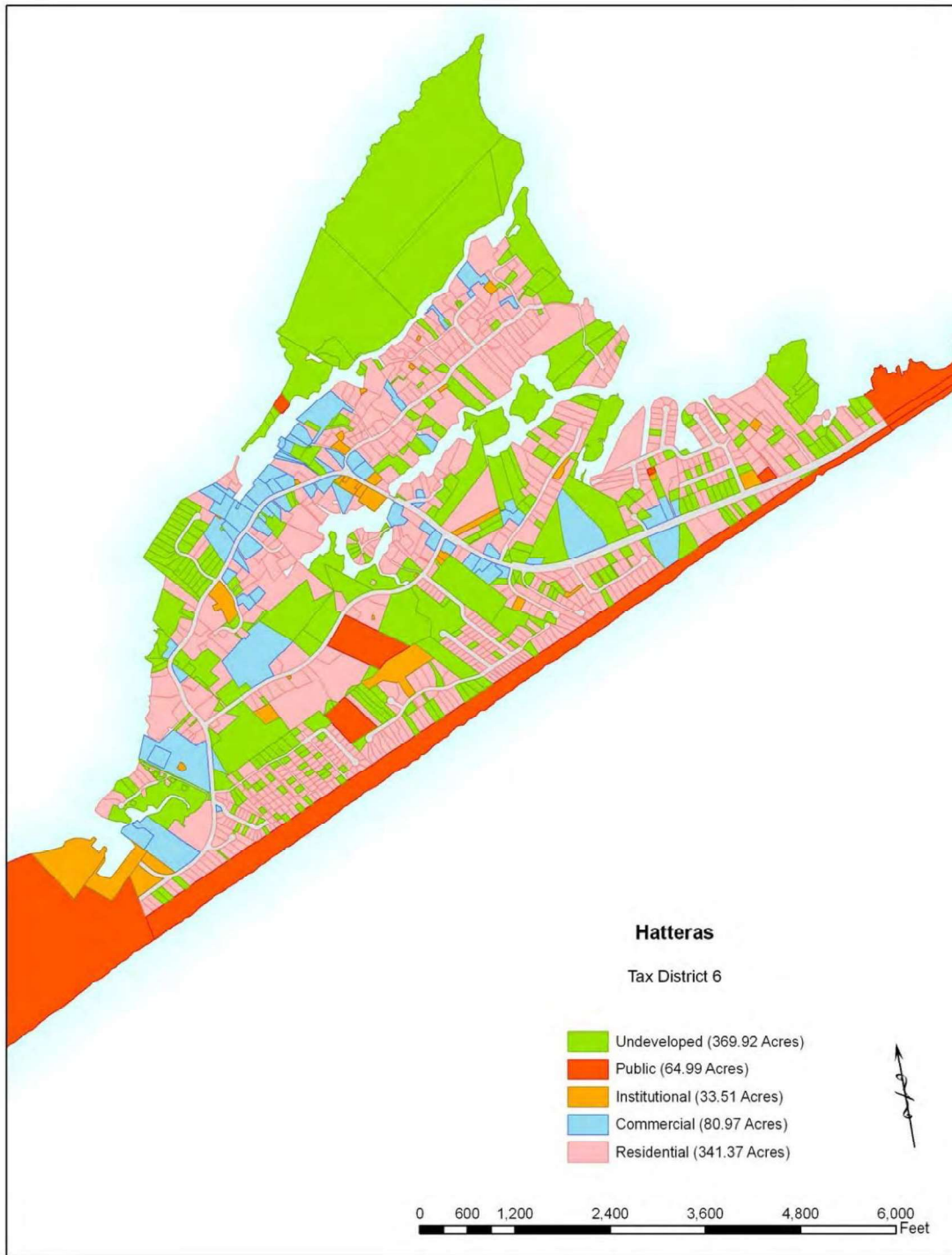


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Source: Dare County 2009 Land Use Plan Update

Figure B.5 – Dare County Future Land Use Map, Hatteras

MAP 13D

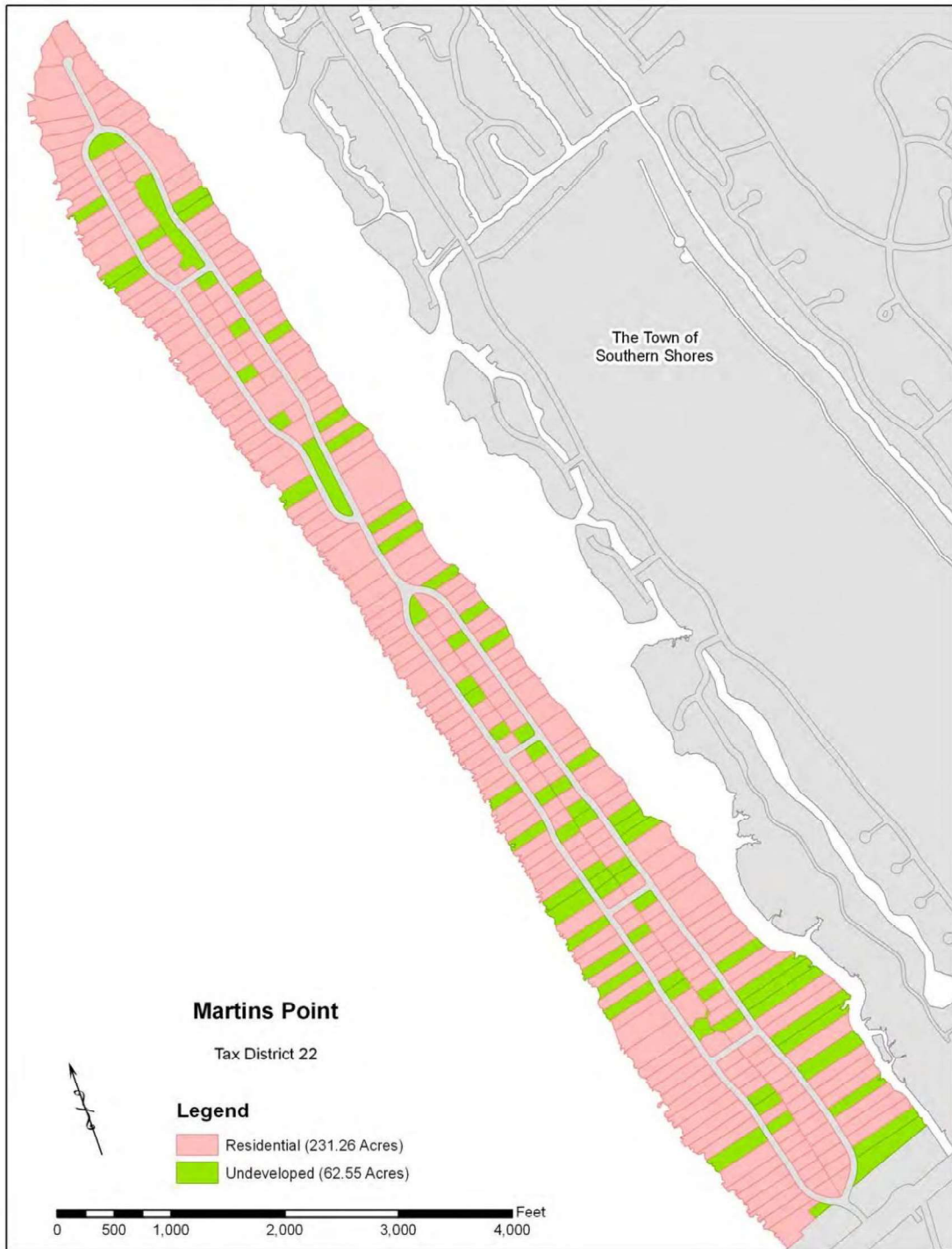


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Source: Dare County 2009 Land Use Plan Update

Figure B.6 – Dare County Future Land Use Map, Martin’s Point

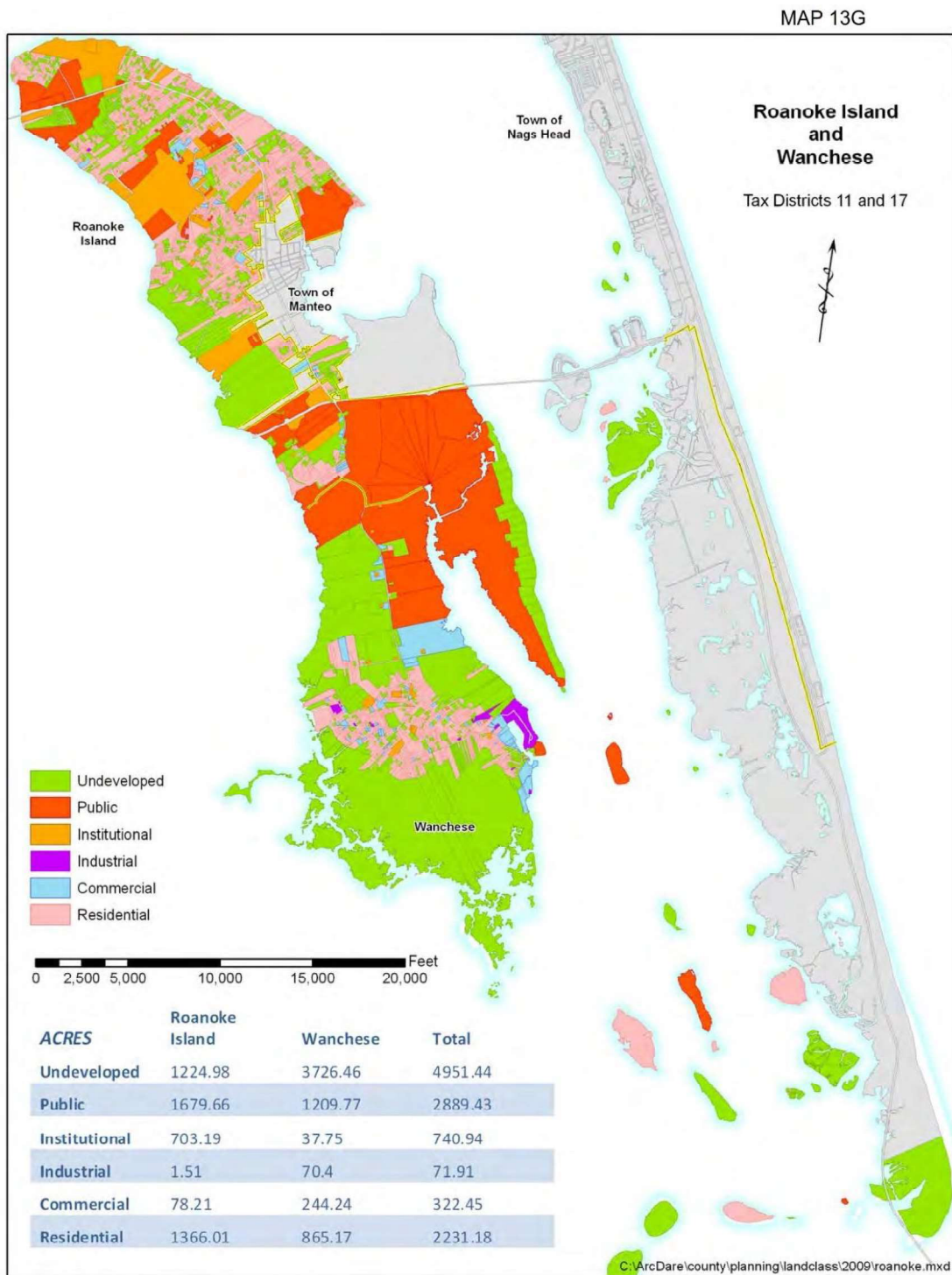
MAP 13F



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Source: Dare County 2009 Land Use Plan Update

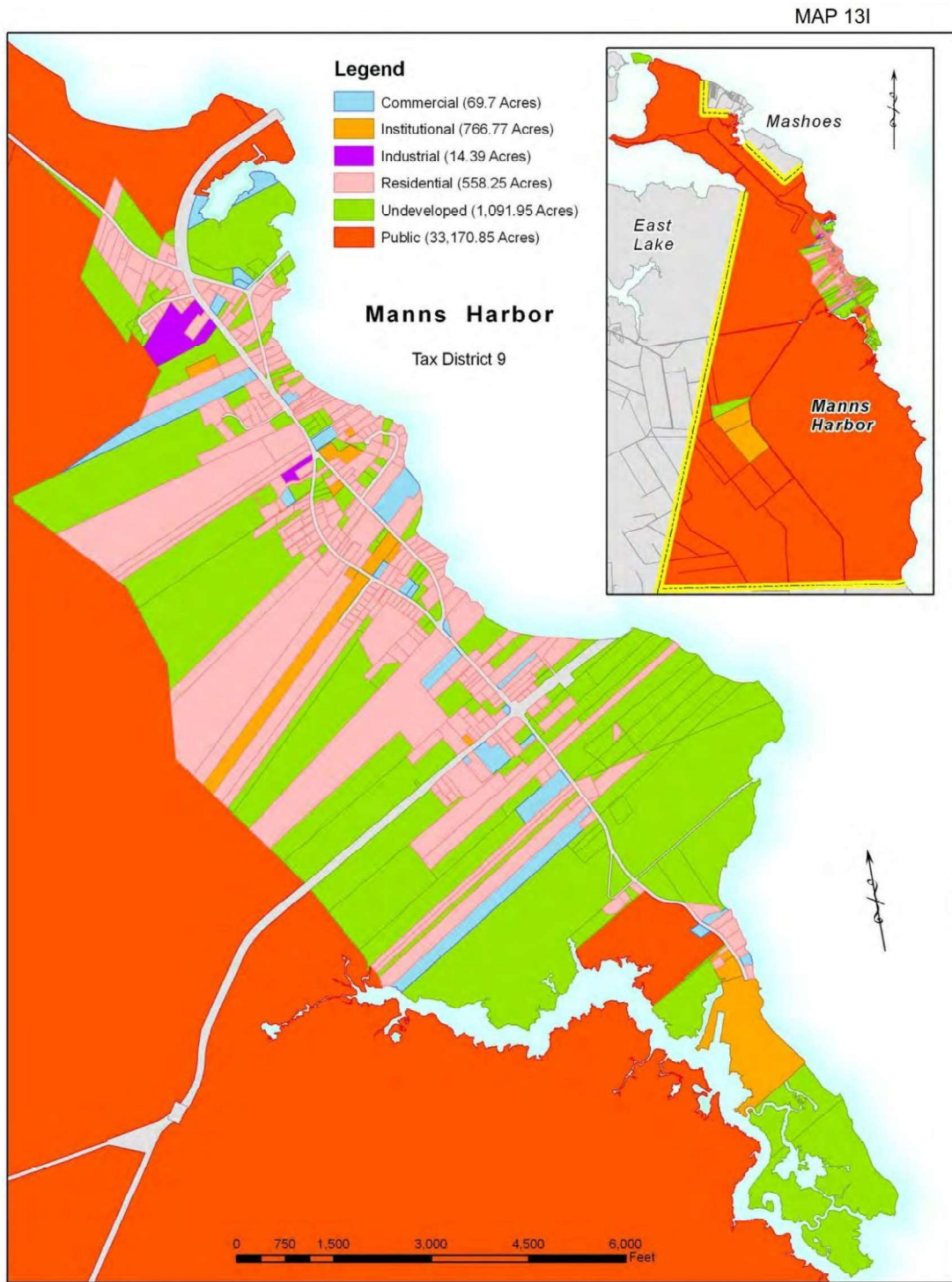
Figure B.7 – Dare County Future Land Use Map, Roanoke Island and Wanchese



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Source: Dare County 2009 Land Use Plan Update

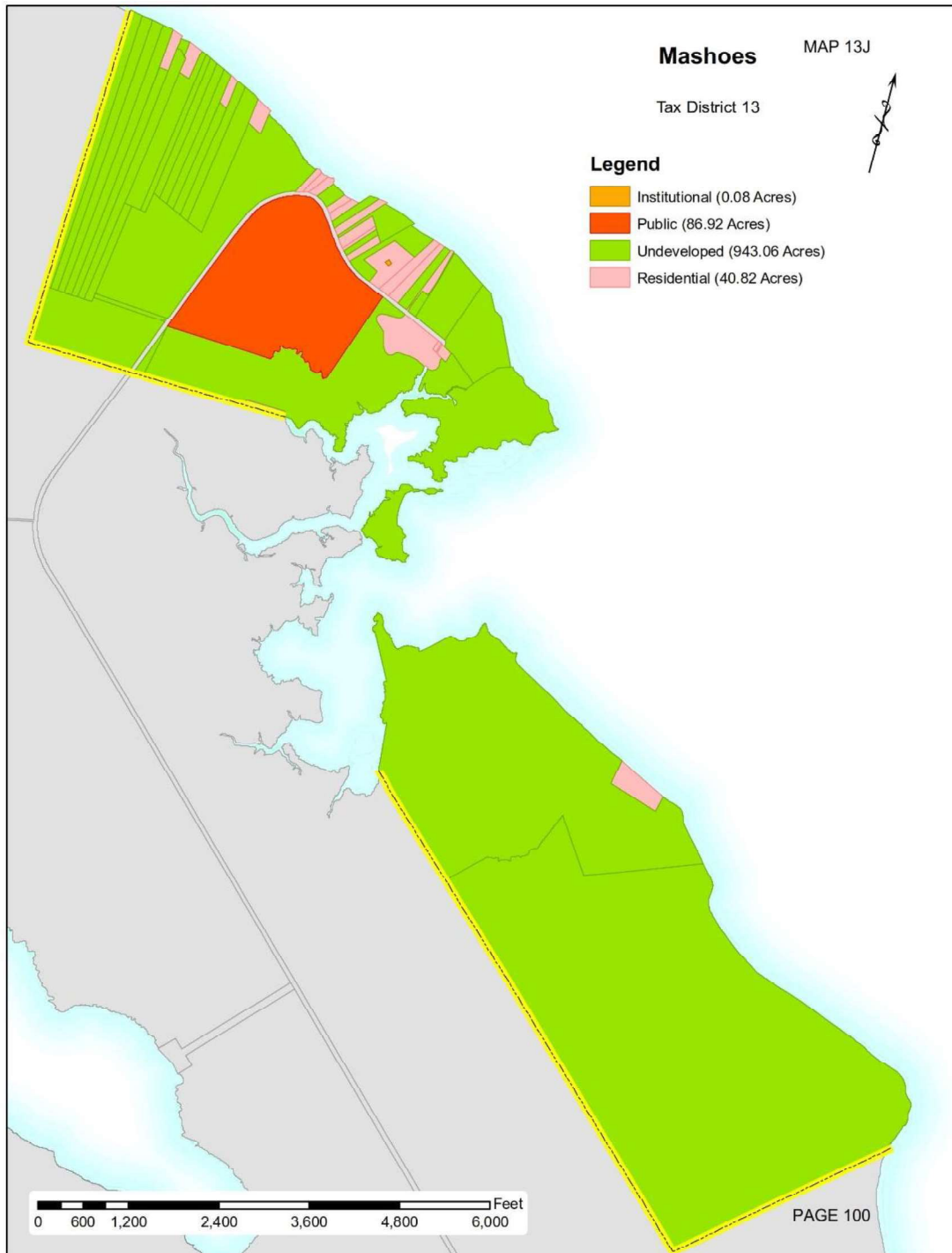
Figure B.8 – Dare County Future Land Use Map, Manns Harbor



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Source: Dare County 2009 Land Use Plan Update

Figure B.9 – Dare County Future Land Use Map, Mashoes



Source: Dare County 2009 Land Use Plan Update

Figure B.10 – Dare County Future Land Use Map, Frisco and Buxton



Figure B.11 – Dare County Future Land Use Map, Colington

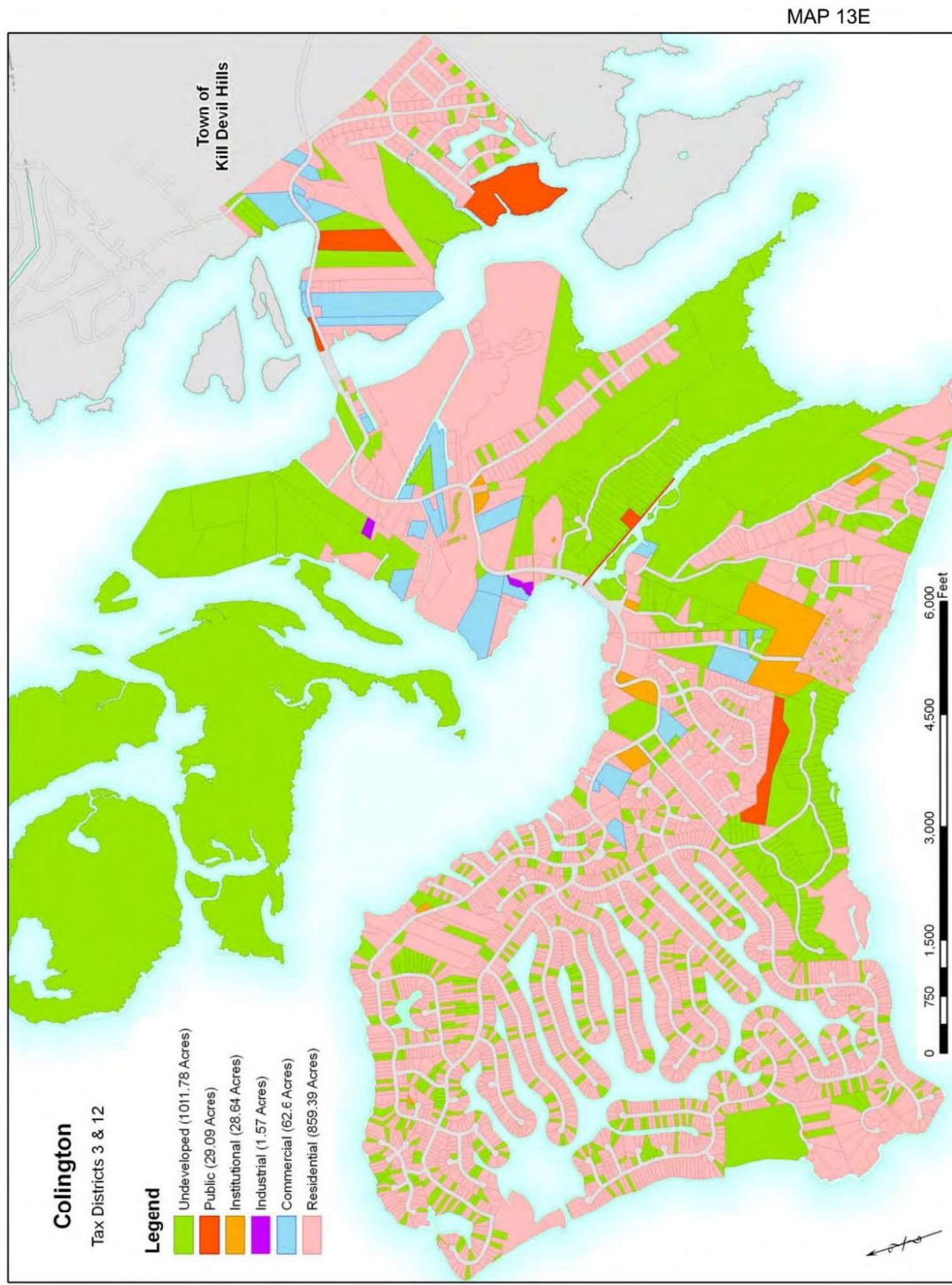
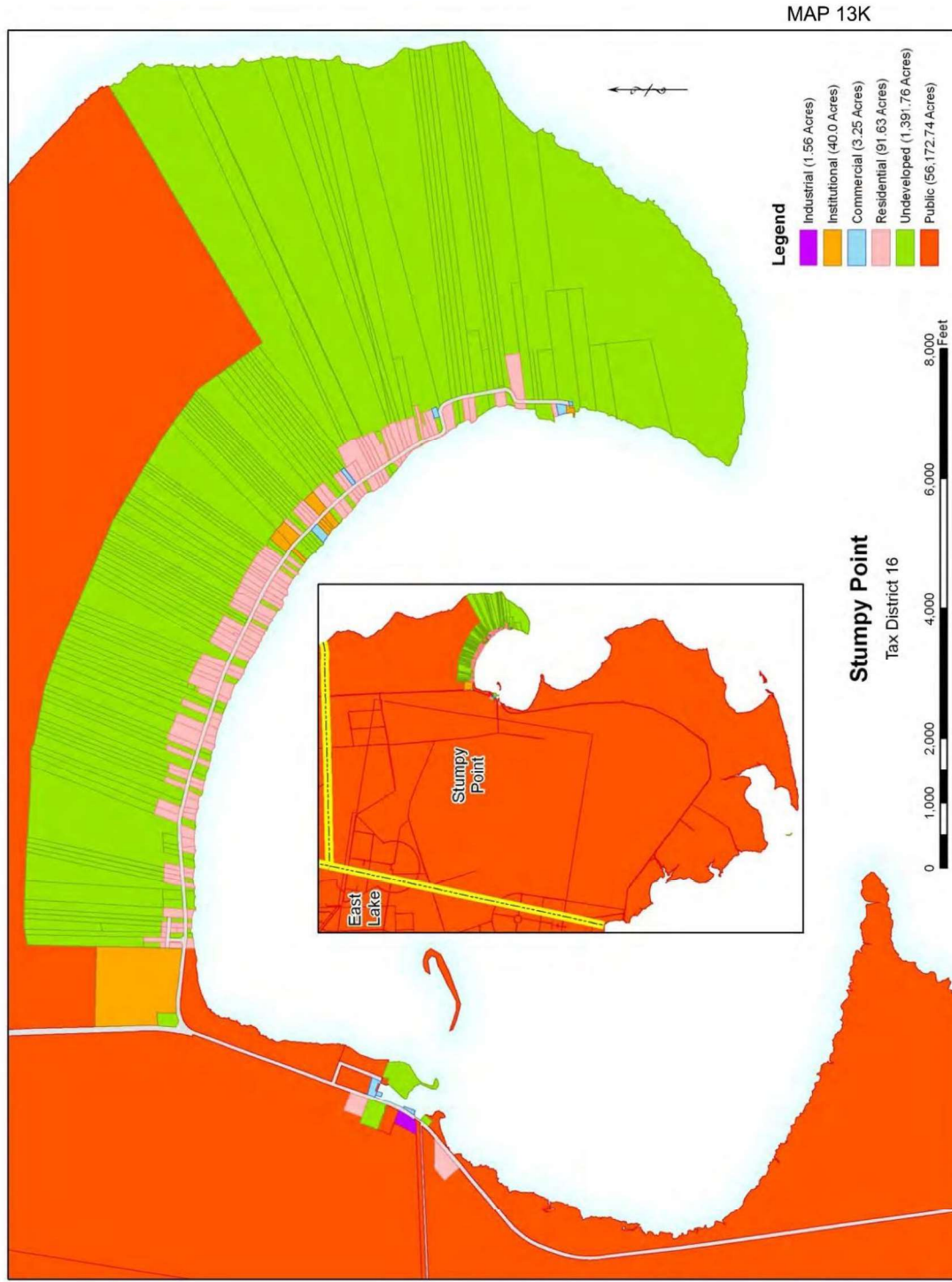


Figure B.12 – Dare County Future Land Use Map, East Lake



Figure B.13 – Dare County Future Land Use Map, Stumpy Point



Source: Dare County 2009 Land Use Plan Update

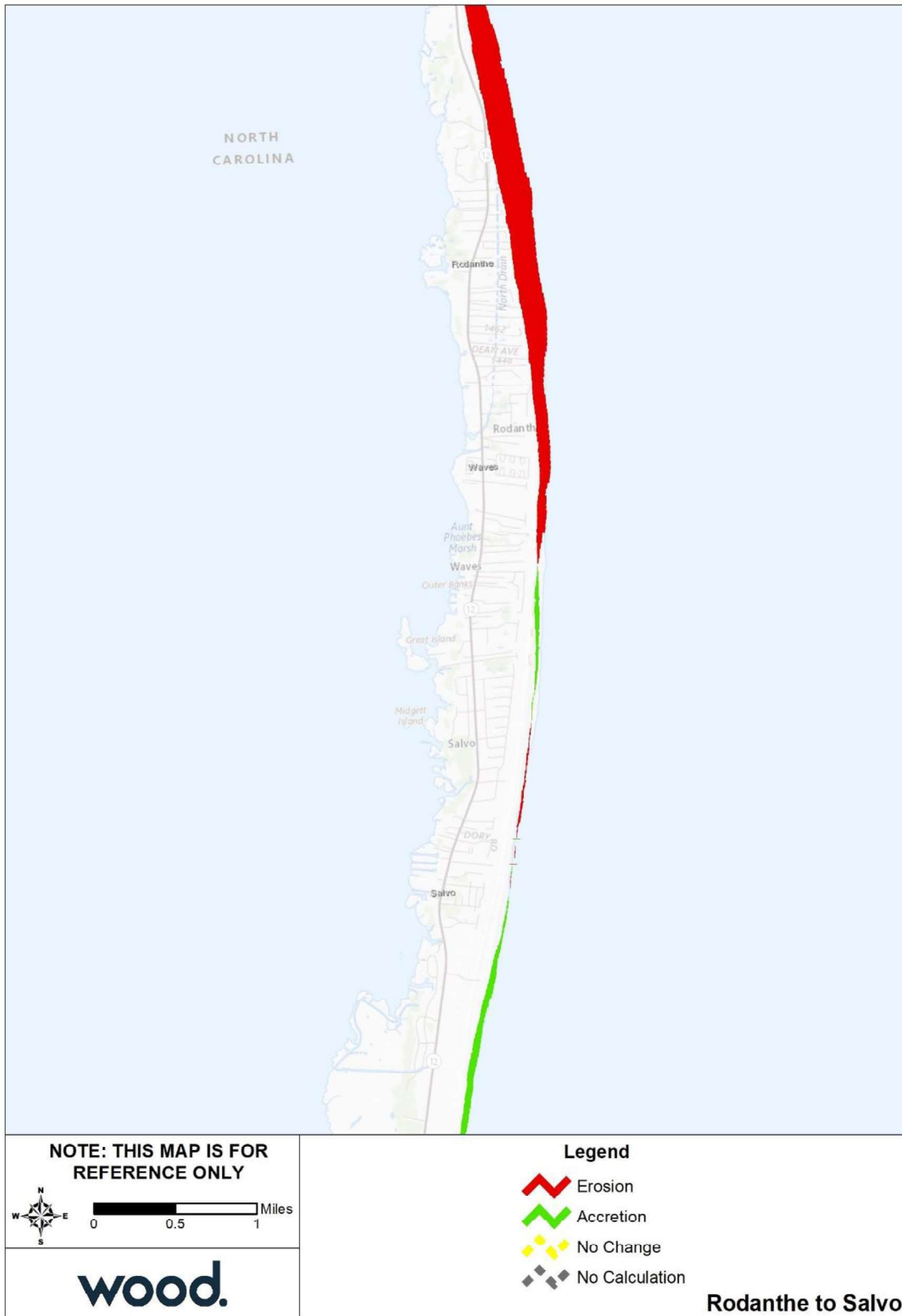
B.3 RISK ASSESSMENT

This section contains a hazard profile and vulnerability assessment for those hazards that were rated with a higher priority for Dare County unincorporated areas than for the Outer Banks Region as a whole. Risk and vulnerability findings are also presented here for those hazards that are spatially defined and have variations in risk that could be evaluated quantitatively on a jurisdictional level. The hazards included in this section are Coastal Hazards, Flood, and Wildfire.

B.3.1 Coastal Hazards

Figure B.14 and Figure B.15 on the following page shows coastal erosion rates along developed areas of unincorporated Dare County oceanfront coastline according to data from the DCM 2019 Long-Term Average Annual Erosion Rate Update Study. Erosion is most severe along the oceanfront coastline of Rodanthe and Waves, the east-facing oceanfront coast near Buxton, and the south-facing oceanfront coast near Hattaras.

Figure B.14 – Erosion Rates, Rodanthe to Salvo



Source: North Carolina Division of Coastal Management

Figure B.15 – Erosion Rates, Hattaras Island



Source: North Carolina Division of Coastal Management

B.3.2 Flood

Table B.13 details the acreage of unincorporated Dare County’s total area by flood zone on the effective DFIRM. Per this assessment, over 50 percent of the unincorporated area in the County falls within the mapped 1%-annual-chance floodplains.

Table B.13 – Flood Zone Acreage in Unincorporated Dare County

Flood Zone	Acreage	Percent of Total (%)
Zone A	25.2	0.0%
Zone AE	268,267.62	34.1%
Zone VE	126,595.88	16.1%
Zone X (500-year)	20,904.54	2.7%
Zone X Unshaded	21,814.31	2.8%
Open Water	348,447.44	44.3%
Total	786,054.99	--

Source: FEMA 2006 DFIRM

Figure B.16 reflects the effective mapped flood hazard zones for Dare County, and Figure B.17 displays the depth of flooding estimated to occur in these areas during the 1%-annual-chance flood.

To supplement the IRISK assessment of property at risk from the 1% annual chance flood event in Section 4 and provide a clearer picture of the current property at risk in the unincorporated Dare County, recent development not included in IRISK was analyzed using GIS to determine additional exposure to flood risk. Improved parcels in contact with the SFHA were considered at risk to the 1 percent annual chance flood. The count and total value of these parcels are summarized below. Note that this assessment does not account for the degree of exposure, so the result is a maximum exposure estimate for the modeled 1 percent annual chance flood. According to this assessment, nearly 70 percent of recent development in Dare County is located in or near the SFHA.

Table B.14 – Recent Development at Risk to Flood, Dare County

Recent Development at Risk		Percent of Total Recent Development	
Count of Parcels	Value of Parcels	Percent of Parcels	Percent of Values
660	\$152,695,400	69.8%	73.7%

Source: Parcel data retrieved November 2019; FEMA 2006 DFIRM

This assessment does not evaluate flood impacts or provide damage estimates. However, this summary of recent development in or near the floodplain provides some context to understand the degree to which the IRISK exposure and vulnerability numbers differ from current conditions.

Table B.15 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector for the 1% annual chance flood event in the unincorporated areas of Dare County. Table B.16 provide building counts and estimated damages for High Potential Loss Properties exposed to the 1% annual chance flood.

Table B.15 – Critical Facilities Exposed to Flooding, Unincorporated Dare County

Sector	Number of Buildings at Risk	Estimated Damages
Banking and Finance	6	\$202,348
Commercial Facilities	356	\$12,986,197
Critical Manufacturing	40	\$604,424
Defense Industrial Base	1	\$1,490

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Sector	Number of Buildings at Risk	Estimated Damages
Emergency Services	5	\$405,993
Energy	4	\$698,943
Food and Agriculture	9	\$78,267
Government Facilities	21	\$498,574
Healthcare and Public Health	4	\$224,443
Transportation Systems	31	\$1,070,446
Water	1	\$1,227
All Categories	478	\$16,772,352

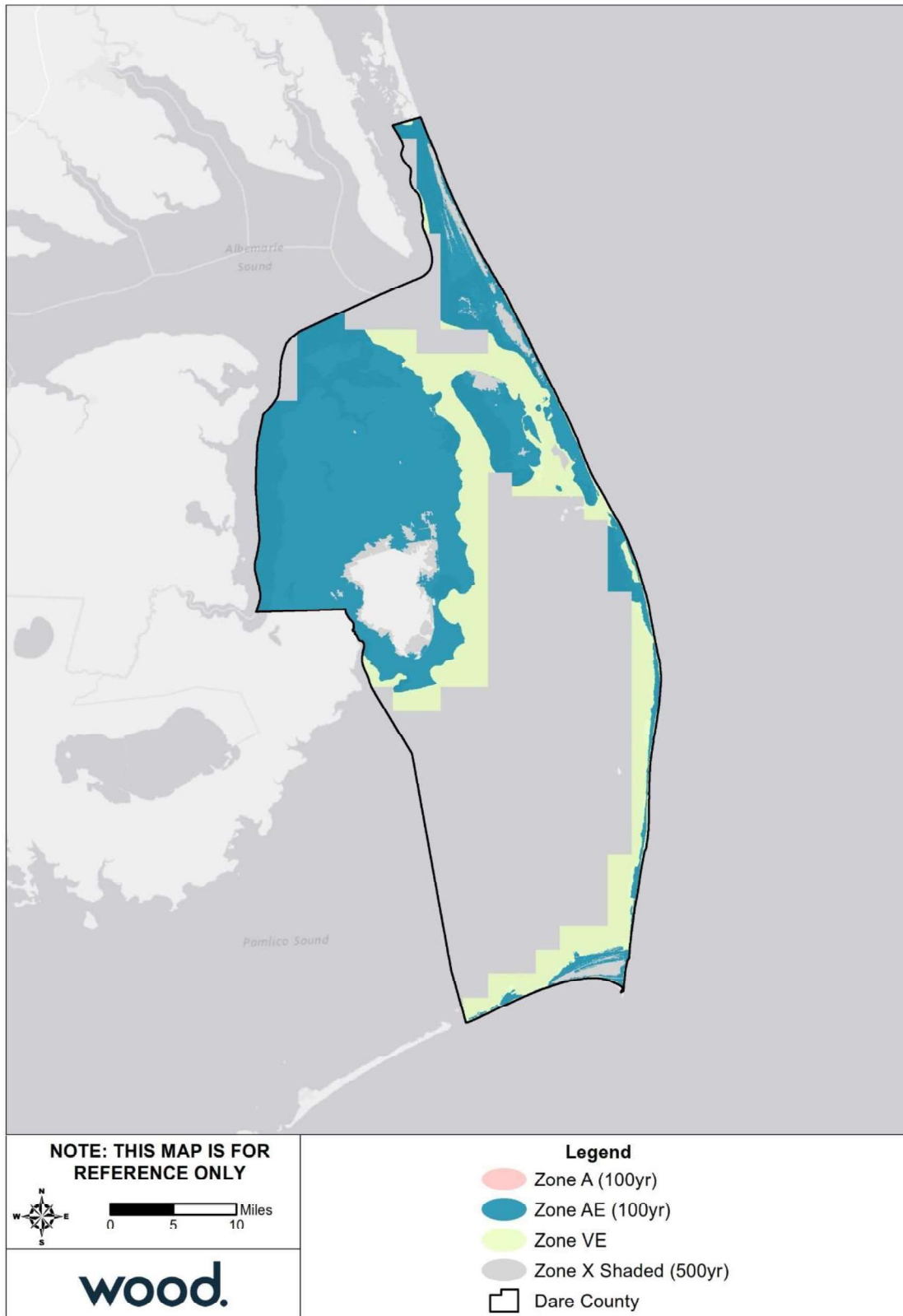
Source: NCEM Risk Management Tool

Table B.16 – High Potential Loss Properties Exposed to Flooding, Unincorporated Dare County

Sector	Number of Buildings at Risk	Estimated Damages
Commercial	6	\$485,306
Government	1	\$845,904
Religious	1	\$137,950
Residential	15	\$2,203,150
Utilities	1	\$682,025
All Categories	24	\$4,354,335

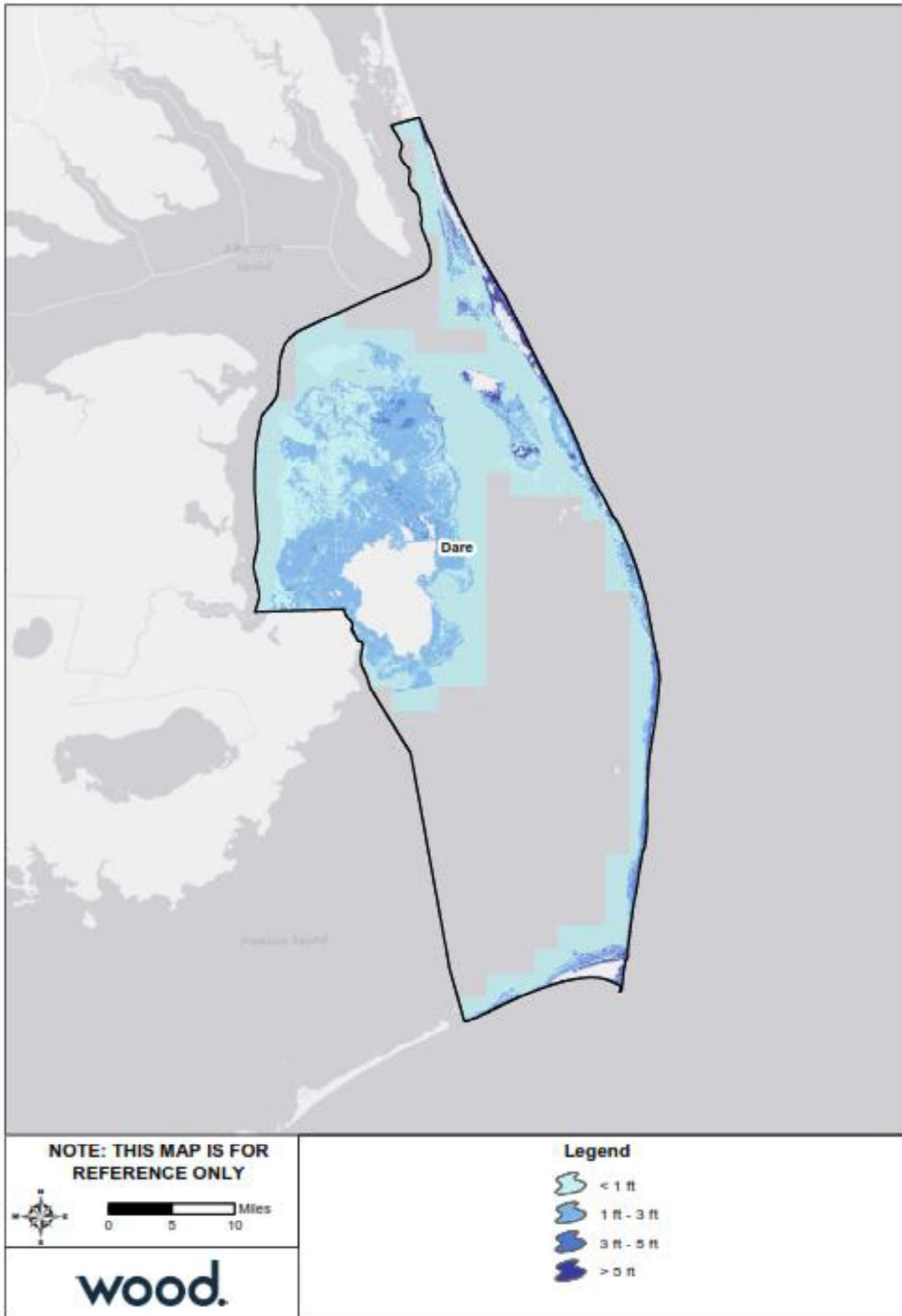
Source: NCEM Risk Management Tool

Figure B.16 – FEMA Flood Hazard Areas, Unincorporated Dare County



Source: FEMA Effective DFIRM

Figure B.17 – Flood Depth, 1%-Annual-Chance Floodplain, Unincorporated Dare County



Source: FEMA 2006 DFIRM

ANNEX B: DARE COUNTY UNINCORPORATED AREAS

In 2015, Dare County prepared a Repetitive Loss Area Analysis (RLAA) to identify and evaluate all properties with multiple NFIP claims as well as surrounding properties with one historical NFIP claim and/or similar flood conditions. In total, the RLAA identifies 92 repetitive loss areas containing 314 unmitigated repetitive loss properties as well as 1,374 additional properties. The RLAA report contains maps of all repetitive loss area locations as well as a set of mitigation recommendations being pursued for these properties.

B.3.3 Wildfire

Table B.17 summarizes the acreage in unincorporated Dare County that falls within the Wildland Urban Interface (WUI), categorized by housing density. Areas in the WUI are those where development may intermix with flammable vegetation. Over 96 percent of unincorporated Dare County is not included in the WUI.

Table B.17 – Wildland Urban Interface Acreage, Unincorporated Dare County

	Housing Density	Total Acreage	Percent of Total Acreage
	<i>Not in WUI</i>	756,645.2	96.2%
	LT 1hs/40ac	2,795.3	0.4%
	1hs/40ac to 1hs/20ac	1,509.5	0.2%
	1hs/20ac to 1hs/10ac	2,243.9	0.3%
	1hs/10ac to 1hs/5ac	2,942.5	0.4%
	1hs/5ac to 1hs/2ac	5,795.7	0.7%
	1hs/2ac to 3hs/1ac	12,749.7	1.6%
	GT 3hs/1ac	2,187.1	0.3%
	Total	786,868.9	

Source: Southern Wildfire Risk Assessment

Figure B.18 depicts the WUI for unincorporated Dare County. The WUI is the area where housing development is built near or among areas of vegetation that may be prone to wildfire. Figure B.19 depicts the Fire Intensity Scale, which indicates the potential severity of fire based on fuel loads, topography, and other factors. Figure B.20 depicts Burn Probability based on landscape conditions, percentile weather, historical ignition patterns, and historical prevention and suppression efforts.

Much of mainland Dare County has high potential fire intensity and moderate burn probability. There is minimal WUI in this area, but it is at significant risk. Along the barrier island, potential fire intensity is greatest on the soundside. There is a significant overlap of WUI, moderate to high fire intensity, and burn probability in Frisco, Buxton, and Avon.

Table B.18 provides building counts and estimated damages for Critical Infrastructure and Key Resources (CIKR) buildings by sector at risk to wildfire hazard. Table B.19 provides counts and estimated damages for High Potential Loss Properties in unincorporated Dare County.

Table B.18 – Critical Facilities Exposed to Wildfire, Unincorporated Dare County

Sector	Number of Buildings at Risk	Estimated Damages
Banking and Finance	4	\$2,906,134
Commercial Facilities	249	\$108,920,857
Critical Manufacturing	80	\$22,249,332

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Sector	Number of Buildings at Risk	Estimated Damages
Defense Industrial Base	1	\$149,040
Emergency Services	7	\$4,959,551
Energy	1	\$176,944
Food and Agriculture	14	\$973,345
Government Facilities	52	\$46,782,262
Healthcare and Public Health	6	\$3,940,135
Postal and Shipping	1	\$58,746
Transportation Systems	30	\$7,521,481
Water	10	\$2,034,108
All Categories	455	\$200,671,935

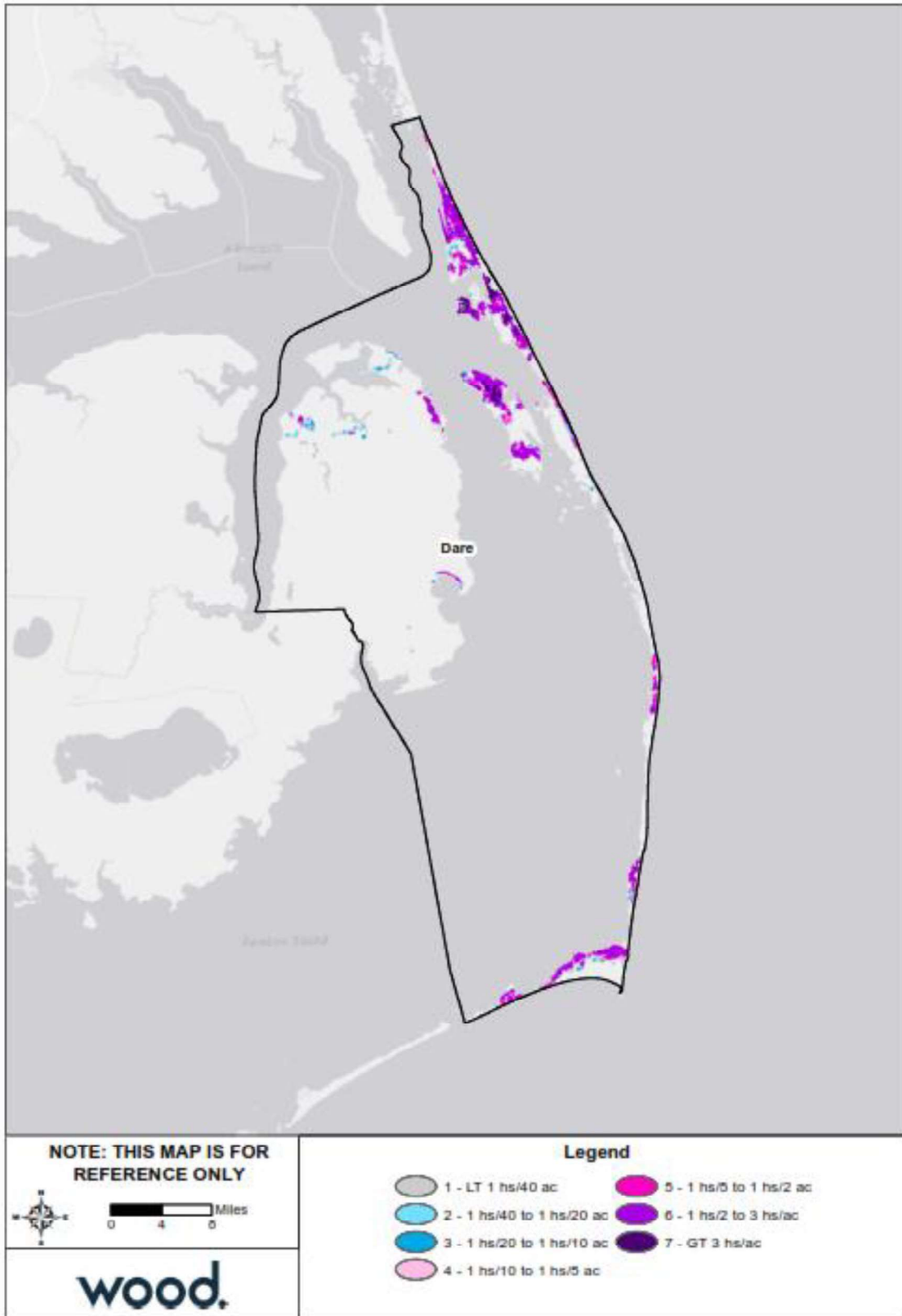
Source: NCEM Risk Management Tool

Table B.19 – High Potential Loss Properties Exposed to Wildfire, Unincorporated Dare County

Category	Number of Buildings at Risk	Estimated Damages
Commercial	4	\$13,626,678
Government	10	\$54,826,421
Residential	9	\$12,031,142
All Categories	23	\$80,484,241

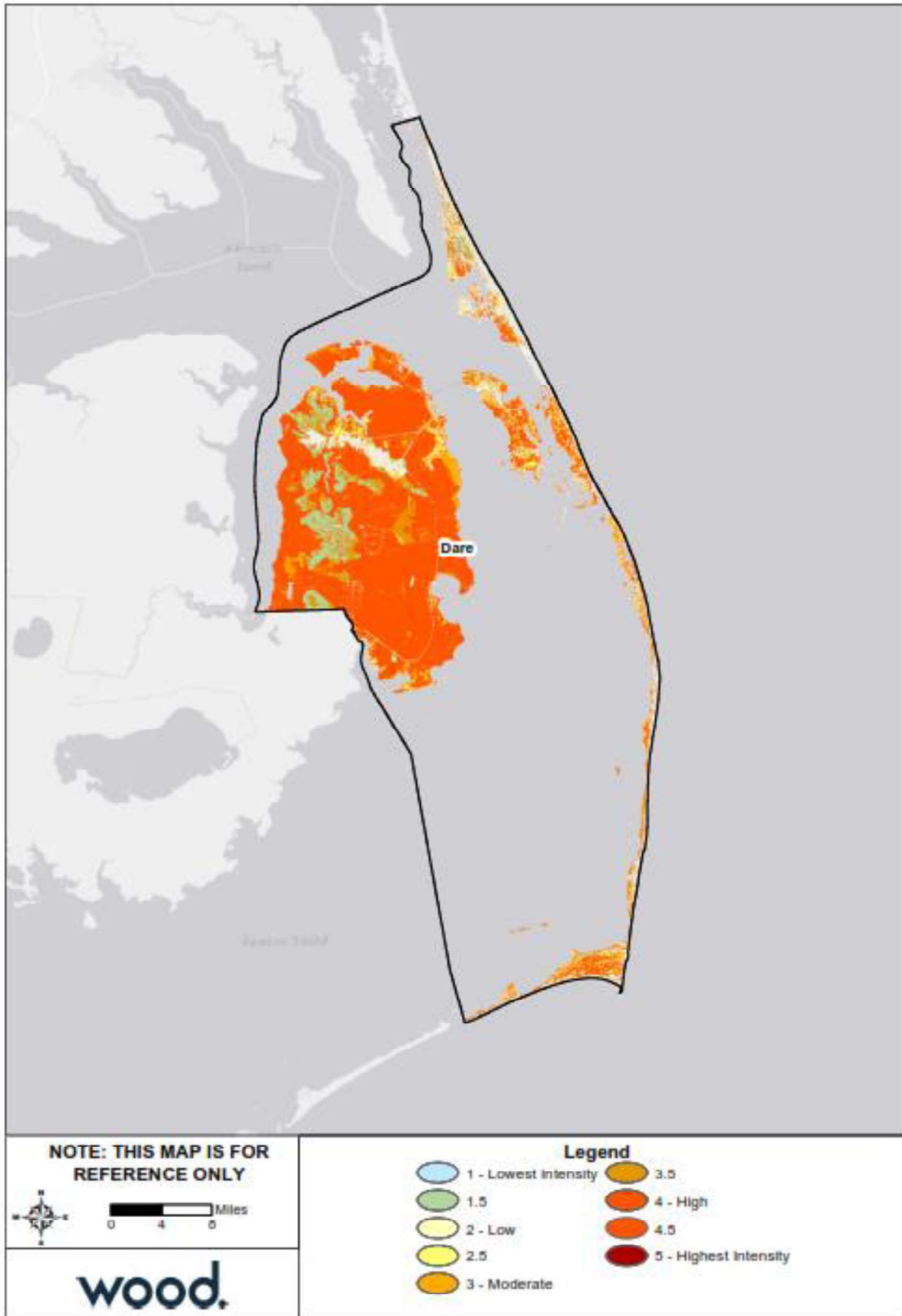
Source: NCEM Risk Management Tool

Figure B.18 – Wildland Urban Interface, Unincorporated Dare County



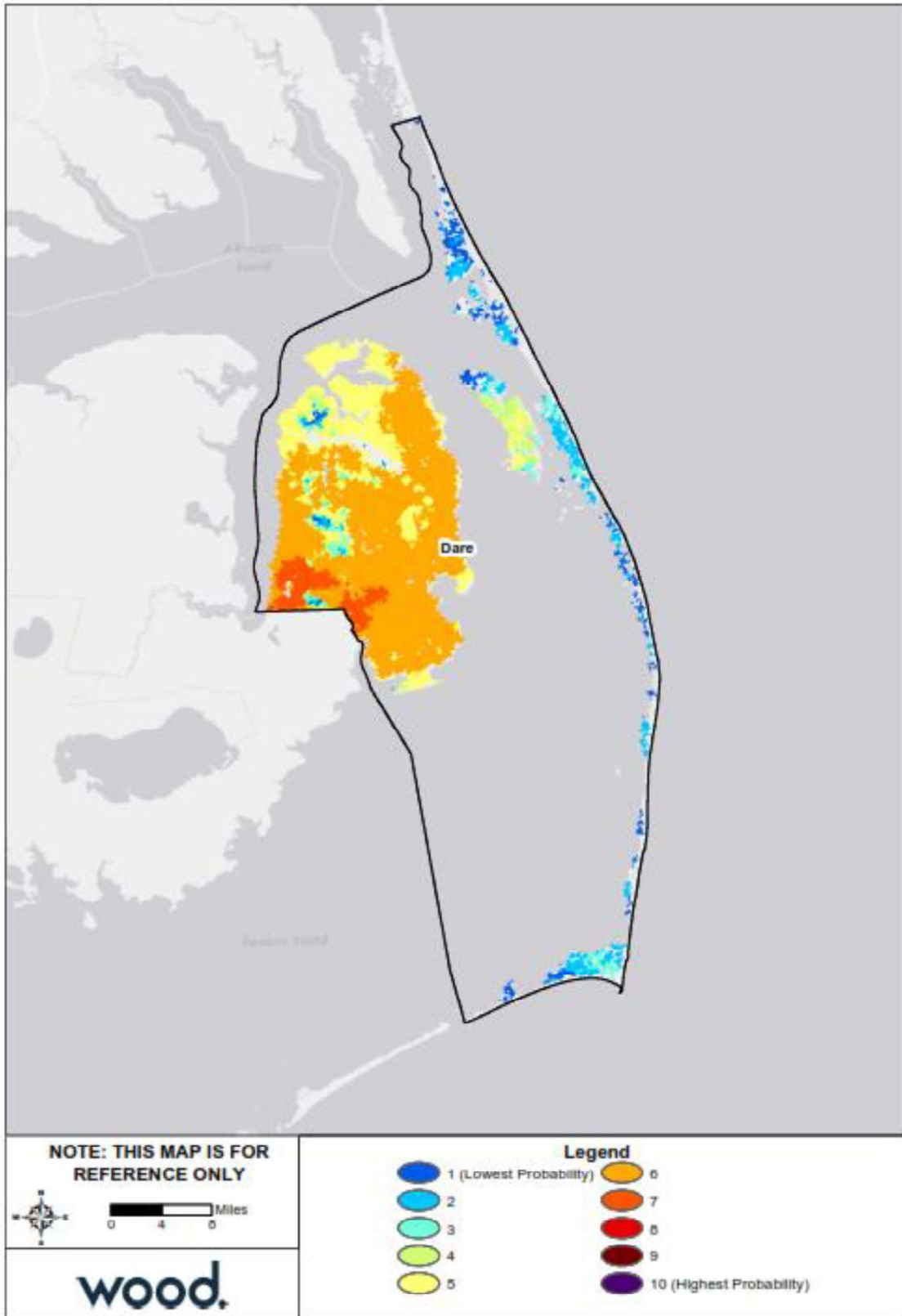
Source: Southern Wildfire Risk Assessment

Figure B.19 – Fire Intensity Scale, Unincorporated Dare County



Source: Southern Wildfire Risk Assessment

Figure B.20 – Burn Probability, Unincorporated Dare County



Source: Southern Wildfire Risk Assessment

B.4 CAPABILITY ASSESSMENT

B.4.1 Overall Capability

Details on the tools and resources in place and available to Dare County were provided by the County’s HMPC representatives and are summarized in Section 5 Capability Assessment. Based on that information and using the scoring methodology detailed in that section, Dare County has an overall capability rating of Moderate. The County’s Self-Assessment of key capability areas is summarized in Table B.20 below.

Table B.20 – Capability Self-Assessment, Unincorporated Dare County

Capability Area	Rating
Plans, Ordinances, Codes and Programs	High
Administrative and Technical Capability	High
Fiscal Capability	High
Education and Outreach Capability	High
Mitigation Capability	High
Political Capability	High
Overall Capability	High

B.4.2 Floodplain Management

Dare County joined the NFIP emergency program in 1971 and has been a regular participant in the NFIP since October 1978. The following tables reflect NFIP policy and claims data for the County categorized by structure type, flood zone, Pre-FIRM and Post-FIRM.

Table B.21 – NFIP Policy and Claims Data by Structure Type

Structure Type	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
Single Family	7,393	\$4,693,844	\$1,877,385,300	5,972	\$82,347,519.32
2-4 Family	123	\$85,259	\$27,052,000	192	\$4,967,396.88
All Other Residential	570	\$178,514	\$85,229,100	133	\$5,630,022.38
Non-Residential	485	\$917,716	\$168,608,200	1,219	\$35,224,122.18
Total	8,571	\$5,875,333	\$2,158,274,600	7,516	\$128,169,060.76

Source: FEMA Community Information System, accessed December 2019

Table B.22 – NFIP Policy and Claims Data by Flood Zone

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	7,614	\$4,785,038	\$1,935,698,600	6,012	\$107,888,383.09
A Zones	49	\$57,511	\$11,510,600	441	\$5,420,802.15
AO Zones	88	\$67,894	\$28,144,200	26	\$307,917.32
V01-30 & VE Zones	116	\$393,718	\$24,599,700	229	\$3,484,451.01
V Zones	1	\$1,732	\$277,600	320	\$4,064,339.37
B, C & X Zone					
Standard	508	\$478,188	\$100,568,200	403	\$6,121,791.14
Preferred	172	\$77,452	\$56,673,000	56	\$745,122.28
Total	8,548	\$5,861,533	\$2,157,471,900	7,487	\$128,032,806.36

Source: FEMA Community Information System, accessed December 2019

ANNEX B: DARE COUNTY UNINCORPORATED AREAS

Table B.23 – NFIP Policy and Claims Data Pre-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	971	\$1,186,450	\$197,477,400	1,995	\$50,345,634.49
A Zones	11	\$24,816	\$2,460,700	288	\$3,748,951.21
AO Zones	1	\$956	\$250,000	2	\$11,219.15
V01-30 & VE Zones	36	\$110,701	\$5,248,100	131	\$1,747,868.29
V Zones	0	\$0	\$0	302	\$3,961,221.28
B, C & X Zone	59	\$66,134	\$16,919,800	235	\$3,850,472.04
Standard	31	\$53,741	\$8,851,800	231	\$3,822,228.34
Preferred	28	\$12,393	\$8,068,000	4	\$28,243.70
Total	1,078	\$1,389,057	\$222,356,000	2,953	\$63,665,366.46

Source: FEMA Community Information System, accessed December 2019

Table B.24 – NFIP Policy and Claims Data Post-FIRM

Flood Zone	Number of Policies in Force	Total Premium	Insurance in Force	Number of Closed Paid Losses	Total of Closed Paid Losses
A01-30 & AE Zones	6,643	\$3,598,588	\$1,738,221,200	4,017	\$57,542,748.60
A Zones	38	\$32,695	\$9,049,900	153	\$1,671,850.94
AO Zones	87	\$66,938	\$27,894,200	24	\$296,698.17
V01-30 & VE Zones	80	\$283,017	\$19,351,600	98	\$1,736,582.72
V Zones	1	\$1,732	\$277,600	18	\$103,118.09
B, C & X Zone	621	\$489,506	\$140,321,400	223	\$3,016,250.38
Standard	477	\$424,447	\$91,716,400	171	\$2,299,371.80
Preferred	144	\$65,059	\$48,605,000	52	\$716,878.58
Total	7,470	\$4,472,476	\$1,935,115,900	4,533	\$64,367,248.90

Source: FEMA Community Information System, accessed December 2019

ANNEX B: DARE COUNTY UNINCORPORATED AREAS

B.5 MITIGATION STRATEGY

Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Implementation Status Comments
Prevention									
DAR1	Identify funding to improve stormwater drainage and land management preparation for flooding.	Hurricane & Tropical Storm, Flood, Coastal Hazards	3.3	7-High	Dare County Planning	General Fund, Grant Funds	1-3 years	Carry Forward	Group saw need to expand participants to include adding Soil and Water staff to help identify funding sources.
DAR2	Expand the number of lifeguarded beaches in unincorporated Dare to bring lifeguards to all villages in addition to ocean rescue response personnel.	Coastal Hazards	3.3	3-Medium	National Park Service Dare County	General Fund, Grant Funds	2-3 years	New	N/A
DAR3	Update Dare County's 2001 comprehensive stormwater management plan.	Hurricane & Tropical Storm, Flood, Coastal Hazards, Severe Weather, Transportation Infrastructure Failure	3.1	6-High	Dare County Planning	General Fund, Grant Funds	1-3 years	New	N/A
DAR4	Grow Local Emergency Planning Committee membership by expanding industry participation while fully implementing Community Right to Know reporting requirements to enhance knowledge of hazardous material risk across the region	Radiological Emergency, Hazardous Materials Incident	3.3	5-High	Dare County Emergency Management	General Fund, Grant Funds	1-2 years	New	N/A
DAR5	Expand involvement with the North Carolina Information Sharing and Analysis Center to ensure actionable intelligence on immediate and emerging threats to the region are identified and shared with first responders, private sector, emergency management, local law enforcement and other partner agencies in a timely manner.	Terrorism, Radiological Emergency	4.2	3-Medium	Dare County Emergency Management, Dare Sheriff's office	General funds	1-3 years	New	N/A
Property Protection									
DAR6	Utilize existing post storm information and GIS mapping to identify the most vulnerable structures in the County.	Hurricane & Tropical Storm, Severe Weather, Coastal Hazards, Flood	3.3	5-High	Dare County Planning, Dare County Emergency Management	General Fund, Grant Funds	1 year	Carry Forward	Group saw the need to revisit this effort.
DAR7	Become a FIREWISE Community that is able to protect people, property, and natural resources from wildland fire.	Wildfire	3.3	7-High	Dare County Emergency Management, Fire Marshal, US Fish & Wildlife, NC Forestry	Grant funds, General Fund	1-3 years	New	N/A
DAR8	Maintain or increase the number of flood insurance policies in place across Dare County when new flood hazard maps become effective and many properties are reclassified as Shaded X and/or X zone no longer requiring flood insurance associated with a federally insured mortgage.	Hurricane & Tropical Storm, Severe Weather, Coastal Hazards, Flood	3.3	5-High	Dare County Planning, Emergency Management	General Fund	1-2 years	New	N/A
DAR9	Pursue the installation of flood gauges at all towns and villages. Have those gauges tied into the county alert and notification system allowing users to be alerted to changing conditions as they occur.	Hurricane & Tropical Storm, Severe Weather, Coastal Hazards, Flood	2.2	5-High	Dare County Emergency Management	Grant Funds, NC Emergency Mgmt.	2 years	New	N/A

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Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Implementation Status Comments
	Complete a cybersecurity risk assessment from an external subject matter expert. Based on risk assessment outcomes develop and require all employees, volunteers and elected officials to complete cybersecurity awareness training before being given access to county information technology systems. Develop and offer cybersecurity awareness training for citizens. Develop and conduct cybersecurity exercises.	Terrorism, Cyber Attack	3.3	5-High	Dare County Emergency Management Dare County Information Technology	General Fund	2 years	New	N/A
DAR10	Work with all landowners including federal, state, and private to ensure proper maintenance and use of existing drainage systems to minimize impacts and reduce standing water on all property.	Hurricane & Tropical Storm, Flood, Coastal Hazards, Transportation Infrastructure Failure	1.1	7-High	Dare County Planning -- Soil and Water Conservation Board	Grants, tax or tax incentive program	1-3 years	New	N/A
DAR11	Study and document sound side erosion rates and water level changes	Hurricane & Tropical Storm, Severe Weather, Coastal Hazards, Flood	Natural Resource Protection		NC Division of Coastal Mgmt.	Grants, Volunteer	3-5 years	New	N/A
DAR12	Encourage the use of natural barriers over hard structure to control shoreline erosion and protect built infrastructure.	Hurricane & Tropical Storm, Flood, Coastal Hazards, Transportation Infrastructure Failure	3.2	3-Low	Dare County Planning -- Soil and Water Conservation Board	General Fund	3-5 years	New	N/A
DAR13	Protect natural floodplain function and resilient areas as open space to provide flood and coastal hazard risk reduction and potentially increase CRS 420 open space credit	Hurricane & Tropical Storm, Severe Weather, Coastal Hazards, Flood	3.2	4-Medium	Dare County Planning -- Soil and Water Conservation Board	General Fund	1-3 years	New	N/A
DAR14	Protect transportation routes and improve traffic flow along NC 12. Improve NC 12 to a two-lane road and coordinate traffic signals.	Hurricane & Tropical Storm, Flood, Coastal Hazards	Structural Projects		Dare County Planning, Dare County Emergency Management, NCDOT	NCDOT	1-3 years	Carry Forward	Group saw the need to revisit this effort and reshape the action for the new plan.
DAR15	Advocate the replacement of the Lindsey Warren (Alligator River) Bridge	Hurricane & Tropical Storm, Flood, Coastal Hazards	2.2	7-High	Dare Board of Commissioners, NCDOT	NCDOT	1 year	Carry Forward	Group saw the need to rename this effort and reshape the action for the new plan.
DAR16	Prioritize and Fund Critical Drainage Projects that improve stormwater drainage and land management preparation for flooding.	Hurricane & Tropical Storm, Flood, Coastal Hazards	2.1	7-High	NCDOT, Dare County Planning, Dare Soil & Water Board	Grant Fund, local stormwater assessments	1-3 years	Carry Forward	Group saw the need to refocus this effort and reshape the action for the new plan to include northern Roanoke Island flooding and expanded "pumping plan".
DAR17	Take action on the results of the Moffitt-Nicholas/ NCDOT Northern Roanoke Island drainage study.	Hurricane & Tropical Storm, Flood, Coastal Hazards, Transportation Infrastructure Failure	2.1	7-High	Dare Board of Commissioners, NCDOT	Grant Fund, local stormwater assessments	2 years	New	N/A
DAR18	Complete physical security assessment at all public facilities and large crowd (500+ people) gathering venues and events. Based on results, make physical security improvements and/or implement measures to protect lives from likely threats.	Terrorism	3.3	3-Low	Dare County Emergency Management, Dare Sheriff's Office	General fund	1-3 years	New	N/A
DAR19	Improve water supply and delivery systems to save water and reduce drought impacts by eliminating breaks and leaks. Encourage drought-tolerant landscape design to reduce dependence on irrigation. Encourage permeable driveways and surfaces to reduce runoff and promote groundwater recharge.	Drought, Flood	2.1	7-High	Dare County Water Department	Water enterprise fund	3-5 years	New	N/A

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Action #	Action Description	Hazard(s) Addressed	Goal & Objective Addressed	Priority	Lead Agency / Department	Potential Funding Source	Implementation Timeline	2020 Status	2020 Implementation Status Comments
				Emergency Services					
DAR21	Establish secondary water supplies/points for fire protection efforts. Acquire generators or other forms of redundant power supply to ensure that critical facilities and infrastructure remain operational where normal power supply is not available	Hurricane & Tropical Storm, Flood, Wildfire	2.2	4-Medium	Dare County Fire Marshal	Grant Funds	3-5 years	Carry Forward	Group saw the need to revisit this effort and reshape the action for the new plan with a focus on improving water utility infrastructure capability and resilience.
DAR22	Study and identify all key secondary roadways used by workforce that flood routinely and develop plans to mitigate flood hazards. These are transit corridors that support year-round resident populations like Colington Road, NC 345, and Kitty Hawk Road.	All	2.2	5-High	Dare County Fire Marshal, Public Works, Emergency Mgmt.	Grant Funds	1-2 years	Carry Forward	Group saw the need to revisit this effort and develop an actionable critical facility emergency power plan.
DAR23	Complete commodity flow study to identify hazardous materials that are routinely transported across the region.	Hurricane & Tropical Storm, Flood, Coastal Hazards, Severe Winter Storm, Severe Weather, Tornado, Wildfire, Transportation Infrastructure Failure	2.2	5-High	NCDOT, Dare County Planning	General fund	2 years	New	N/A
DAR24		Radiological Emergency, Hazardous Materials Incident	3.3	3-Low	Dare County Emergency Management	Grant funds	3-5 years	New	N/A
Public Education & Awareness									
DAR25	Coordinate with NC Floodplain Mapping on public dissemination of updated floodplain maps	Hurricane & Tropical Storm, Flood, Coastal Hazards	4.2	4-Medium	NC Floodplain Mapping, Dare County Planning	General Fund	1 year	Carry Forward	Group saw the need to retain this effort and reshape the action for the new plan.
DAR26	Lobby State Legislators to require realtors to disclose flood zones. Maintain or increase the number of flood insurance policies in place across Dare County when new flood hazard maps become effective and many properties are reclassified as Shaded X and/or X zone no longer requiring flood insurance associated with a federally insured mortgage.	Hurricane & Tropical Storm, Flood, Coastal Hazards	4.1	3-Medium	Dare County Planning	General Fund	3 years	Carry Forward	Group saw the need to retain this effort and revisit how best to move it forward in the new plan.
DAR27	Expand hazardous weather awareness to include tornadoes and winter storms by expanding NWS partnership opportunities to include SKYWARN training and community forums	Hurricane & Tropical Storm, Extreme Heat, Flood, Coastal Hazards, Severe Winter Storm, Severe Weather, Tornado, Wildfire, Drought	3.3	5-High	Dare County Planning, Emergency Management	General Fund	1-2 years	New	N/A
DAR28	Increase the use of the NWS alert feature of the County mass notification system so that residents and visitors have direct access to all issued weather alerts.	Hurricane & Tropical Storm, Extreme Heat, Flood, Coastal Hazards, Severe Winter Storm, Severe Weather, Tornado, Wildfire, Drought	1.1	6-High	National Weather Service, Dare County Emergency Management	General Fund	2 years	New	N/A
DAR29	Expand the "Love The Beach Respect The Ocean" beach safety campaign by expanding participation with the Chamber of Commerce, Property Managers, as well as hotel, restaurant, and beach equipment rental companies	Hurricane & Tropical Storm, Extreme Heat, Flood, Coastal Hazards, Severe Winter Storm, Severe Weather, Tornado, Wildfire, Drought	1.1	6-High	Dare County Emergency Management	General Fund	1 year	New	N/A
DAR30	Take actions needed to ensure equipment and personnel are readily available to implement the Dare County Emergency Pumping Plan at multiple locations simultaneously.	Coastal Hazards	1.1	5-High	Dare County Emergency Management, Public Relations	General Fund	1-3 years	New	N/A
DAR31		Hurricane & Tropical Storm, Flood, Coastal Hazards, Severe Weather, Transportation Infrastructure Failure	2.2	7-High	Dare County Planning, Emergency Management, NC Forestry	General Fund, Grants	1 year	New	N/A