

TOWN OF EXMORE

TOWN PROFILE

Exmore resides in Northampton County near the border of Accomack County. It is located on the central spine of the Eastern Shore, and approximately doubled its physical size with the annexation of 2000 to now encompass 590 acres. It is an important commercial hub to the Eastern Shore. The town of Exmore was established in 1884 with the designation of the first stop in Northampton County for the New York-Pennsylvania-Norfolk Railroad. The railroad brought with it commerce due to the Eastern Shore's produce, and its growing tourist market to the barrier islands. The town became incorporated in 1950 due to a second wave of growth. Exmore became the transportation nexus for the Eastern Shore. To this day, the town has one of the largest concentrations of commercial activity in Northampton County. Route 13 allows Exmore to remain an important commercial hub for the Eastern Shore (*Town of Exmore Comprehensive Plan*, 2015).

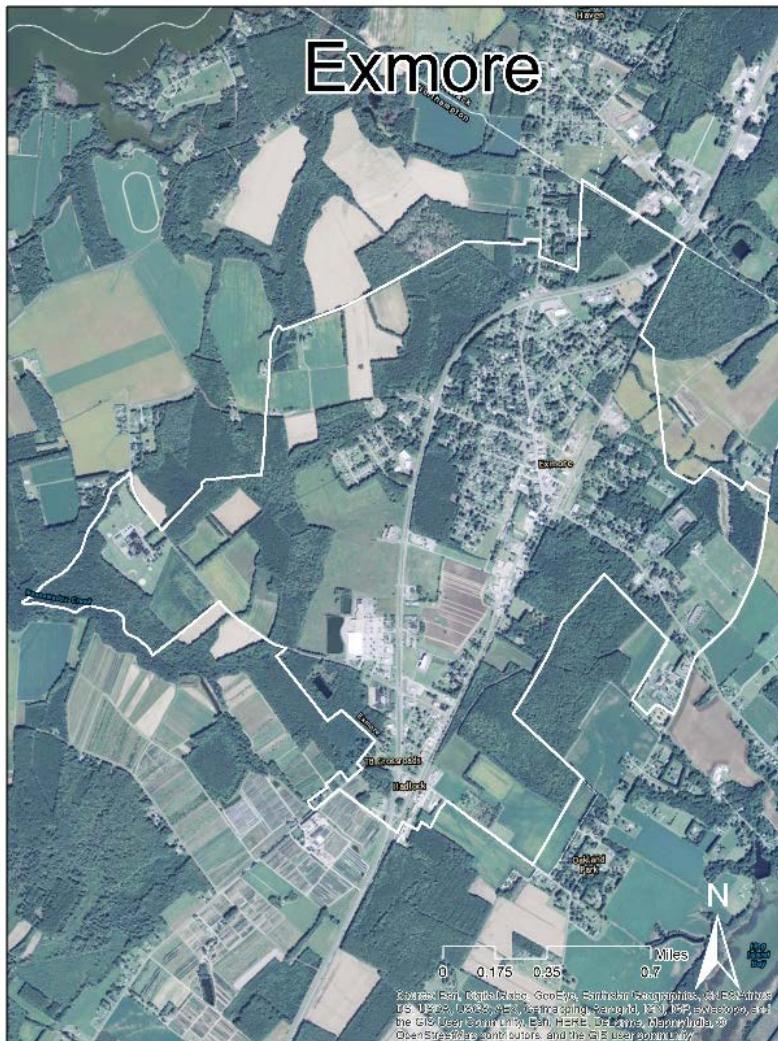


Figure 1: Exmore Aerial Map

Town of Exmore

SOCIO-ECONOMIC

Part of assessing hazards in relation to their risk is understanding the people affected. Not all people are affected equally. Some are affected by the factors that relate to their ability to understand risks posed by hazards, and some by their ability to remove themselves from harm's way. Those factors include age, mobility, income and the languages individuals speak and the languages in which individuals are able to access information.

DEMOGRAPHICS

The Town of Exmore had a population of 1,460 in 2010 (U.S. Census, 2010). Historically, the town's population ranged from 1,300 to 1,566 between 1950 and 1980 (U.S. Census, 1950, 1960, 1970, 1980). The largest dip in population occurred in 1990 to 1,115 people (U.S. Census, 1990). Since 2000, the population has remained relatively steady with an influx in 2010 due to the annexation that occurred then (U.S. Census, 2000). The transient population is thought to be substantial (*Town of Exmore Comprehensive Plan*, 2015).

Exmore has concentrations of senior and disabled residents in its Peter Cartwright Apartments, and Exmore Village I and II Apartment Villages.

Table 1: Exmore Demographic Information

	2014***	2013**	2010*	2000****
Population	1445	1460	1460	1136
Median Age	NA	37.7	44.4	38.6
Disability	NA	80	NA	NA
Income				
Median Household Income	NA	23,958\$	NA	31,143\$
Poverty Level	NA	30.4%	NA	NA
Language				
Only English	97.3%	NA	NA	97.1%
Other	2.7%	NA	NA	3.9%
Spanish	1.8%	NA	NA	2.0%
Ind-Euro	0.2%	NA	NA	0.8%
Asian	0.7%	NA	NA	0.0%

* U.S. Census 2010, ** American Community Survey 2010 – 2014, *** Annual Estimates of the Residential Population: 2010 – 2014, **** U.S. Census 2000

WORK FORCE

Employment patterns are important to examine for two reasons. It can help to identify concentrations of people for hazard information dissemination or hazard rescue and evacuation. It can also identify where disruptions in employment and income might occur in the aftermath of a disaster.

The Exmore workforce is largely in retail trade, educational and health services, and accommodation and food services (American Community Survey, 2009- 2013). However, according to the U.S. Census Bureau, most of Exmore's work force is employed elsewhere.

Table 2: Exmore Local Workforce

Industry	Civilian Employed Population							
	2014		2012		2010		2000	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent

Eastern Shore of Virginia Hazard Mitigation Plan

Agriculture, forestry, fishing/hunting, or mining	20	4.1%	39	5.5%	35	5.7%	14	2.7%
Construction	50	10.4%	46	6.5%	24	3.9%	50	9.8%
Manufacturing	38	7.9%	68	9.6%	64	10.3%	73	14.3%
Wholesale trade	27	5.6%	6	0.8%	17	2.7%	25	4.9%
Retail trade	91	18.9%	129	18.3%	86	13.9%	71	13.9%
Transportation and warehousing, and utilities	8	1.7%	15	2.1%	39	6.3%	20	3.9%
Information	0	0.0%	15	2.1%	19	3.1%	8	1.6%
Finance, insurance, real estate, and rentals	8	1.7%	26	3.7%	27	4.4%	10	2.0%
Professional, scientific, waste management	40	8.3%	44	6.2%	17	2.7%	21	4.1%
Educational, health care, social services	139	28.8%	207	29.3%	173	27.9%	130	25.4%
Arts, entertainment, recreation, food	38	7.9%	64	9.1%	65	10.5%	44	8.6%
Public Administration	9	1.9%	14	2.0%	9	1.5%	20	3.9%
Other	14	2.9%	33	4.7%	47	7.6%	26	5.1%
TOTAL CIVILIAN EMPLOYED POPULATION	482	-	706	-	619	-	512	-

Source: American Community Survey, 2010 – 2014

BUSINESSES

Business data provides basic information used in projecting potential economic losses from business and employment disruption, along with wage losses to employees. It can also serve as an indicator of community recovery resources. Finally, it can help to prioritize restoration of utility and infrastructure functions following a high-intensity hazard.

The largest employer in Exmore is manufacturing with Retail having the most establishments (Census Zip Code Business Pattern, 2013). Exmore has hotels in the Town that support a substantial transient population of travelers/tourists which is much greater during the summer season (*ESVA Hazard Mitigation Plan*, 2011).

The number of businesses in the Exmore zip code (not all are within the town limits) has remained relatively stable, but with shifts among types of businesses. The combined estimated annual payroll of all businesses in 2013 was around \$20 million.

Table 3: Exmore Business Type

Industry Code Description	Total Establishments		
	2013	2011	2009
Utilities	0	1	1
Construction	6	5	5
Manufacturing	3	3	3
Wholesale Trade	2	2	2
Retail Trade	27	30	31
Transportation and Warehousing	0	1	1
Finance and Leisure	8	6	6

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Real Estate and Rental Leasing	4	2	3
Professional, Scientific, and Technical Services	1	2	2
Educational Services	2	2	2
Health Care and Social Assistance	13	8	9
Arts, Entertainment, and Recreation	2	1	1
Accommodation and Food Services	8	10	11
Other Services (Except Public Admin)	10	12	13
Total, All Establishments	86	85	90
Total Employees	913		

Source: Census Zip Code Business Patterns, 2013, 2011, and 2009

BUILT INFRASTRUCTURE

Hydric soils are a major limiting factor in Exmore due to their severe limitations in respect to constructing on-site septic systems. A majority of residents in Exmore utilize on-site septic systems for residential and commercial waste disposal.

HOUSING UNITS

Knowledge of a community's housing base contributes to hazard and vulnerability analysis by identifying how many homes are at risk. Vehicles available to households is one indicator of a household's ability to evacuate when necessary.

Table 4: Exmore Housing

	2013*	2010**	2000***
Total Housing Units	815	769	524
Occupied	751	682	475
Vacant	64	87	49
Owner-Occupied	337	341	302
Renter-Occupied	414	341	173
Median Housing Value	120,900	NA	NA

* American Community Survey, 2009 – 2013, ** U.S. Census 2010, *** U.S. Census 2000

TRANSPORTATION

There are a total of 815 housing units in Exmore. Nearly a quarter of the housing units do not have access to a vehicle in Exmore (American Community Survey, 2009 – 2013; U.S. Census 2000).

Table 5: Exmore Resident Vehicles

Vehicles Available	2014*	2010*	2000**
None	190	122	42
One	291	260	196
Two	200	170	174
Three or more	70	63	29

* American Community Survey, 2009 – 2013, ** U.S. Census 2000

Eastern Shore of Virginia Hazard Mitigation Plan

COMMUNITY SERVICES AND FACILITIES

Community facilities are facilities required to support the services and functions provided by the Town government or in coordination with other public and private entities. These facilities enhance the overall quality of life for the Town and its citizens. It is important to note what facilities are available in case of a hazard, and it is important to make an inventory of facilities that could be impacted by a hazard.

PUBLIC SAFETY

Fire protection for the Town is provided by the Exmore Fire Department, for which there are two paid non-firefighting staff, 15 non-firefighting volunteers, and about 21 volunteer firefighters. The Exmore Police Department has five officers and serves about 1,400 people. (www.firedepartment.net & www.policeone.com)

PARKS AND RECREATION

The Exmore Town Park has been recently renovated and has had restrooms installed. The parking area has been enhanced and the Town is beginning to use the Park for activities and events beyond the playground, such as the Earth Day Festival of 2016.

CULTURAL RESOURCES

The closest public library is in Nassawadox, which is part of the Eastern Shore Public Library System. Exmore developed as a result of the railroad completed in 1884, and there are historic buildings that go back to this age, such as the train station pictured below.



Figure 2: Exmore Historic Train Station. Photo by A-NPDC staff

WATER SUPPLY AND WASTEWATER

The Town of Exmore has two wells, both of which are in need of replacement, which pump to a chlorination facility and to a water tower with a single-day storage capacity. The Town is working with the Virginia Department of Health to design and construct new wells and pumps, and is also in need of new distribution infrastructure.

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Failing septic systems in the late 1990's lead to the construction of two sewage systems. The one on the north end of Town (1999) collects sewage from individual septic tanks to a mass drain field and the newer (2005) septic tank effluent pump modified individual septic tanks in the downtown area and diverts the settled effluent to a waste water treatment plant on the east side of town. This newer system is suffering from malfunctions and the USDA has granted Exmore \$30,000 in planning funds to study sewer collection and treatment. (Exmore Comprehensive Plan, 2015)

SOLID WASTE

The Town provides pickup within limits to approximately 540 households and 75 businesses (<http://www.co.northampton.va.us/>). There is an Accomack County Convenience Center about four miles north of the Town on Route 13 in Painter.

POWER AND COMMUNICATIONS INFRASTRUCTURE

Electricity is provided by A & N Electric Cooperative, and all lines are less than 100 kilovolts. The Town does not typically experience long-term or widespread outages. Broadband service runs along Route 13, and thus through the Town, where there is also a regeneration facility.

SCHOOLS

Three schools are within the boundaries of the Town: Occohannock Elementary (public), Broadwater Academy (private), and Shore Christian Academy (private) (Exmore Comprehensive Plan, 2015).

NATURAL ENVIRONMENT

Exmore ranges in elevation from 27 to 43 feet above the mean sea level. There are no perennially flowing surface water bodies in the Town. Drainage ditches on the eastern half of the Town drain towards Parting Creek and the Atlantic Ocean. Drainage ditches on the western side of town drain towards Occohannock or Nassawadox Creeks and to the Chesapeake Bay. Hydric soils are the most prevalent soil type in the town, located on the eastern, southern, and western sides of the town. There are some highly permeable soils located in the northern and central areas of town (*ESVA Hazard Mitigation Plan*, 2011).

LAND USE LAND COVER

Prior to the annexation in 2000, residential development constituted the majority of the Town's development. Since 2000, however, in addition to several more residential areas, much farmlands and forested lands are now within town boundaries (Exmore Comprehensive Plan, 2015).

Eastern Shore of Virginia Hazard Mitigation Plan

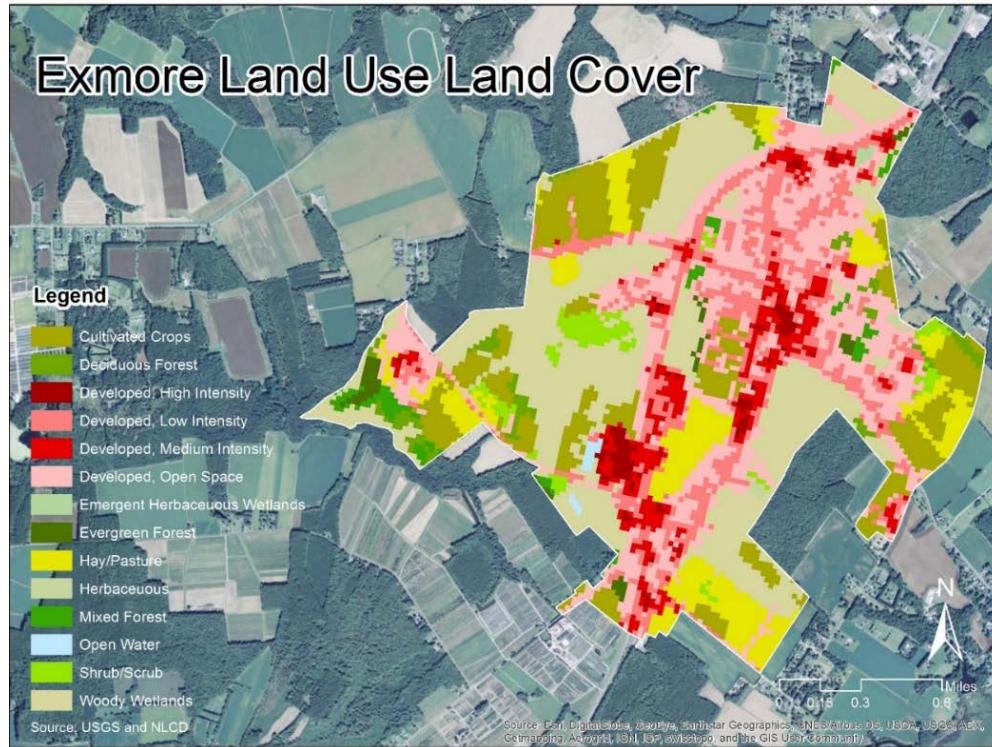


Figure 3: Exmore Land Use Land Cover Map

HAZARD PREPAREDNESS & COMMUNITY CAPABILITIES

PREVIOUS HAZARD MITIGATION PLANS AND PLANNING

Exmore did not participate in the 2006 Hazard Mitigation Plan (HMP), but did become actively involved for the 2011 update. The following table contains authorities, policies, programs and resources, and intentions or ability to expand to address reduce vulnerability to hazards.

Authority	Ordinances, Plans, & Publications										Resources, Committees						
	Building Code	Chesapeake Bay Act	SWMP	Hazard Mitigation Plan	Comprehensive Plan	Ordinance	Storm Water Regulations	Transportation Infrastructure Inundation Vulnerability Report	All Hazards Preparedness	Emergency Operations Plans	Mutual Aid Agreements/Documents	Neighborhood Emergency Help	Virginia Hurricane Evacuation	Oil & HazMat Response Plan; HazMat Commodity Flow	Ground Water Committee	Navigable Waterways Committee	Climage Adaptation Working Group
Local	*				*												
County			*														
Regional			*				*		*		*			*			*
State		*				*						*					
Federal	*																*

NATIONAL FLOOD INSURANCE PROGRAM & HAZARD MITIGATION GRANT PROGRAM

In 2011, storm water flooding was identified as the primary hazard putting Exmore residents at risk, which was affirmed as the primary risk in 2016.

Exmore updated its Comprehensive Plan in 2015, and storm water flooding rose to the top of issues identified by town residents as ones they wanted town leadership to address, along with high winds and threats of ground water contamination. The comprehensive plan included action steps to protect citizens from hazards by:

- Informing citizens of risks from stormwater flooding and wind hazards and how to protect themselves and property;
- Participating in the Hazard Mitigation Planning Team, the Disaster Preparedness Coalition, and other activities that help to coordinate resources; and
- Seeking hazard mitigation funds to alleviate effects of repeated stormwater flooding.

NFIP

Exmore joined the National Flood Insurance Program on February 8, 2001 as a No Special Flood Hazard Area Participating Community due to the town having no identified Special Flood Hazard Areas. Exmore has one policy totaling \$35,000. Two claims totaling 5,982 USD has been made. These claims are likely the result of storm water flooding.

	HMP 2006	HMP 2011	HMP 2016
Date Joined	February 8, 2001	February 8, 2001	February 8, 2001
Classification	No Special Flood Hazard Area, Participating Community	No Special Flood Hazard Area, Participating Community	No Special Flood Hazard Area, Participating Community
Policies	1	1	2
Policy Dollar Amount	NA	\$35,000	\$615,000
Claims	NA	2	2
Claims Dollar Amount	NA	\$5,982	\$5,982

Table_ : Summary of Exmore's past NFIP participation

*2006 information from the Accomack County section of the 2006 HMP.

Source: The Eastern Shore of Virginia Hazard Mitigation Plan, 2011, 2006

HMGP

Exmore has not participated in the Hazard Mitigation Grant Program.

HAZARDS AND RISK ASSESSMENT

Storm water flooding and wind are the two greatest threat to the Town.

WIND

No parts of the Town lie in the wind borne debris hazard area. This area extends 1-mile inland from the coast. The Town lies in the 110 mph design wind zone (Northampton Building Code).

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Most of the residential areas are older and have mature trees in and around the homes. During a high wind even falling branches or trees may damage some structures and damage power lines. Town staff indicate that hurricane-force winds will be extremely damaging to residences, Town facilities, trees, and electrical infrastructure. Although there have been no documented accounts of tornadoes in the Town limits, this is a hazard for which all localities on the Eastern Shore should be as prepared as possible. Two high wind events were recorded by the NWS in 2006 (50 mph), a derecho in 2012 (50 mph), and 11 more between 1984 and 2012. Total recorded damage from all events was approximately \$115,000 in damage (2015 dollars) (Town representatives, personal communications, December 7, 2015).

The Hazus hurricane wind model indicates that there would be wind damages from a storm with a return period of 100 years. Such a storm could be expected to generate three-second gusts of between 90 and 93 mph in the vicinity of Exmore. Figure 4 reveals that the highest monetary damages are anticipated to be in the areas between Willis Wharf Road and Virginia Avenue on the east side of the railroad. Those census blocks include primarily residential structures, including some apartments.

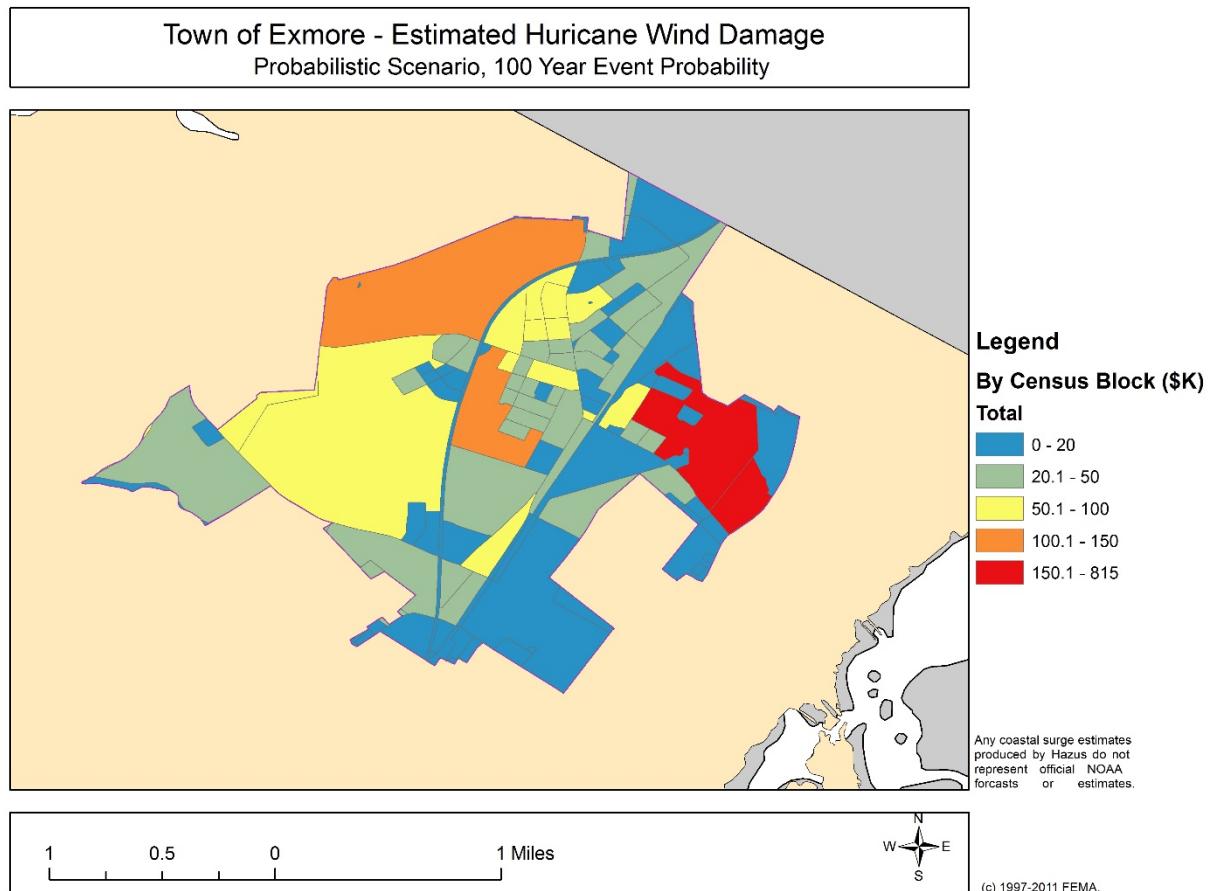


Figure 4: Exmore Hazus Estimated Wind Damages by Census Block

COASTAL EROSION

No structures are at immediate risk from coastal erosion.

COASTAL FLOODING

No portions of the town lie within a Special Flood Hazard Area. The entire town is located within the X zone, which means that it is no in the floodplain, and there is thought to be no threat of coastal flooding. That condition is unchanged since the 2011 HMP.

STORMWATER FLOODING

Town officials identified stormwater flooding as the hazard posing the greatest risk to Exmore, and the one that occurs with the most frequency. The public noted difficulties with stormwater flooding and it was also named the top concern for commercial businesses located in Exmore (Exmore Comprehensive Plan, 2015). The majority of the town contains hydric soils that are unsuitable for drainage and readily retain rainwater. These hydric soils are located within the eastern, southern, and western areas of the town. A small area of highly permeable soils is located in the northern and central areas of Town. The depth to groundwater for hydric soils is typically shallower than three feet below ground surface resulting in relatively less accommodation capacity than coarser-grained soils.

Table 6: Exmore Stormwater Flooding Areas

	HMP 2006*	HMP 2011	HMP 2016
Storm Water Flooding Area	Main street between Route 13 and Business Route 13 driveways septic systems crawlspaces	Monroe Avenue between Madison Avenue and Jefferson Street Westfield Avenue Virginia Street Main Street between Hadlock Road and Bright Street Poplar Avenue Broad Street in the vicinity of the grading shed Bright Avenue between Broad Street and Main street Main Street between Commercial street and Bright Avenue.	Town-wide, except along railroad tracks and New Roads housing area (west of US Route 13, and south of Occohannock Neck Road).
Source of Hazard	None listed	Hydric soils Depth to ground water is less than three feet Inadequately maintained drainage infrastructure	Hydric soils Depth to ground water is less than three feet Inadequately maintained drainage infrastructure Frequency of high-volume rainstorms.
Effects	None listed	None listed	Damage to buildings and other personal property Standing water public health hazard for mosquito-borne illnesses Water deep enough to affect mobility of non-automobile travelers Erosion cutting away parking lots

Source: Eastern Shore of Virginia Hazard Mitigation Plan, 2011, 2006

HAZARDS OF LOCAL SIGNIFICANCE

Town of Exmore

Exmore has additional hazards, some of which are included below:

SNOW AND ICE

A large ice storm impacted the Town in the late 1900s. The ice storm downed tree limbs and power lines and also forced the local businesses to close for several days. Residents also had no electricity for several days. Emergency energy generation filled the needs for drinking water during the time of outage. Extreme cold weather events have historically caused damages to the Town's water distribution systems. During these events, pipes froze and burst and the Town's water supply was at risk of contamination.

The NOAA's National Climatic Data Center records 37 instances of winter weather in Northampton County between 1996 and 2005. Exmore has a long stretch of U.S. Route 13 within its town limits, and winter weather pose an accident risk for residents and through-travelers, stretching its emergency response resources. Ice and snow also pose a slip and fall risk to portion of the population traveling by foot, wheelchair/scooter, or bicycle (25 percent of households do not have automobiles), and the concentrations of senior and individuals with disabilities. The services of STAR Transit, which provides transportation to seniors, low income populations and individuals with disabilities, are also affected by ice, snow, and flooding.

FIRE AND SMOKE

Officials noted the amount of vegetation cover that surrounds Exmore, a history of large fires in town, and the strain that fighting large fires places on its water system. For example, during a local restaurant fire, water system pressure dropped from 60 lbs. to 36 lbs., and public works employees were roused during the night to kick on another pump to keep water supply. A downtown fire in the 1980's required a foam truck from Wallops Flight Facility (the only fire company with fire suppression chemicals) to finally put out the fire. By the time it was finally extinguished, officials report it had burned from the downtown area almost to Countyline Road, a distance of about one mile. (Town representatives, personal communications, December 7, 2015).

GROUNDWATER CONTAMINATION

The Town faces a threat of ground water contamination from several sources including failed septic systems within the Town, leaks and spills of petroleum based products from underground storage tanks, and major industrial facilities within the area. In Exmore, approximately 25% of residences and commercial businesses are served by the Town's waste water treatment system and the remainder of residences and businesses are served by on-site septic systems.

The Town has a public water supply that is protected according to state-mandated wellhead protection regulations. Town Staff indicated that there are approximately 20 individual residential wells in Town that could potentially be impacted. Major ground water withdrawers in the area are Shore Memorial Hospital and Virginia Landing Campground (*Exmore Town Plan*, 2000). According to the *Ground Water Supply and Protection Management Plan for the Eastern Shore of Virginia*, no ground water problems currently exist within the vicinity of the Town, but increased water supply demand within the region could pose a future threat to ground water supply quantity and quality. The Town adopted a Water Conservation Ordinance in May 2011.

Exmore is currently drilling new wells, which should be online by May of 2017. These new wells are located in the paleo channels.

CRITICAL FACILITIES

The following table lists the critical facilities and their relative importance to the Town.

Facility	2006 Plan	2011 Plan	2016 Plan	Hazards	No. of People Affected	Loss Potential	Relocation Potential	Retrofit Potential
Town-owned Facilities								
Exmore Town Office/Police Department Building		X	X	Storm water flooding Wind	1,460	Major disruption	Yes	Yes
Exmore Water Tower (located inside corporate village limits of Belle Haven)	X	X	X	Wind	1,460	Devastating	Yes	No
Exmore Municipal Wells		X	X	Storm water flooding Ground water contamination	1,460	Devastating	Yes	No
Exmore Water Distribution System		X	X	Storm water flooding Ice storms	1,460	Major disruption	No	Yes
Exmore Public Sewer Systems (2)		X	X	Storm water flooding	1,460	Major disruption	No	Yes
Exmore Town Park		X	X	Storm water flooding Wind	1,460	Inconvenience	No	Yes
Exmore Public Works			X	Wind, storm water flooding	1,460	Major disruption	Yes	Yes
Facilities not Town-owned								
Post Office			X	Storm water flooding	1,460	Inconvenience	Yes	Yes
Exmore Village/AP Apartments/			X	Wind, Fire	400+	Devastating	No	Yes
Power Sub-Station			X	Fire	1,460+	Devastating	No	Yes
CSB			X	Wind	500+	Major disruption	Yes	Yes
Communication tower (behind old A&N building)			X	Wind	?	Inconvenience	Yes	Yes
Associated grain bins			X	Wind	100+	Inconvenience	Yes	Yes
Exmore Volunteer Fire and Rescue Department		X	X	Storm water flooding Wind	1,460	Major disruption	No	Yes
Exmore area schools		X	X	Storm water flooding wind	1,460	Major disruption	No	Yes

FINDINGS

1. The hazards expected to have the greatest impact on the Town are storm water flooding and high wind events, which have been experienced throughout the Town's history. Other hazards facing the Town are groundwater contamination, ice and snow storms, drought, tornadoes, and mosquito-borne disease(s).
2. Most of the Town's residential areas have older construction and many mature trees around homes and churches. During a wind event, branches and trees may come down causing secondary wind damage and power outages.
3. The Town has no Special Flood Hazard Areas, but residents are purchasing flood insurance likely to protect their homes from potential impacts from stormwater damages.
4. The Town has identified undersized drainage pipes in the Downtown Business District of Town that cannot handle large amounts of rain water and cause flooding in the area.
5. The Town's water distribution system is aging and becoming increasingly fragile and vulnerable to stormwater flooding events.
6. The Town's system for managing wastewater has ongoing incidences of failure and is need of redesign and maintenance/repairs.