

TOWN OF NASSAWADOX

TOWN PROFILE

Nassawadox is located in Northampton County along the central spine of the Eastern Shore. The Town is just 5 miles south of Exmore and 25 miles north of the Chesapeake Bay Bridge Tunnel. The name “Nassawadox” derives from a Native American word meaning “land between two waters”. The Town is made up of an area of approximately 0.4 square miles and is located on US Route 13. In the late 1800s, there was little evidence of a community where Nassawadox now exists. A mail route and post office were influential on the development of the Town, and when the Pennsylvania Railroad was established in 1884, it allowed the Town to further expand (*Town of Nassawadox Comprehensive Plan, 2000*).



Figure 1: Nassawadox Context and Boundary Maps

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 relating 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 Nassawadox had a population of 486 in 2019 according to the American Community Survey five-year estimates. The Town has seen a steady population decrease since the 2000 US Census, as Town representatives have discredited the results from the 2013 and 2014 American Community Survey shown in Table 1 (Personal communications, Town Council, January 27, 2016). The median age in 2019 was 58.1, revealing a population significantly older than the state or nation, whereas 41.8% of the population is over the age of 65 (ACS 2014-2019). This is likely due to The Citadel nursing home/rehabilitation center that is located in Nassawadox. This is extremely important to consider when planning for a hazard, as this population could be considered high risk and would likely require additional support. The majority of residents speak English and would be able to access pertinent emergency information in the event of a hazard.

Table 1: Nassawadox Demographic Information

	2019*	2014**	2013***	2010****	2000*****
Population	486	771	698	499	572
Median Age	58.1	50.1	46.6	61.8	53.5
Disability	69	31	23	NA	NA
Income					
Median Household Income	\$41,250	\$45,000	\$45,769	\$35,893	\$21,250
Poverty Level	10.9%	14.3%	NA	NA	NA
Language					
Only English	97.5%	99.9%	100.0%	96.7%	97.1%
Other	2.5%	0.1%	0.0%	3.3%	2.9%
Spanish	1.9%	0.1%	0.0%	0.0%	2.9%
Ind-Euro	0.0%	0.0%	0.0%	0.0%	0.0%
Asian	0.6%	0.0%	0.0%	3.3%	0.0%
Other	0.0%	0.0%	0.0%	0.0%	0.0%

Source: *ACS 2014-2019, **Annual Estimates of the Residential Population, 2010-2014, ***ACS, 2009-2013, ****U.S. Census 2010, *****U.S. Census 2000

WORKFORCE

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.

Even after a decrease of approximately 16%, Nassawadox still has the highest percentage of their workforce in the education and health care services industry, despite the relocation of Riverside Shore Memorial Hospital that was once located within the Town. The majority of Nassawadox residents commute to work outside of the Town (*Town of Nassawadox Comprehensive Plan*, 2000), which has likely increased dramatically following the relocation and opening of the new Riverside Shore Memorial Hospital in Accomack County’s Town of Onancock. It is likely that many residents commute to the hospital’s new location or are employed at The Citadel, the Northampton County

Eastern Shore of Virginia Hazard Mitigation Plan

Department of Health, Riverside Eastern Shore Family Medicine, or Rayfield’s Pharmacy. Local businesses, particularly restaurants, retailers, and the pharmacy, have been negatively impacted by the move of the hospital.

Despite a recent influx of younger families moving to the Town, officials state the decrease in the total employed population may be due to a high number of residents retiring (Personal communications, Mayor Patsy Stith and Town Officials Andrea Fox and Kim Fitzpatrick, May 5, 2021). Other industries that dominate the work force in Nassawadox include retail trade, manufacturing, and wholesale trade

Table 2: Nassawadox Local Work Force Industry

Civilian Employed Population										
Industry	2019*		2014**		2012**		2010**		2000***	
	Count	Percent	Count	Percent	Count	Percent	Count	Percent	Count	Percent
Agriculture, forestry, fishing/hunting, or mining	2	1.3%	17	6.3%	15	6.5%	16	5.8%	3	1.8%
Construction	13	8.2%	19	7.1%	8	3.5%	16	5.8%	4	2.4%
Manufacturing	25	15.7%	32	11.9%	15	6.5%	19	6.9%	11	6.6%
Wholesale trade	16	10.1%	24	8.9%	18	7.8%	16	5.8%	1	0.6%
Retail trade	29	18.2%	18	6.7%	19	8.3%	15	5.5%	26	15.6%
Transportation and warehousing, and utilities	11	6.9%	7	2.6%	3	1.3%	0	0.0%	4	2.4%
Information	0	0.0%	19	7.1%	0	0.0%	2	0.7%	7	4.2%
Finance, insurance, real estate, and rentals	9	5.7%	0	0.0%	4	1.7%	10	3.6%	10	6.0%
Professional, scientific, waste management	1	0.6%	1	0.4%	0	0.0%	3	1.1%	13	7.8%
Educational and health care services	32	20.1%	92	34.2%	77	33.5%	99	36.0%	58	34.7%
Arts, entertainment, recreation, food	0	0.0%	27	10.0%	51	22.2%	48	17.5%	17	10.2%
Public Admin	14	8.8%	0	0.0%	8	3.5%	11	4.0%	6	3.6%
Other	7	4.4%	13	4.8%	12	5.2%	20	7.3%	7	4.2%
TOTAL CIVILIAN EMPLOYED POPULATION	159	-	269	-	230	-	275	-	167	-

Source: *ACS, 2014-2019, **ACS, 2010-2014, ***U.S. Census 2000

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.

Nassawadox hosts several various businesses such as a hardware store, post office, farmers market, art and frame shop, two restaurants, a florist, an insurance company, medical offices, two nursing homes, a pharmacy, gas station, and the Northampton County Health Department (Personal communications, Mayor Stith and Town Officials Fox and Fitzpatrick, May 5, 2021). Many employees are commuting from outside of the Town. The hospital’s former location has attracted medical services, community health services, and mental health services to open within the Town. Town officials stated there are only approximately 15 businesses still open within Nassawadox town limits (Personal communications, Mayor Stith and Town Officials Fox and Fitzpatrick, May 5, 2021).

Table 3: Nassawadox Business Establishments

Industry Code Description	Total Establishments			
	2021	2013*	2011*	2009*
Mining, Quarrying, and Oil and Gas Extraction	0	1	0	0
Construction	0	3	4	4
Manufacturing	0	1	2	3
Wholesale Trade	0	3	2	3
Retail Trade	6	6	9	7
Finance and Leisure	1	3	3	4
Management of Companies and Enterprises	0	1	1	1
Administrative and Support and Waste Management Remediation Services	0	1	2	2
Health Care and Social Assistance	4	13	12	15
Accommodation and Food Services	2	4	4	4
Other Services (Except Public Admin)	2	2	2	2
Total, All Establishments	~15	39	42	43
Total Employees	-	658	764	891

Source: Personal Communications, Mayor Patsy Stith and Town Officials Andrea Fox and Kim Fitzpatrick, May 5, 2021, *Census Zip Code Business Pattern, 2013, 2011, 2009

BUILT INFRASTRUCTURE

Housing units, community facilities, and transportation are all important factors when considering hazard resiliency. They provide the social services necessary during hazardous scenarios, safe cover for those wanting to stay, and a way to evacuate.

HOUSING UNITS

Knowledge of a community’s housing base contributes to hazard and vulnerability analysis by identifying how many homes are at risk. Town officials previously indicated the number of total housing units displayed in Table 4 for 2014 was an overestimate. Data from the American Community Survey for 2019 depicts total housing in the Town more accurately. According to Table 4, there are 42 vacant housing units; however, Town officials state this number is also inaccurate and there are only approximately 12-15 vacant housing units (Personal communications, Mayor Stith and Town Officials Fox and Fitzpatrick, May 5, 2021).

Nassawadox has an ordinance that governs hazardous structures to enforce the repair or clearance of dilapidated buildings (*Nassawadox Comprehensive Plan, 2000*), which restricts the vacant homes to those that are in decent condition. There have been five dilapidated structures demolished since 2016 (Personal communications, Mayor Stith, May 5, 2021). Often, vacant structures are not properly maintained and can cause additional hazardous debris during high-wind events. This is important to consider when preparing for a hazard.

There is only one high-density housing development in the Town and one just on the outskirts of Town. High-density housing areas are often the lower cost option for residents and can be more vulnerable to displacement and are least able to access safe and affordable housing after a disaster.

Table 4: Nassawadox Housing

	2019*	2014**	2010***	2000****
Total Housing Units	207	317	239	207
Occupied	165	264	188	186
Vacant	42	53	51	21
Owner-Occupied	86	NA	127	124
Renter-Occupied	79	NA	61	62
Median Housing Value	\$115,200	\$125,000	NA	NA

Source: *ACS, 2014-2019, **ACS, 2010-2014, ***U.S. Census 2010, ****U.S. Census 2000

TRANSPORTATION

Vehicles available to households is one indicator of a household’s ability to evacuate when necessary. Table 5 indicates that there are 13 households without a single vehicle in 2019, which has decreased significantly since the 2000 Census. The number of homes without access to a vehicle is important to note, as in emergency situations, they would be unable to evacuate to a safer area without assistance. There are also evacuation concerns regarding The Citadel and the Dialysis unit located within the Town (Personal communications, Mayor Stith, May 5, 2021).

US Route 13 bisects the Town making automobile transportation convenient for residents. Public transportation is made available through Star Transit, with bus routes within the Town and along Route 13. Shore Ride also provides transportation services up and down the Eastern Shore and even across the Chesapeake Bay Bridge Tunnel; however, it is highly unlikely that Shore Ride or Star Transit would operate during a hazard. The former Bay Coast Railroad has been inactive since 2018 and runs through the middle of Town. There are ongoing plans to convert the railroad into a rail-trail multi-use path, which would give residents in Nassawadox and other towns in the Region safe access to stores, restaurants, jobs, exercise, recreation, and more. The railroad right of way also houses pertinent infrastructure, such as the Virginia Broadband Authority and the future Hampton Roads Sanitation District (HRSD) sewer lines. Streets and sidewalks are maintained by VDOT and several areas are in need of repair (Personal communications, Mayor Stith, May 5, 2021).

Table 5: Nassawadox Resident Vehicles

Vehicles Available	2019*	2014**	2010**	2000***
None	13	32	20	44
One	73	92	64	51
Two	56	86	121	77
Three or more	23	54	26	20

Source: *ACS, 2014-2019, **ACS, 2010-2014, ***U.S. Census 2000

COMMERCIAL AREAS

Route 13 runs through the middle of the downtown area of Nassawadox. There are three commercial clusters located along Route 13 at State Route 606, State Route 678, and State Route 609. Between these clusters are residential housing. The commercial center consists of a restaurant, several variety shops, a bank, Post Office, lumber yard, library, and several other businesses.

COMMUNITY FACILITIES

Community facilities are facilities required to support the services and functions for the Town. For Nassawadox, these functions are provided by the Northampton County government or in coordination with other public and

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private entities. These facilities enhance the overall quality of life for the Town and its citizens. It's important to note what facilities are available in case of a hazard, and it's important to make an inventory of facilities that could be affected by a hazard. Some facilities located within the Town include a Post Office and the Northampton Free Library.

PUBLIC SAFETY

Public safety is extremely important in a hazard scenario. Police protection is provided by the Northampton County Sheriff's Department and the Virginia State Police. Fire protection for the Town is provided by the Nassawadox Volunteer Fire Company, which has 20 members, 10 of whom are active fire and rescue members. Equipment at the facility includes one engine, one tanker, one brush truck, one supply/accident truck, one personnel/command truck, and one ambulance that is currently up for sale (Personal communications, Mayor Stith, May 10, 2021). Northampton County and surrounding Towns also respond when needed. The Nassawadox Volunteer Fire Department responds to calls throughout Northampton County (*Town of Nassawadox Comprehensive Plan, 2000*), particularly the area between Exmore and Eastville, including Hare Valley, Franktown, Bayford, Vaucluse Shores, Marionville, Red Bank, Wierwood, Birdsnest, Treherneville, and other outlying areas. The Fire Department building also hosts the Boys and Girls Club within the building (Personal communications, Mayor Stith, May 5, 2021).

WATER SUPPLY AND WASTEWATER

Residents rely on individual private wells for their water supply and individual septic systems for their wastewater disposal. The Town invested in a central public sewage system, which they have found to be overly expensive and unnecessary. The hospital was one of the main entities driving conversion to a waste water treatment plant (WWTP). Although the hospital has moved north, other medical services have connected to the WWTP. There are no private residences connected (Personal communications, Mayor Stith and Town Officials Fox and Fitzpatrick, May 5, 2021). The Hampton Roads Sanitation District (HRSD) will begin serving the Eastern Shore of Virginia over the next several years. There are multiple phases of the project, with the first phase to construct sewer lines and being servicing from Nassawadox up to the Town of Onancock in Accomack County. The option to connect to HRSD's sewer system will allow for additional development in Nassawadox and several other towns that are included in the project's first phase.

SOLID WASTE

The Town residents benefit from free weekly residential pickup by Davis Disposal. Commercial waste is collected by private haulers and must be taken to Accomack County. The Hare Valley Convenience Center is located just one mile north of the Town.

POWER AND COMMUNICATIONS INFRASTRUCTURE

There are no electric substations in the Town. Because the Town lies on the Route 13, it typically does not have lengthy power outages and is able to take advantage of the Virginia Broadband Authority fiber cable for internet services. Older trees in and surrounding Nassawadox could pose a threat to power lines and other infrastructure during winter weather and high-wind events.

PARKS AND RECREATION

The Randy Custis Memorial Park is located within the Town and contains a playground, concession stand, picnic area, and several various sports fields. There is an indoor complex with a gym floor for residents in the area to utilize as well (Personal communications, Mayor Stith and Town Officials Fox and Fitzpatrick, May 5, 2021). The Northampton Free Library is also located in Nassawadox.

STORM WATER DRAINAGE

The Town does not finance the annual maintenance of ditches along roadways throughout the Town and relies on the Virginia Department of Transportation for ditch maintenance. Ditches on private land are contracted by the Town for maintenance as close to annually as necessary and affordable. An ongoing VDOT project involving culvert replacement and maintenance of drainage ditches has been effective in mitigating stormwater flooding (Personal communications, Mayor Stith and Town Officials Fox and Fitzpatrick, May 5, 2021).

SCHOOLS

There are no schools in Nassawadox. The Fire Department houses the Boys and Girls Club throughout the week (Personal communications, Mayor Stith and Town Officials Fox and Fitzpatrick, May 5, 2021).

NATURAL ENVIRONMENT

Nassawadox is very flat with slopes ranging from 0% to 2%. Most of the land is at an elevation of 35 to 40 feet above sea level. The soils in Nassawadox are either hydric or highly permeable, with a depth to groundwater of 0-36 inches. Hydric soils are a major limiting factor in Nassawadox due to their severe limitations in respect to constructing on-site septic systems. Residents in the Town are completely reliant upon on-site septic systems for waste disposal. The presence of groundwater near the surface can cause septic system failure resulting in ground water contamination (*Town of Nassawadox Comprehensive Plan, 2000*). Connecting to HRSD's sewer lines in the future would help to alleviate these issues.

LAND USE LAND COVER

Nassawadox is just over 50% developed. With only about 5% natural forest and shrub cover, and an excess of developed areas, areas with high percentage of constructed materials (including asphalt, concrete, buildings, etc.), the Town is more susceptible to stormwater complications and issues (*Town of Nassawadox Comprehensive Plan, 2000*). Cultivated crop covers approximately a fifth of the Town, indicating the importance of agriculture in the Region.

GROUND WATER

The Town's water supply is obtained from groundwater through individual private wells. The majority of the Town lies within the spine recharge area. It is critical to protect the spine recharge area in order to assure the continuance of good quality and large quantities of groundwater on the Eastern Shore. Although barren land has remained undeveloped due to the soils being unsuitable for septic systems, new technologies in above ground septic tanks as well as the option to connect to HRSD would allow for further development. Any development needs to be done with consideration of the effects of impervious surfaces on groundwater recharge and quality (*Town of Nassawadox Comprehensive Plan, 2000*).

HAZARD PREPAREDNESS & COMMUNITY CAPABILITIES

PREVIOUS HAZARD MITIGATION PLANS

§201.6(b)(3), § 201.6(c)(3), § 201.6(d)(3) Nassawadox did not participate in the 2006 or 2011 HMP. The Town deferred to the County for hazard preparedness and was only mentioned within the context of the National Flood Insurance Program. The Town has not updated its Comprehensive Plan since 2000, but its zoning ordinance was amended in 2015. The Town has expressed interest in getting their comprehensive plan up to date.

Table 6 : Town of Nassawadox Hazard Mitigation Resources

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	Viginia Hurricane Evacuation	Oil & HazMat Response Plan; HazMat Commodity Flow	Ground Water Committee	Navigable Waterways Committee	Climage Adaptation Working Group	ES Disaster Preparedness Coalition
Local					*	*													
County	*		*																
Regional				*				*	*	*				*	*	*	*	*	
State		*					*						*						
Federal		*																	

NATIONAL FLOOD INSURANCE PROGRAM

NFIP

§ 201.6(c)(2)(ii), § 201.6(c)(3)(ii), §201.6(d)(3) The Town of Nassawadox joined the NFIP program on May 8, 2007. Nassawadox does not have any identified Special Flood Hazard Areas. NFIP data for Nassawadox indicates that there is one policy covering \$280,000 for a structure located in the Town. The policy is not located in a Special Flood Hazard Area indicating that storm water flooding may be a concern within the Town. There have not been any claims filed since the Town joined the NFIP in 2007 (FEMA NFIP Insurance Report, May 2011).

Table 7: Summary of Nassawadox Past NFIP Participation

	HMP 2006	HMP 2011	HMP 2016	HMP 2021
Date Joined	Did not join NFIP	May 8, 2007	May 8, 2007	May 8, 2007
Classification	NA	No identified Special Flood Hazard Area	No identified Special Flood Hazard Area	No identified Special Flood Hazard Area
Policies	NA	1	2	
Policy Dollar Amount	NA	\$280,000	\$630,000	
Claims	NA	0	0	
Claims Dollar Amount	NA	NA	NA	

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

HMGP

The Town has not participated in the Hazard Mitigation Grant Program.

HAZARD PROFILE

§ 201.6(c)(2)(i), § 201.6(c)(2)(ii), §201.6(d)(3) Stormwater flooding has the greatest and most frequent impact on the Town.

PANDEMIC RESPONSE AND READINESS

The Town of Nassawadox made few changes in response to the COVID-19 pandemic. Town meetings were held at the Fire Department in order to maintain social distancing and all those attending wore masks. The Town did not accept any rounds of CARES Act or other federal funding and provided local businesses with information on how to apply and receive available funding assistance with the County (Personal communications, Mayor Stith, May 5, 2021).

WIND

No parts of the Town lie in the wind-borne debris hazard area. This area extends one mile inland from the Bay shoreline. Many of the housing stock is aging, but most are well maintained. There are a significantly high number of mature trees and, particularly after extensive rain events saturate the soils, these can pose a threat to buildings, roadways, and electric services. In August of 2020, damaging winds ripped through the Town leaving behind several downed trees and branches (Personal communications, Mayor Stith and Town Officials Fox and Fitzpatrick, May 5, 2021). Tornadoes and straight-line winds, despite their infrequency in the region, pose a threat to the Town.

COASTAL EROSION

The Town is not at risk to coastal erosion due to inland location.

COASTAL FLOODING

Nassawadox does not have any identified Special Flood Hazard Areas.

STORMWATER FLOODING

Following heavy rain events, the Town experiences severe drainage problems resulting in flooding, particularly north of Rogers Drive and perpendicular to Pine Avenue (*Town of Nassawadox Comprehensive Plan, 2000*). Town officials noted that this area is currently being worked on to improve drainage issues (Personal communications, Mayor Stith, May 5, 2021). In the Woodstock residential area, a ditch was dug out when the subdivision developed, but it has not been maintained regularly to ensure continued proper operation. Several residences in the area experience flooding in their basements and crawl spaces (Personal communications, Mayor Stith, May 5, 2021).

HAZARDS OF LOCAL SIGNIFICANCE

GROUNDWATER CONTAMINATION

Groundwater quality is threatened by contaminants that are discharged, leached, or disposed into the ground. The major contamination threats to groundwater in Nassawadox are on-site septic system failure, underground storage tanks, and above ground storage tanks (*Town of Nassawadox Comprehensive Plan, 2000*). Nassawadox is in Wellhead Protection Area E.

The Town has implemented a 5-year plan to pump out septic tanks, with the first to be pumped located along drainage ditches, and is looking into funding for pump outs for low-income households (Personal communications, Mayor Stith, May 5, 2021).

SNOW AND ICE

Beyond potential road hazards, snow and ice can pose a hazard by increasing stress on mature trees and causing branches to come down, damaging buildings, vehicles, power lines, and/or hindering transportation. VDOT is responsible for maintaining the roads during winter weather storms.

FIRE AND SMOKE

Around 1920, a combination hotel, barroom, and theater building caught fire and burned to the ground. The replacement building is brick with asphalt roofing, but the majority of the remaining downtown businesses are wooden and connected, allowing for the quick spread of fires in the Town.

CRITICAL FACILITIES

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

Table 8 : Town of Nassawadox Critical Facilities

Facility	HMP 2006	HMP 2011	HMP 2016	HMP 2021	Hazards	No of People Affected	Loss potential	Relocation Potential	Retrofit Potential
No Town-Owned Facilities									
Other Facilities									
Volunteer Fire Department	NA	NA	X	X	Fire, Wind, Snow/ice	10,000	Devastating	Yes	Yes
Randy Custis Memorial Park	NA	NA	X	X	Fire, Wind, Stormwater flooding	1,000	Inconvenience	No	Yes
Northampton Free Library	NA	NA	X	X	Fire, Wind, Snow/ice, Stormwater flooding	10,000	Inconvenience	No	Yes
Post Office	NA	NA	X	X	Fire, Wind, Snow/ice, Stormwater flooding	1,000	Major Disruption	No	Yes
Shore Stop (gas station)	NA	NA	X	X	Fire, Wind, Stormwater flooding	2,000+	Major Disruption	No	Yes
Water tower (at hospital)	NA	NA	X	X	Fire, Wind, Snow/ice	1,000+	Major Disruption	No	Yes

FINDINGS

1. Due to the Town's central locations, the hazards expected to have the greatest impact on the Town are stormwater flooding and high-wind events.
2. There are no defined Special Flood Hazard Areas within the Town, but the Town does participate in the NFIP and there is one insurance policy in effect.
3. The Town does not own any property of facilities.
4. The Town has implemented a 5-year septic pump-out plan to help mitigate potential groundwater contamination. The Town is currently seeking funding to assist low-income households with pump-outs.
5. Residential areas have older construction and many mature trees in and around the Town. During a high-wind event, branches and trees may come down causing secondary wind damage and power outages.