

September 2021

## HOT TOPIC ALERT

### Coastal Policies and Water



A person may live “off the grid,” without electricity, telephone, or Internet access, but no one can live anywhere without access to a water supply. Water access is emerging as a contentious topic in the United States. Increased development has led to increased water demands, and those demands strain the existing water infrastructure.

Issues involving water access and infrastructure are especially prominent in coastal areas. According to the [Office for Coastal Management](#), the country has 95,439 miles of shoreline, which is nearly four times the circumference of the earth. Moreover, [40% of the U.S. population](#), or 127 million people, live in a coastal county. In these coastal areas, decreases in groundwater supply, coupled with increased well drilling to access groundwater, can result in land subsidence and a greater chance of flooding.

In this Hot Topic Alert, we look at some of the issues surrounding water access and water use. We will examine some of the current issues around the water supply infrastructure, including desalination as a new water source, water conservation measures, and flooding prevention. We provide an overview of significant legislation and court decisions related to coastal and water policies, and show how REALTORS® can influence these policies in their communities.

## WATER RIGHTS

Although every community needs a safe and reliable water supply to survive, obtaining sufficient access is often challenging due to different types of water rights and how those rights are allocated among landowners. There are two [major types of water rights](#) in the U.S., appropriative rights (which operate on the principle of prior appropriation: the first person to use or divert water has the right to continue to use the water from that source) and riparian rights. Appropriative rights are common in the western U.S., while riparian rights are common in the eastern U.S.

The concept of prior appropriation developed in the 1850's, when miners in western states used, or appropriated, water from streams and rivers for their own use. [Appropriative rights](#) generally grant individuals the right to divert a certain amount of water from a specific surface flow for any beneficial use. For any given flow of water, there are often multiple rights holders, each with a specific claim and priority relative to other rights holders. Individuals with more senior rights obtain first access to the water, and therefore have more valuable rights. Rights holders can, however, lose their right to divert water if they willfully waste it or if they do not use it for a certain period of time.

By contrast, [riparian rights](#) allow landowners to use and access any flow of water that runs adjacent to their land, as long as downstream users are not adversely affected. Riparian rights run with the land, and usually cannot be forfeited due to lack of use.

Certain jurisdictions, such as California, use a [hybrid model](#) of water rights that combines elements of appropriative rights and riparian rights. In California, surface water rights can be [either appropriative or riparian](#), depending on the seniority of the rights and the particular type of water use. The state also has a separate set of rights for accessing groundwater.

Similarly, the state of Hawai'i has [different sets of water rights](#), including riparian rights and correlative rights, which are the rights to access groundwater beneath a parcel of land. Hawai'i also has native water rights, which affect traditional uses of water for the subsistence, cultural, and religious purposes of descendants of native Hawai'ians. Hawai'i's [Commission on Water Resource Management](#) has the power to collect declarations regarding water use, certify those uses as beneficial, and hear any disputes relating to water resources.

Water rights are becoming more important in an era of [global climate change](#), where wet climates are likely to become wetter and dry climates are likely to become drier. Some scholars have argued that neither the appropriative nor the riparian rights systems are well-equipped to deal with the effects of climate change. For example, in riparian rights jurisdictions, drought conditions cause each user of water to be assigned a new share based on a pro rata basis. However, this may result in a situation in which most or all users lack a sufficient amount of water to do anything useful. In appropriative rights jurisdictions, senior rights holders may be able to take their entire water allocation, leaving little for junior rights holders.

Increased water demand from housing and other urban developments are also exacerbating issues with water supply and access. In [Oakley, Utah](#), for example, the real estate market boomed as

workers from more expensive areas of the western U.S. relocated during the coronavirus pandemic. However, this boom caused a shortage of water, leading the town to impose a construction moratorium on new houses that would require connections to the town's water system. Such moratoriums may become the new normal in drought-stricken areas. Water officials in [Marin County](#), California have considered a ban on new water hookups for homes. One district in Marin County, the North Marin Water District, has already banned new hookups in its service area.

State and local officials are also responding to potential water shortages. In California, the state [Water Resources Control Board](#) voted unanimously to curtail almost all diversions of water for agricultural purposes from the Sacramento-San Joaquin delta watershed, which stretches for almost 500 miles. Although the Board lacks the power to regulate water rights that existed before water regulation began in 1914, there has been a push to curtail the ability of these pre-existing rights holders to take their entire share of water.

## **WATER INFRASTRUCTURE**

For most communities in the U.S., water is supplied by a [community water system](#). It is because of these systems that homeowners and renters around the country can simply turn on the faucet and receive clean, drinkable water.

However, this does not mean that community water systems are in good shape. In its [2021 Report Card for America's Infrastructure](#), the American Society of Civil Engineers (ASCE) gave the U.S. water supply infrastructure a "C-" score. Water system components work from 15 to 95 years, depending on the specific component. However, many water systems are old and decaying, and are not inspected until they fail. Indeed, the ASCE estimates that there is a water main break somewhere in the country every two minutes. These breaks are disruptive—not only to the water supply, but to roads, buildings, and other infrastructure. [Around 2 trillion gallons of fresh drinking water](#) disappear each year through aging, leaky pipes, faulty meters, and broken water mains.

Aging or inadequate infrastructure is not just a concern for older urban water systems. For example, much of [California's water supply is at risk from contamination](#), including water used for farm irrigation. Most of California's water comes from the Sacramento-San Joaquin River Delta, which is protected by earthen levees constructed over the last 160 years. Generally, farmers built these levees as they were needed, so they were not built to any consistent standard. As a result, earthquakes, record tides, and strong storms threaten the levee system. The aging infrastructure moving that water is also an issue—with conservation efforts, less water is moving through the pipes, allowing them to [clog and fill with debris](#).

An ongoing reliable water supply requires a major coordinated effort. Experts say that will involve replacing much of the nation's water infrastructure. The [American Water Works Association](#) asserts that we are now in an "Era of Replacement" of water systems. The Association estimates that repairing and upgrading buried water infrastructure will cost \$1 trillion over the next 25 years.

To provide financial assistance for water infrastructure projects, [in 1987](#), Congress adopted the [Clean Water State Revolving Fund](#). The Fund provides grants to state governments to capitalize

loan programs, essentially creating a [series of state programs](#). This diversified funding allows each state to select its own projects and award the necessary assistance. Through 2014, water systems have received [financial assistance of \\$105.4 billion](#), representing 34,900 loans, including the [Central Green Streamway](#) in Lenexa, Kansas. The Streamway combines a storm water filtering system with a public recreational and educational waterway.

The [Water Resources Reform and Development Act of 2014](#) also authorizes federal assistance for infrastructure upgrades. The Act created a “[Water Infrastructure Finance and Innovation Act](#)” (WIFIA) program to help finance drinking water and wastewater projects sponsored by state, local, or tribal governments. WIFIA can fund up to 49% of eligible project costs, with a minimum project size of \$20 million for large communities and \$5 million for small communities. The types of projects eligible for credit assistance include community drinking water facilities, enhanced energy efficiency for water distribution or treatment, repair or rehabilitation of aging drinking water systems, or desalination or water recycling.

## WATER SUPPLY AND CONSERVATION

Water supplies across the country are also in danger due to drought and contamination. For example, as of August 2021, [88% of California](#) was in either a severe or extreme drought. Most climate scientists agree that global climate change makes droughts both [more severe and harder to recover from](#). Warmer temperatures evaporate more atmospheric moisture, increasing drought conditions. This decrease in moisture means less snow, which accounts for roughly 30% of California’s water supply. As a result, the state has expanded a regional drought state of emergency to [50 counties](#), accounting for 42% of the state’s population, and asked residents to voluntarily cut back on water consumption by at least 15% compared to 2020.

California’s situation is far from unique. Many other parts of the country also face water issues. As of August 2021, [more than 60% of the western U.S.](#) in a severe or extreme drought.

Regardless of location, though, water conservation will always lead to lower utility bills. The average person uses [approximately 80-100 gallons of water every day](#). The largest use of that water is to flush the toilet, followed by showering and bathing. The U.S. Environmental Protection Agency [estimates](#) that home water usage can be reduced 15 to 20% by conservation measures “without major discomfort.” To encourage household conservation, the EPA established the [WaterSense](#) program. WaterSense is similar to the [EnergyStar](#) program for home energy efficiency. The [WaterSense label](#) appears on products that meet water efficiency standards—among other requirements, the products must be 20% more water-efficient than average products of that type. As further encouragement, many [water utilities offer rebates](#) for consumers who purchase and install Water-Sense products.

At the state level, utilities may offer other appliance-related incentives. [Nine states](#) now have water-efficient plumbing standards that are more stringent than federal standards. California [water utilities](#) offer separate rebates to commercial and residential customers who purchase qualifying products. For example, a residential customer of a participating utility who purchases a high-efficiency clothes washer may receive a rebate of \$150.

Another method of conservation is to decrease the amount of water used for lawns and gardens. The term “[xeriscaping](#)” (derived from the Greek “xeros” meaning “dry,” and “-scaping” from “landscaping”) describes landscaping that prioritizes water conservation. Xeriscaping relies on careful planning and design, soil analysis, plant selection, and maintenance. Many water utilities run programs to reduce water usage from landscaping and yard use. For example, the Albuquerque Water Utility Authority offers “[xeriscape rebates](#)” for landscaping that features native and drought-tolerant plants. The potential water savings from these outdoor conservation measures are substantial. Lawn and garden watering accounts for [nearly one-third of all residential water use](#). [Up to 50%](#) of that water is wasted through evaporation or runoff.

Many water utilities run programs to reduce landscape and yard use. The [Southern Nevada Water Authority](#) pays customers \$1.50 per square foot for removing grass from their yards and replacing it with desert landscaping. The [Albuquerque Bernalillo County Water Utility Authority](#) offers “xeriscape rebates” of \$1 per square foot of landscape featuring plants that are adapted to dry conditions. The potential water savings from these outdoor conservation measures are substantial. Lawn and garden watering accounts for nearly one-third of all residential water use. Up to 50% of that water is wasted through evaporation or runoff.

A further boost to community water supplies may come from desalination plants. Indeed, many countries routinely use desalinated water. For example, Saudi Arabia obtains [60% of its water](#) from desalination. Although the U.S. has been slow to fund desalination projects, [the largest desalination plant in the Western hemisphere](#) is now located in Carlsbad, California. This plant can provide up to 50 million gallons of desalinated water per day to consumers in San Diego county.

Desalination is relatively expensive compared to other methods of treating water. [Reverse osmosis](#)—the usual method for taking the salt out of water—[costs](#) about \$2,000 per acre foot (roughly the amount of water a family of five uses in a year). Desalination also causes [environmental issues](#) since the process can create waste that is usually pumped back into the ocean. This waste contains a much higher salt content than sea water, and can harm marine life. Desalination plants also require a large amount of electricity to operate.

Proponents of desalination have attempted to address these concerns. Wastewater from the Carlsbad plant is [diluted to reduce its salinity](#). This water is then released into the ocean in compliance with environmental regulations and approval from the regional water control board. Thus, although desalination may not be a complete solution to water supply problems, it can be an important supplement to other sources.

Without such solutions to increase both conservation and water supply, controversial projects like the [increased diversion of water from the Great Lakes](#) may become reality. The [Great Lakes Compact](#), signed into law in 2008, generally prohibits the taking of large quantities of water from the Great Lakes and the surrounding region without the approval of each of the eight states that are within the lakes’ watershed, as well as of the Canadian provinces of Ontario and Quebec. However, exceptions exist, including one that permits containers carrying [less than 5.7 gallons](#). Companies and manufacturing plants have used the exception to draw out billions of water per

year from the Great Lakes, leading local communities to oppose an increase in the number and amount of water diversions.

## **REALTOR® ASSOCIATION INVOLVEMENT ON WATER INFRASTRUCTURE**

NAR [supports](#) federal, state, and local initiatives that modernize and repair water infrastructure, including water management systems, reservoirs, and septic tanks. In particular, NAR emphasizes the need to maintain and improve existing water infrastructure systems before building new ones.

NAR also supports [market-based solutions](#) to address pollution of the nation's waterways, as well as a healthy balance between environmental concerns and private property rights. To protect water supplies, NAR advocates for federal funding for adequate water infrastructure systems and technology. At the state and local level, NAR believes in responsible development of commercial and residential neighborhoods, considering state, local, and private water rights and uses.

NAR has advocated for federal legislation, such as America's Water Infrastructure Act of 2018 (AWIA), that has [improved water infrastructure](#). [AWIA](#) has resulted in improved drinking water and water quality, increased water infrastructure investments, and improved risk assessments and emergency response plans for local community water systems.

State and local REALTORS® and REALTOR® Associations have been effective in advocating for improved water infrastructure systems for their communities. For example, in 2013, [Amador County](#), California was facing water system issues. The local REALTOR® Association used a direct mail and Internet advertising campaign to rally support to bring a new watery delivery system to the area.

## **RISKS TO COASTAL PROPERTY**

Much of the property near a coastline is at risk of [damage from flooding](#). This can be caused by both sea level rise, especially due to global climate change, and storm surges. A flood is a costly and potentially deadly event. It is often possible to make an accurate prediction of where they will happen, but whether they will happen at any given time depends on a number of factors, such as recent weather patterns.

Rising sea levels can cause an increase in tidal flooding (flooding largely caused by routine fluctuations in the tides), leading to widespread destruction for coastal communities. Indeed, according to the [National Oceanic and Atmospheric Administration](#) (NOAA), coastal communities will experience high-tide flooding for as many as 270 days a year by 2050. Additionally, by 2035, [moderate increases in sea levels](#) will make 167 communities effectively inundated by flooding, causing 26 or more floods per year.

Storm surges can also cause [extensive damage](#) by eroding beaches and damaging coastal highways and buildings. According to the business analytics firm CoreLogic, [7.2 million homes](#) on the Atlantic and Gulf coasts are at risk of storm surge damage. The estimated reconstruction cost of those homes could be more than \$1.7 trillion.

In light of these threats, many coastal communities may need to relocate in order to survive. For example, in rural Alaska, the village of [Newtok](#) had to relocate to Mertarvik, a new settlement nine

miles away. However, despite \$100 million in assistance, community leaders were still struggling to obtain sufficient funds to build key infrastructure in Mertarvik. Similarly, residents of [Isle de Jean Charles](#) in Louisiana have had to relocate since their homes are slowly sinking into the Gulf of Mexico.

In addition to rising sea levels, coastal property can also be impacted by soil and beach erosion. This [erosion](#) results when local wave action, coastal flooding, or strong storms wear down and carry away rocks, soils, sands, and other materials. Coastal erosion is responsible for roughly \$500 million per year in damages. The effects of coastal erosion vary depending on location. For example, barrier islands in the southeastern U.S. can suffer average coastline recession rates of up to 25 feet per year. To help coastal communities identify and prevent locations that are likely to suffer from erosion, the U.S. Geological Survey maintains a [Coastal Change Hazards Portal](#) that includes a Coastal Vulnerability Index.

Coastal communities must also take care to protect their septic systems, which can be impacted by water intrusions and flooding. Although large, densely-populated communities can deal with waste by building sewage treatment plants, smaller communities, or individuals located further away from such a plant, must rely on septic systems. A [septic system](#) drains sewage into a tank where waste matter eventually separates from the wastewater. The water is then drained into a field, which also filters the water before it runs off. However, [many coastal areas](#) have sandy soil that does not work well as a filter for wastewater, so contaminants end up being released into the water. The water table is also high in these areas, which allows drain fields to be saturated, making them poor filters. Septic systems in coastal areas are also vulnerable to hazards such as erosion, storm damage, and high-velocity flooding. A failed septic system will release untreated waste that can [contaminate water and beaches](#). Marine life can be contaminated, and a [rapid release of a high volume of nutrients](#) such as nitrogen can be a shock to the coastal ecosystem. In addition, beaches suffer in both appearance and cleanliness when [raw sewage](#) is released.

## **STATE RESPONSES TO COASTAL PROPERTY RISKS**

Unfortunately, it is impossible to predict with absolute certainty what property is going to be affected by storm surges or flooding. Flood forecasting that covers a large area relies on a number of different types of data. The data that is used most frequently as a predictor of flood risk is the [historical data](#) of prior flooding. This type of information can be useful and important when considering individual properties. If a property has a history of flood damage, a potential buyer may be justified in assuming that there is a risk of flood damage happening in the future. This history may also be worth knowing for other reasons, as a warning that there may be lingering structural issues caused by past water damage.

The publicly available data about flooding, which is compiled by government agencies, may not tell much about whether this particular property is at risk. Obviously, a potential buyer can't make use of this information if he or she doesn't know it. To allow buyers to make informed decisions about flood risk, property sellers in [over half of all U.S. jurisdictions](#) are required to make specific flood-related disclosures. In [29 states and in the District of Columbia](#), the state-prescribed

disclosure form requires such a disclosure. Most states also require disclosure of material defects in a property, so any flood damage would probably need to be disclosed by a seller.

The most commonly required disclosure is whether the property is in a designated flood plain, flood zone, or wetland. The [New York disclosure form](#) also encourages buyers to “check public records concerning the property.” Among the states that have flood-related disclosure requirements, only three states and the District of Columbia are silent regarding flood zones. While [Michigan](#) requires disclosure of flooding or flood damage, and also requires disclosure of whether the seller has flood insurance on the property, there is no requirement that a buyer be informed that a property is in a flood zone (although flood insurance coverage is available regardless of whether property is in a flood zone). [Tennessee](#) requires disclosure of a “requirement that flood insurance be maintained on the property,” as well as “[f]looding, drainage or grading problems,” but not whether the property is in a flood zone. Likewise, the suggested [Minnesota](#) form asks if the seller is aware of any flooding on the property, but does not require disclosure of the property being in a flood zone. The [District of Columbia](#) only requires disclosure of “actual knowledge” of damage due to flooding.

The required disclosure in [California](#) is noteworthy for the detail that is required. Sellers must disclose whether their property is in a Federal Emergency Management Agency (FEMA) designated special flood hazard area (Zone “A” or “V,” or whether the property is in an area of potential flooding as “shown on a dam failure inundation map”). The inundation maps are kept by the [Office of Emergency Services](#). If the property being sold is located in a special flood hazard area, that fact must be disclosed if the transferor or the seller’s agent actually knows that the property is within a special flood hazard area, or if the local jurisdiction has compiled a list of properties located in the special flood hazard area and a notice identifying the location of the parcel list has been posted. If the property is in an area designated as an area of potential flooding, the seller or his or her agent must disclose that fact if either of them have actual knowledge of the designation. If the local jurisdiction has compiled a list of properties, by parcel, located in the inundation area and a notice identifying the location of the list has been posted. The information that must be disclosed is compiled and maintained by governmental agencies. If there was an error or inaccuracy in the disclosure based on information furnished by an agency, the seller or his or her agent [is not liable](#), provided they used ordinary care in obtaining and transmitting the information.

The question of whether there actually has been flooding on the property is an important one for assessing the risk of future flooding. All but [eight of the states](#) that require flood-related disclosures have a requirement that the seller disclose any known flooding. The flooding that has to be disclosed may be limited. In [Iowa](#) and [Kentucky](#), sellers must disclose flooding “problems,” without any guidance as to what constitutes a “problem,” such as whether rare incidents of flooding is a problem. In [Illinois](#), the seller must disclose flooding or recurring leakage problems, but the statute specifically mentions flooding or leakage problems only in a crawl space or basement.

Interestingly, six of the states without flood-related disclosure requirements are coastal states at risk for flooding from storm or tidal surges. Florida, for example, is regarded as having [the highest flooding risk due to climate change of any state](#), but there is no statewide requirement that the



seller of a property discloses flood risk or flooding history to a buyer. While there are local requirements, such as in [Miami-Dade County](#) (applicable only to unincorporated parts of the county), most sellers in the state are not required to make disclosures related to flooding. Lenders in non-disclosure states may also require flood insurance. [Massachusetts](#), for example, requires flood insurance for properties in designated special flood hazard areas, but sellers are under no obligation to inform buyers that the property is in such a zone.

Many states are also adopting policies to mitigate the effects of rising sea levels by creating coastal management programs to address different issues relating to coastal flooding. For example, in [Virginia](#), the legislative Joint Subcommittee on Coastal Flooding was [established](#) to make recommendations to develop a comprehensive and coordinated planning effort to address recurrent flooding, and to recommend both short- and long-term strategies to minimize the impact of recurrent flooding. In New York, the [Coastal Management Program](#) advocates for specific policies, and also acts as a coordinator for programs of all state agencies that affect coastal areas. The Program works to achieve a balance between development, recreational, and conservation goals. Similarly, the Texas [Coastal Management Program](#) funds projects in areas such as natural hazards response and critical areas enhancement.

One of the most far-reaching and ambitious plans was adopted in Louisiana, a state which is especially vulnerable to rising sea levels. Its coastline is a complex ecosystem that also has economic importance for its natural resources and its seaports. To slow the loss of this coastline, and to restore some of what has already been lost, the state developed a 50-year [Coastal Master Plan](#) in 2017. The Plan recommends 124 coastal projects, including restoration, structural protection, and nonstructural risk reduction projects. State agencies are directed to “administer their regulatory practices, programs, projects, contracts, grants, and all other functions vested in them in a manner consistent with the Coastal Master Plan and public interest to the maximum extent possible.”

One of the key elements of any policy that addresses rising sea levels is resilience, or how to prepare for a flood. This is especially important since the causes of flooding, like a storm surge or tidal anomaly, cannot easily be prevented. In 2017, [New Hampshire](#) passed legislation allowing municipalities to establish coastal resilience incentive zones. Properties in these zones would be eligible for tax relief and other incentives for measures designed to increase a property’s resiliency. Such measures may include elevation and free-board renovations, elevation of mechanical systems, construction of resilient natural features, enhancement or creation of tidal marshes, or even movement of structures to a higher area within the municipality. Hawai’i has followed the approach of allowing local governments to decide on resiliency measures. The [Hawaii Climate Change Mitigation and Adaptation Initiative](#), approved by the Governor on June 8, 2017, creates a state commission on adaptation to, and mitigation of, the effects of climate change. The purpose of the Commission is to provide policy direction, facilitation, coordination, and planning among state and county agencies, federal agencies, and other partners as appropriate. Existing climate change mitigation and adaptation efforts will be identified, and recommendations will be made for how to meet or exceed the state mitigation goals. The Commission must submit an annual report to the Governor and Legislature, and must conduct a comprehensive review of the implementation.

One specific and important flood prevention measure is a healthy shoreline. [Sand dunes](#) absorb some of the worst effects of wind and water, easing the impact on buildings further inland. Overdevelopment of coastal zones puts stress on the shoreline and makes the effects of storms worse. In 2016, the South Carolina Legislature passed [SB 139 \(Act 197\)](#), a law that places limits on construction along the state's shoreline. One key provision of the law is to establish a policy of "retreating" from the shoreline.

[Beach nourishment](#) can also be used to help protect shoreline areas. This response, also known as beach filling or beach replenishment, involves adding large amounts of sand or sediment to combat erosion and to add width to the beach. Beach nourishment offers [several advantages](#) over "hard" beach stabilization structures like seawalls. A seawall only protects the beach behind the wall, letting the area between the wall and the water blow away. By contrast, beach nourishment widens the entire beach. However, beach nourishment also has limitations, including a [high price tag](#) and a [short-term effect](#) on the sea life living on the beach. Moreover, the expenses are also recurring, since nourishment is only temporary and must be repeated over time.

Communities that have implemented beach nourishment solutions have had to develop creative means to fund these projects on a consistent basis. In [northern Dare County, North Carolina](#), nourishing local beaches was projected to cost \$38.6 million. In order to prevent the costs from impacting any one community disproportionately, the three beach towns implemented a cost-sharing agreement with the county. The costs of the project would be split 50/50 between the county and the towns. The county will raise its share of the funds by dedicating a part of the occupancy tax to beach nourishment, and by issuing a limited obligation bond. The towns are raising their shares of the cost through increased ad valorem taxes and bonds. In neighboring [South Carolina](#), the state offers matching funds for beach nourishment to counties and municipalities. Governments that apply for these funds must have a state-approved Local Comprehensive Beach Management Plan in place.

Other states have also passed measures to reduce the financial burden of restoring the shoreline. In [Virginia](#), living shoreline projects are exempt from property taxes. A [living shoreline](#) uses plants, stone, sand, and other materials to reduce erosion and enhance shoreline habitat. This helps maintain the natural connection between water, shoreline, and uplands. In order to qualify for the tax exemption, a living shoreline project must be approved by the Virginia Marine Resources Commission or the local wetlands board. Similarly, in [Maryland](#), local counties are allowed to adopt a property tax exemption for property that has erosion control structures or devices.

Coastal communities must also protect their local septic systems. Maryland, a state with approximately [52,000 septic systems](#) on land within 1,000 feet of tidal waters, has detailed regulations for the construction of septic systems. New systems installed in critical areas must use the ["best available technology"](#) for the removal of nitrogen from wastewater. Systems must be properly maintained and operated, and every system must include a two-year operation and maintenance contract and a two-year warranty. Septic systems installed [outside of critical areas](#) are not required to use the best available technology, although local governments may require it. Similarly, [Florida](#) has special regulations for on-site sewage and septic systems installed in the Florida Keys. These regulations relate to the location, design, and construction of septic systems.

Specifically, owners of these systems are required to have a maintenance contract with an approved maintenance entity, while undocumented or unpermitted systems must be removed.

## LOCAL RESPONSES TO COASTAL PROPERTY RISKS

Although state governments have an important role to play in setting and implementing coastal policy, local governments have also undertaken significant efforts to minimize risks to coastal property. For example, [resiliency planning](#) can be part of a community's overall plan for development. [Smart growth policies](#), such as flexible land-use policies and targeted investment, can contribute to a community's resiliency. At the federal level, the U.S. Environmental Protection Agency (EPA) and Federal Emergency Management Agency (FEMA) have adopted a [Memorandum of Agreement](#) that allows the two agencies to work together to assist communities with becoming more resilient. One of the projects under this memorandum helped develop a "safe growth" plan for the [San Francisco Bay Area](#). The plan first assessed the vulnerabilities of communities and housing in the area, followed by the development of strategies for resilience. In all, 40 strategies to reduce vulnerabilities were adopted in the Bay Area.

In 2012, Hurricane Sandy showed how vulnerable New York City is to flooding from the sea. Sandy caused a total of [\\$71.3 billion dollars in damage](#), and was responsible for [52 deaths](#) in the city. In response, the city government embarked on a campaign to make the city more resilient. The campaign, called [OneNYC 2050](#), is a long-term plan that attempts to confront the environmental challenges New York City will face in the future. These challenges include the likelihood of flooding. Regulations mandating [flood-resistant construction](#) in flood plains have been added to the city building code. Infrastructure to prevent flooding has also been proposed for areas that were [hit hard](#) by flooding from Sandy, as well as for neighborhoods that were not severely impacted but which are [vulnerable to future flooding](#).

In eastern Virginia, the [Hampton Roads Sanitation District](#) has implemented an innovative program to slow or stop depletion and shrinkage of local aquifers. Called [SWIFT \(Sustainable Water Initiative for Tomorrow\)](#), the program is designed to ensure a sustainable source of groundwater for the area while addressing other environmental challenges for Chesapeake Bay. The shrinkage of aquifers not only uses up a crucial natural resource, but it also allows saltwater from Chesapeake Bay to leach into the aquifers, making the stored water unusable. Moreover, depleting the aquifers lowers the level of the land over the aquifers, making it more vulnerable to flooding. SWIFT takes [highly treated wastewater](#) that would otherwise be discharged into local rivers that flow into Chesapeake Bay. The water is then purified so it becomes drinking quality water. This purified water is treated to match the existing groundwater chemistry and added to a local aquifer. As a result, the amount of nutrients, such as nitrogen and phosphorus, that is discharged into local waterways is greatly reduced.

Other coastal communities are moving forward with groundwater replenishment. The [City of Clearwater, Florida](#), has started work on a groundwater replenishment program that involves purified wastewater.

Local governments have also crafted their own policies with respect to septic systems, especially in states that do not have rules or laws that specifically govern septic systems in coastal areas. For

instance, [Wareham, Massachusetts](#), at the head of Buzzard’s Bay, has 54 miles of shoreline within its borders. This [shoreline](#) is an important economic asset for the town, attracting boaters, fishers, and swimmers. In recent years, residents noticed that the quality of the water appeared to be deteriorating due to the presence of too much nitrogen, which enters local waterways from septic systems that fail to effectively treat sewage. To address the problem, Wareham adopted new regulations limiting septic systems near waterways. No new septic systems may be installed within 150 feet of a waterway, while new systems constructed within 500 feet of a waterway must reduce nitrogen.

Other coastal communities have acted to regulate septic systems. [Nantucket](#) prohibits the installation of septic systems on properties that have access to a common sanitary sewer. The town also has adopted detailed regulations for the construction of septic systems, and the composition of soils absorption systems. Suffolk County on Long Island has initiated a [pilot program](#) to replace existing septic systems with new, cleaner systems. The new systems can remove up to 70% of the nitrogen from household sewage. Since these new systems are expensive—up to twice the cost of a conventional system—the county is offering grants to help pay the expenses.

### **REALTOR® ASSOCIATION INVOLVEMENT ON COASTAL ISSUES**

NAR believes that, in order to solve coastal issues, communities should [balance](#) environmental stewardship with economic development. Implementation of practical, market-based solutions can help coastal communities tackle their challenges. Additionally, NAR supports implementing mitigation efforts to prepare for natural disasters, including flooding and sea level rise.

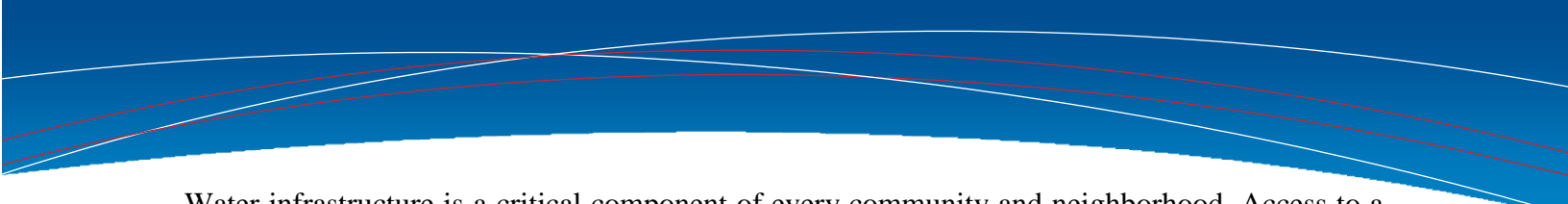
NAR has experience advocating on flood preparedness and flood insurance issues. In 2019, when NAR learned that the Federal Emergency Management Agency (FEMA) was preparing to suspend the [National Flood Insurance Program](#) (NFIP) during a government shutdown, NAR’s advocacy team called stakeholders and presented them with real-time data on how such a suspension would affect local communities. As a result, NAR was able to bring about a reversal of the suspension decision within days.

NAR also supports a more [robust flood insurance market](#) in addition to NFIP. To do so, NAR provides local REALTORS® and REALTOR® Associations with a toolkit that contains information on attracting private flood insurers into communities and a model law that would encourage the development of a more robust flood insurance market.

Local REALTORS® in [Harris County, Texas](#) helped advocate for the passage of a local bond proposal that provided \$2.5 billion for flood-control projects and flood mitigation. With Houston REALTORS® helping turn out the vote, the bond measure, which will provide necessary seed money to secure matching funds from the federal government, passed with 85% support.

NAR also provides local REALTORS® and REALTOR® Associations with resources and information on septic systems and wells. In particular, NAR’s [Rural Outreach Initiative](#) provides strategies and funding to address challenges affecting rural communities, including sewage removal and septic systems modernization and improvements.

### **CONCLUSION**



Water infrastructure is a critical component of every community and neighborhood. Access to a reliable supply of clean, safe drinking water is necessary for an acceptable quality of life. Water supplies, especially in drier areas of the U.S., are also a limiting factor in future residential and business development. As a result, communities must focus on investing in their water infrastructure systems so that their water supply keeps up with demand. In the face of global climate change, state and local authorities must also pursue more creative solutions, such as conservation and desalination, to meet future demand. Local professionals, including REALTORS®, have an important role to play in helping communities understand the need for water infrastructure investment. Maintaining water supply and sewage systems are especially important in coastal communities that face unique challenges due to potentially more serious and constant flooding, and the steady threat of sea level rise. By helping their communities secure a reliable and safe water supply, REALTORS® and REALTOR® Associations can enable responsible and environmentally-sustainable growth.

Hot Topic Alerts are prepared for NAR by Legal Research Center, Inc.

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## ADDITIONAL STATE & LOCAL RESOURCES

**White Papers:** Comprehensive reports prepared for NAR on issues directly impacting the real estate industry. Examples include: Rental Restrictions, Land Banks, Sales Tax on Services, State & Local Taxation, Building Codes, Hydraulic Fracturing, Foreclosure Property Maintenance, Climate Change, Private Transfer Fees.

**Growth Management Fact Book:** Analysis of issues related to land use and modern growth management topics include density — rate of growth, public facilities and infrastructure, protection of natural resources, preservation of community character, and affordable housing.

All available on [REALTOR® Party webpage](#) under the *State & Local Issues* tab.