



## Conserve Nassau FAQ

### About Us

There are a lot of non-profit organizations on Amelia Island and in Nassau County. How is Conserve Nassau different?

Our board and officers have a depth and breadth of knowledge from ecology to engineering to climate change advocacy. Conserve Nassau looks for solutions to our challenges at the interface of the various aspects of our life and environment in North Florida because our environment, our economy, and our social features are all interdependent. Often the best strategies and solutions are developed through listening, learning and collaboration.

- We believe in being in the room where decisions are made from city to county.
- We believe our cultural heritage from dune to river is of value and supports our diverse and vibrant county.
- We believe in the interplay between environment, economy, health, happiness, and sustainability.
- We believe our forests and wetlands protect us and that, once lost, they are irreplaceable.
- We believe our dunes are critical to protecting our island from storms and flooding.
- We believe in supporting our wildlife and maintaining our quality of life.
- We believe air and water quality are integral to Nassau County citizens' long-term health and happiness.
- We believe in advocating for all the above and understanding the long-term effects of changes to our environment.

### Land Development

Why do we put so much emphasis on land development laws, codes, and regulations?



Our land development codes are where our goals and visions for a better community are laid down as detailed legal regulations that try to enforce consistent protection of health, safety, our surrounding environment, and community design standards. As we continue to learn more about social, economic, and environmental interdependence, we must have the foresight to keep our codes updated to improve their effectiveness and stay current with changes in community needs.

## Do City and County Comprehensive Plans really matter?

Where land development codes, building codes, and other regulations are the details of accepted practices for development and protections, the Comprehensive Plan for a city or county lays out the rationale for broader goals and visions that lead to the regulations. Without a comprehensive plan, regulations are more likely to become insular and without guiding oversight and inclusive direction.

## How does planning from a perspective of interdependence among society, economy, and the environment matter?

Short-term thinking focused on immediate economic gain—often individual gain at costs to others—fails our community. Sense of place is critical to our future economy. Residents and tourists choose Nassau County because it is not “anywhere Florida.” We love it, and our economy benefits, because of its natural features with open spaces in our beautiful county and state parks, forests, and conservation areas, the beauty of our beaches, our small communities, and unique atmosphere. The Nassau County tax base is critically dependent on Amelia Island tourism, and natural resources are an essential part of Amelia Island’s sense of place that attracts tourists and benefits locals. The Amelia Island Tourist Development Council and CEO of the Amelia Island Convention and Visitors Bureau often state that the environment is the foundation of Amelia Island tourism. Conservation throughout Nassau County strengthens and updates our sense of place (especially if we incorporate education) and adds value to our economy.

Challenges face us from a warming world, increasingly severe storms, rising seas, flooding and landscape fragmentation that increase fiscal impacts and further weaken the insurance industry in Florida. The environment provides solutions from water-absorbing wetlands to protective tree canopies. Our county needs to be quite careful that we don’t increase our FEMA CRS rating and make flood insurance rates rise even higher. Removing and weakening our environmental



protections (our buffered wetlands, pine flatwoods, maritime forests, and dune structure) will increase the fiscal impact of such events on the County.

## Wetlands

### How does sprawling development impact recreational, economic and ecological characteristics of our wetlands?

Sprawling development often can put a strain on infrastructure and lead to increased traffic congestion, air pollution, greater costs that are not offset by new tax revenue, and social costs. Sprawling development near wetlands can lead to the loss of wetlands. When wetlands are lost, wetland benefits are lost as well. This can lead to several negative economic impacts, such as:

**Increased flooding:** Wetlands help to absorb and slow down floodwaters. When wetlands are lost, floodwaters are more likely to inundate homes and businesses.

**Decreased water quality:** Wetlands help to filter pollutants from water. When wetlands are lost, pollutants are more likely to end up in rivers, lakes, and streams, which can harm aquatic life and make the water unsafe for drinking, swimming, and fishing.

**Loss of wildlife habitat:** Wetlands are home to a diverse population of plants and animals. When wetlands are lost, these plants and animals lose their homes. This can lead to a decline in biodiversity and a loss of important ecosystem services, such as pollination and pest control.

**Increased greenhouse gas emissions:** Wetlands store carbon dioxide, a greenhouse gas. When wetlands are lost, this carbon dioxide is released into the atmosphere, which contributes to climate change.

Wetlands and other valuable natural areas may be lost because development permitting is often on a project-by-project basis. The loss of one small area may seem insignificant, but the incremental impact of the project when added to others being separately approved can lead to a huge cumulative impact. As projects sprawl across the landscape, fragmentation of habitat becomes an increasing problem. As natural areas including wetlands become smaller and less connected, their ability to maintain diverse populations of plants and animals decreases, they are more likely to be invaded by opportunistic species from their edges and those factors reduce their capacity to function as a sustainable ecosystem and to be able to recover from impairing events such as strong storms or heavy runoff.



## Why do we need conservation buffers that include uplands adjacent to our wetlands?

A conservation buffer is a strip of land that is managed to protect a wetland. Conservation buffers can be located on uplands adjacent to wetlands, or they can be located within wetlands. Upland conservation buffers are often critical to the health and functioning of adjacent and down-watershed wetlands. Conservation buffers can help to filter pollutants from water before they reach wetlands. This is important because wetlands are important filters for water, and they help to keep our water clean. The buffers also slow down the flow of water during storms to help prevent flooding and erosion. Conservation buffers also prevent disturbance from happening directly up to the edge of a wetland. Edge disturbance opens the canopy, changes soil and above and below ground water movement as it enters the wetland and results in changes to plant composition in the wetland itself – often to opportunistic and invasive plant species that are detrimental to the habitat needs of native animal populations. Another habitat consideration is that while many species are obligate wetland species, that is, they are completely dependent upon wetlands, many others move between wetlands and uplands either at different times in their life cycle or because they use the two ecological communities for different purposes such as movement corridors or shelter or nesting in the uplands and foraging for food in the wetlands.

## Do existing wetland maps for Nassau County miss many important wetlands in our County?

Wetland maps from photointerpretation of aerial images are created by the U.S. Fish and Wildlife Service National Wetland Inventory (NWI) are a primary tool for planning, flood control, land acquisition, development permitting, and regulatory decision making. Delineated NWI wetlands are used as a first assessment of properties requesting land development permits. NWI provides a detailed mapping of wetland types and their boundaries, however it is our experience that they often underestimate the extent of a wetland and miss wetland connections among larger wetland bodies. Independent studies have shown most of the wetlands missed by the interpreters were forested wetlands. Significantly for Nassau County, misclassifications were significantly higher than expected in younger flatwood stands, in pine forest types, and in planted stands. In response, **Conserve Nassau** worked on GIS models with the Nassau County Property Appraiser's Office (GIS) to identify areas of the county where closer attention needs to be paid to the potential for additional wetland presence based on soil type and elevation criteria.



One other note: Even using the current NWI mapping, there are very few, mostly small areas in Nassau County that are more than ¼ mile from a wetland.

## Trees and understory in Forests and in your Yard

### Why is maritime forest unique?

Maritime forests are coastline hardwood forest growing on stabilized coastal dunes that are highly influenced by salt-spray, sandy soils, and strong winds. Their unique adaptation to harsh conditions is important to stabilizing their barrier island shorelines, sheltering the marsh behind the maritime forest, and supporting a great diversity of plants and animals. As an important part of the coastal ecosystem, they are a popular destination for nature-based recreation.

An iconic characteristic of the temperate maritime forests of northern Florida and Georgia is the salt-spray pruned shape of the dense canopy occurring behind sand dunes of beach grasses and sea oats and composed of live oak, cabbage palm, red bay, pignut hickory, southern magnolia, and thickets of wax myrtle. Together with a shade-tolerant subcanopy of plants such as sparkleberry, hollies, and saw palmetto, an abundant source of food and shelter is provided for animals. On the ground of the maritime forest, leaves, leaf mold, decomposing branches and dead animals are home to mold, bacteria, invertebrates, and many larger animals that turn over the soil and perpetuate the nutrient cycle.

Maritime forests are an important part of the coastal ecosystem from dune to marsh in support of unique communities of wildlife and plants. They are also a popular destination for recreation and nature-based tourism.

### What's special about Nassau County pine flatwoods?

Nassau County's landscape is a flatwoods matrix through which other forested upland and wetland systems that forming habitat important to wildlife populations of the region are interspersed. They are characterized by their low, flat topography, sandy, acidic soils, low in organic content, and their open canopy of slash pine trees. The understory of the flatwoods is typically made up of saw palmetto, wiregrass, and other shrubs and grasses. Pine flatwoods need fire to maintain their open structure and diversity of plants and animals. Fire helps to clear away undergrowth and debris, which allows sunlight to reach the ground and promotes the growth of new plants.

Pine flatwoods provide important habitat for a variety of wildlife species, including deer, turkey, rabbits, raccoons, gopher tortoise and a variety of birds. They are also an important source of



water for many animals, as the sandy soil allows water to percolate through the ground and collect in depressions. Their storage and slow release of groundwater contribute to ecologically important creek formation and, downstream, to its rivers and estuaries. They are threatened by factors that include development, fire suppression, and invasive species. Development can fragment and destroy habitat, while fire suppression can lead to the buildup of undergrowth and debris, which can make wildfires more intense and destructive. Invasive species can compete with native plants for resources and can alter the structure and function of the ecosystem.

Pine flatwoods are an important part of Florida's natural heritage. By taking steps to protect them, we can ensure that they continue to provide habitat for a variety of plants and animals and that they continue to play an important role in the state's ecosystem.

## How can I enhance how the shade trees in my yard protect my home and neighborhood wildlife?

The trees in our yard provide us with sense of peace and calm along with many benefits to people, wildlife, insects, soil, and air. But for our large shade trees to be at their best they need to be part of a community. Isolated trees surrounded by a monoculture of mowed lawn grass are greatly comprised in their capacity to support functioning habitat and provide us with other ecological services. Leaving or planting native understory among your trees and letting fallen leaves stay on the ground under your trees supports a wide variety of insects and other animals. One example is caterpillars. Many complete their life cycle within and under the tree canopy. Those holes in your leaves are left by future butterflies and moths that munch away until they are ready to pupate. Many will then fall to the ground and complete the next stage of their life cycle under the leaf litter in the rich humus. The neighborhood songbirds we enjoy are dependent on the insects and caterpillars that flourish in a diverse understory. Larger birds like our owls and hawks also hunt and depend on landscapes supporting habitats that lawn cannot provide.

Tree groupings also provide many important benefits. They can act as a wonderful wind break and will slow down the impact of rain on underlying soil and vegetation. Their falling leaves are a naturally occurring mulch that retains nutrients and moisture for our soil. Groupings of trees are important to the protection of our homes and landscape as they buffer the wind during hurricanes and windstorms. Without our protective canopy, wind channels between the solid walls of houses, increasing in speed and destructive ability. Trees in groups also support each other through symbiotic association with below-ground fungi and their intertwined limbs and roots that add stability but also may share nutrients through a rich and diverse soil microbiome.



Isolated trees don't have the support of their neighboring trees to withstand wind and heavy rains and so are less likely to provide protection to your home.

Protect your home and encourage birds and other wildlife in your yard by retaining or planting trees in groups and a diverse understory of native plants.

### Why does it matter if the plants in my yard are native?

A plant is considered native if it has occurred naturally in a particular region, ecosystem, or habitat without human introduction. Native plants have formed symbiotic relationships with native wildlife over thousands of years, and therefore offer the most sustainable habitat. We are losing our biodiversity and it's not just the big charismatic animals. Insect, bird, amphibian, mammal, and marine life abundance has declined at alarming rates over the last 50 years. We can do something about these losses locally simply by providing habitat whether in small or large patches in our yards. By themselves, these efforts seem small but, hopefully, will connect with other patches of native habitat and influence your neighbors to plant natives. The incremental results can be hope for regional recovery of our biodiversity.

Native plants help the environment the most when planted in places that match their growing requirements and exist with insects and other species adapted to benefit from your selected plants. They will thrive in the soil, moisture, and weather of your region. That means that once they are established in your yard, they have low to no requirement for added irrigation or fertilizers and tolerate local climate swings that kill or stress exotic plant species.

### How do I evaluate the claims of tree services?

Work with local companies and certified arborists that visit on-site. If a tree company solicits your business by coming to your door uninviting and telling you your trees are diseased, sick, rotten, or an insurance problem, beware! On Amelia Island these door-to-door solicitations have not been from local companies and are not reputable- they have serious complaints with the Better Business Bureau and Yelp. Homeowners who remove trees without proof of danger may violate Title XI Section 163.045 under Florida statutes as well as local City and County ordinances.



## Dunes

### Why do we need and love our dunes?

You come to Amelia Island and immediately fall in love with our dunes, our natural barriers against powerful waves and windy storms. A strong and healthy beach dune is a powerful solution against coastal erosion. Our dunes play the major role of protecting our inland areas from swells, tides, and winds. Our dunes are also a rich habitat for vegetation and wildlife. For these reasons, our dunes must be protected and defended like any national treasure.

The biggest threat to sand dunes is humans. Destructive activities include building construction, parking lots, piers and playing on the dunes. Furthermore, sea-level rise, which is a direct result of global warming, directly leads to the devastation of our natural barriers.

Dunes come in all sizes. We're grateful for much of our Amelia Island seashore which has layers of dunes: a fore dune and back dune. If you look closely, you will be reminded of geometry. What shapes do you see? Crescent, parallel, dome, linear, U-shaped? Dunes are constantly changing. The wind changes dunes and can be helpful in accumulating sand and even transforming sand from the dune to beach.

What can we do to help protect our dunes? First, dunes are not play areas or areas to cross to the beach. Use the city walkovers and play on the beach. Don't destroy the vegetation. Lastly understand that trying to repair dunes with bulldozing or bringing in sand from other places only causes more problems. That new sand lacks the ideal sediment that is needed to keep a strong system that keeps us all protected.

## Wildlife

### Why should you walk widely around resting shorebirds?

Shorebirds (like most wild animals) walk a razor's edge every day, vying for survival. They expend enormous amounts of energy searching for food and often battling the elements in very exposed conditions. When they're sitting on the beach, they're desperately just trying to rest up. Forage, rest, mate, nest, migrate. That rest is critical. And every time a human (or worse, a dog!) disturbs them, they burn precious calories with no return on the investment. This is especially important in the spring and summer during nesting season. Shorebirds babies are on the ground (not up in a tree) and are especially vulnerable to human disturbance. And parents





and "incubating" those eggs and chicks to keep them cool. When humans cause the birds to flush, the clutch can fry and die in minutes.

### Why should we not kill rodents with poison?

In Florida, it's not uncommon to get rats or mice in your home or garage (or even your car!). But don't use poison! Go low-tech with an old-fashioned trap. Or go high-tech with an electronic trap that connects via Wi-Fi to an app on your phone, to let alert you. When rodents ingest poisons, they slink off and die somewhere (and we're glad to be rid of them!). But too often they end up in the stomachs of our beloved raptors. Hawks, eagles, falcons, vultures, and owls are grateful for an easy meal like a dying rat. But that poison travels up the food chain and kills the bird (and even their fledglings, when they're brought a morsel).

### Why is nature so complicated?

Isn't it wonderful that we'll likely never know all the answers. It's our job to learn and grow every day. How can we be better stewards next year than we are this year?

