

Naturalist Training: Things to Remember for Coastal Habitats Walk
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Walks are sponsored by Friends of Barefoot Beach Preserve, this is a barrier island, park history-- 342 acres was established in 1990, and we will see 5 different plant communities on this walk. [Start from Learning Center and head along south side of Learning Center to sidewalk toward third parking lot; go to canoe launch, cross to trail to beach, then head north on beach.] Tell participants they will be walking about half a mile, round trip. Half way, at parking area #3 is a portable restroom, so if anyone wants to go here, please do so now. We will be walking on flat ground--some paved and some sandy. It will take us approximately two hours.

Flora and Fauna Identification:

1. **Gumbo Limbo** (*Bursera simaruba*) It has tiny green flowers, followed by a deep red fruit loved by many birds and other wildlife. Easily propagated by cuttings and pioneers created living fences by closely planting branches. Has reddish and peeling bark hence, the "Tourist Tree" reference. Very good tree in that tolerates high winds.
2. **Osprey** (*Pandion haliaetus*) Nest on left across road. They return around November each year to nest and usually have two offspring by February. It usually takes 36-42 days for eggs to hatch and nestling period is 50–55 days. Ospreys search for fish by flying on steady wingbeats and bowed wings or circling high in the sky over relatively shallow water. They often hover briefly before diving, feet first, to grab a fish. You can often clearly see an Osprey's catch in its talons as the bird carries it back to a nest or perch. They mate for life.
3. **Sea Grape** (*Coccoloba uvifera*) Has large, round, leathery leaves. This tree helps to stabilize the soil in coastal areas. Has purplish fruit in large grape-like clusters, that ripen individually and not as a cluster. Fruits are attractive to raccoons, birds, and tortoises; also makes good jelly.
4. **Necklace Pod** (*Sophora tomentosa*) Shrub with yellow flowers that attracts butterflies and hummingbirds. After blooming, pea pods (legumes) start and there may be blooms as well as pods on the same spike at the same time. As the peas mature, the pods are compressed between the peas to resemble a beaded necklace, hence the common name necklace pod. Caution: The seeds (peas) are dangerous to eat.
5. **Golden Beach Creeper aka cough bush** (*Ernodea littoralis*) Its roots are great soil stabilizers and in small areas it serves as a windbreak and reduces wind movement of sand. Birds and small animals eat the fruit—including the gopher tortoise. A tea made from the leafy branch tips are used as folk remedy for coughs.
6. **Lantana or Wild Sage** (*Lantana involucrate*) Herbaceous shrub with slender twigs and toothed rough-textured aromatic leaves. Small white flowers in clusters are produced year-round in response to rain. Small, round fruit is dark-blue to purple, borne in clusters on branch tips. The leaf tea has been used to treat fevers and as a bath to sooth itching. Perfume is made from the oil extracted from the leaves. The leaves have also been used as seasoning in cooking.
7. **Muscadine Grape Vine** (*Vitis rotundifolia*) Native. The vine can grow up to 90 feet long. The leaves are almost heart-shaped and have points on the edges (dentate margins). The grapes are useful for animals and human consumption-- very sweet with a thick skin. When Europeans arrived, they brought their Old World uses for similar items with them and made juice, jelly, syrup, and wines. Tea was made from the leafs to treat diabetes. The fruit can also be used to make a blue dye.
8. **Myrsine** (*Rapanea guinensis*) The flowers and berries are clustered below the leaves for several inches along the stems. Seeds are useful to birds as a food source.
9. **Prickly Pear Cactus** (*Oppuntia stricta*) Typically grow with flat, rounded edible pads that are armed with spines that easily penetrate skin. The showy yellow flower in late spring produces tasty pear-shaped, reddish fruit. Juice can be used as shampoo.
10. **Poison Ivy** (*Toxicodendron radicans*) Remember: Leaves of three quickly flee. Food source for much wildlife, including gopher tortoise.
11. **Florida Privet aka Florida Swampprivet, Florida Olive, (Forestiera segregata)** Native. Flowers are borne individually or in clusters of three or four along the branches, and they occur in the winter and early spring before the new leaves emerge. The fruits are purplish or dark blue berries that ripen in the spring and summer. The birds favor these berries and the plant produces the fruits in abundance—just

in time for the migrating birds. It frequents coastal hammocks, marshes, shell middens, and pinelands. Traditional Remedy or Use: Straight stems were used to make arrows and ink may have been made from fruit.

12. **Brazilian Pepper** (*Schinus terebenthifolia*) An invasive plant that takes over and out-competes with native plants for light and nutrients. It does have beautiful red berries in the winter months that looks pretty. Some people cut them to decorate during Christmas, however, find out too late that this plant contains the same compound that poison ivy has that cause skin irritation in some people. Invasive plants are removed by County and/or volunteers periodically.
13. **Gopher Tortoise** - This area is often referred to at the Gopher Tortoise Hotel. The mound that you see is left over fill from when the parking lot was build. It was left in place and the Gopher Tortoises found that it was high and dry, making a nice place to dig burrows to live.
14. **Beach Ambrosia or Coastal Ragweed** (*Ambrosia hispida*) Highly beneficial in stabilizing areas where they grow. Feather-like leaves are light green. In West Indies it is made into soap.
15. **Wild Coffee** (*psychotria nervosa*) Tiny flowers in spring, followed by small red berries that attract wildlife—berries not recommended for human consumption.
16. **Saw Palmetto** (*Serenoa repens*) Saw palmetto is an extremely sturdy palm with great textural interest that blends in well with natural or seaside landscapes. This low, clumping, bushy palm has large, fan-shaped leaves and multiple trunks that creep along the ground, creating a dense ground cover. Most saw palmettos have green leaves, but a form with blue leaves can be found along the southeast coast of Florida. Three-foot-long flower stalks appear in spring, covered with small, yellow-white, fragrant flowers, the source of a commercial high-grade honey. The flowers are followed by small, yellow berries that turn black, ripening August through October. These berries are an important food source for many mammals and birds.
17. **White Stopper** (*Eugenia axillaris*) In warmer weather, it has an organic, earthy, skunk-like smell. Sometimes referred to as the skunk tree, because of this odor. Tea from leaves used to relieve diarrhea.
18. **Snowberry or Waxberry** (*Chiococco alba*) Flowers and fruit usually found year-round. It is an important winter food for wild animals/birds. Indian shampoo made from fruit; poultice for eye irritation from leaves.
19. **Strangler Fig** (*Ficus aurea*) Seed germination may take place on the ground or on host tree such as the Sabal Palm. The tree provides habitat, food and shelter for a host of wildlife. Natives used the milky sap (latex) as a chewing gum known as chicle (Chiclets); also used sap as paint base.
20. **Beach Pea or Bay Bean** (*Canavalia maritima*) Trailing, twining vine. Early morning leaves lie open and flat, but fold as sun rises to conserve water. The vine may reach up to 50 feet from its origin. They are great dune stabilizers. Has a small pink-to-purple flower that looks much like a sweet pea. Produces brown marbled beans in pods. The mature, dried beans are edible.
21. **Spiny Backed Orbweaver** (*Gasteracantha cancriformis*) aka Jewel Box [near strangler fig w/sabal palm] This species can be easily distinguished from all other spiders in Florida. Females may be 5 to nearly 9 mm in length, but 10 to 13 mm wide. They have six pointed abdominal projections frequently referred to as "spines." The carapace, legs, and venter are black, with some white spots on the underside of the abdomen. The dorsum of the abdomen is, typically for Florida specimens, white with black spots and red spines. Specimens from other areas may have different colors. Males are much smaller than females, 2 to 3 mm long, and slightly longer than wide. Color is similar to the female, except the abdomen is gray with white spots. The large abdominal spines are lacking, although there are four or five posterior small humps. Their webs are usually spun vertically. Some webs may be high and strung between trees. They build a new web each day after eating the old one. Male spiders are most common in October and November, but are not usually found in December and January. Females are found all year. One source says that they lay their eggs late in the year and then die. Males usually die shortly after mating. Almost 15% of the males are eaten right after mating. Their eggs may hatch in 11-13 days, but the little spiderlings may remain in their egg sacs for several more weeks. Fun fact: The US Postal Service put this spider on a stamp issued 10/1/99.
22. **Estuary at Canoe Launch:**
 - **Red Mangroves** (*Rhizophora mangle*) Have prop roots and drop roots; produce propagules. Excludes salt.
 - **Black Mangroves** (*Avicennia germinas*) Have leaves that are lighter in color on the underside and may have salt crystals. Also Black Mangroves have pneumatophores. Excretes salt.

- **White Mangroves** (*Laguncularia racemosa*) Usually have spoon-shaped leaves often with a notch in the end. Sometimes they have pointed leaves. All leaves have two nectaries on the petiole (leafstalk) just below the leaf. Can exclude and/or excrete salt.
- **Buttonwood** (*Conocarpus erectus*). Native. This is a Mangrove Associate, found in the highest areas at Clam Pass. It is not considered a mangrove since its seeds do not germinate on the tree. The leaves are alternate. The heavy wood from this tree makes high-grade charcoal. The bark is used for tanning leather and medicinally for treating fish poisoning and diarrhea. The wood from this tree was used to carve the “Marco Cat”. Somewhat like the White Mangrove, the Buttonwood has nectaries on its petioles but they are more on the sides and usually slightly staggered instead of being opposite. (Note: there is a variation called Silver Buttonwood, *Conocarpus erectus var sericeus*.)
- **Purslane**. Found in tidal zones, this succulent fleshy sprawling herb is used some places as a vegetable and sold in the markets. Stranded fishermen in the islands have used its succulent leaves as a source of water. It is also used medicinally as a remedy for fever and scurvy. Because it often forms mats, it is an excellent binder of sand against movement by wind and waves.
- **Bushy seaside oxeye** (*Borrchia frutescens*) native. (The dried buds are sharp to the touch.)
- **Mangrove tree crab** (*Aratus pisonii*). The carapace is mottled brown to olive-green and is widest at the front, tapering posteriorly. Eyes are widespread at the front corners of the carapace. Legs are brown to mottled, and the claws bear tufts of black hair. Sharp tips at the end of the legs allow it to climb mangrove trees and other vertical surfaces. Ranges from canopy of mangroves down to the muddy bottom, depending on tides.
- **Fiddler Crabs** (*Uca spp.*) Usually found in tidal zone/mud flats. During low tide, it digs a burrow and then plugs it when the tide starts to come in. They are a good environmental indicator and sensitive to environmental contaminants especially insecticides. They eat detritus and algae that get trapped in the sand, roots, and blades of salt marsh grasses.
- **Mangrove Periwinkle Snails** (*Littorina angulifera*) The mangrove periwinkle, *Littorina angulifera*, is a common intertidal snail in mangrove forests of the southeast United States. The shell color of *L. angulifera* varies from bluish white, orange to dull yellow, reddish brown to grayish brown. The shell is comprised of 6 whorls, with the body whorl about half of the total height of the snail. Darker dashes on the ribs of the shell are often fused to form stripes on the body whorl. The early whorls around the base bear regularly-spaced vertical white spots below the channeled sutures. The mangrove periwinkle is considered ovoviviparous, internally brooding fertilized eggs and releasing planktonic larvae. These larvae remain in the water column for 8-10 weeks until they reach the final stage, or pediveliger, at which time they search for a suitable location to settle and metamorphose into juvenile snails. The mangrove periwinkle is herbivorous, grazing on algae and fungi. The feeding structure, called a radula, varies in populations from different habitat types. The radula is a belt of small teeth used to scrape food from hard surfaces.

23. Trail between Parking lot and beach:

- **Sabal Palm** aka Cabbage Palm (*Sabal palmetto*) Florida’s state tree. These palms have “boots”. The Calusa referred to this as the “tree of life” because it furnished food, clothing, and shelter. (Discuss how)
- **Golden Polypody** aka rabbit’s foot fern (*Phlebodium aureum*) An epiphytic fern sometimes referred to as cabbage palm fern, because it is often found growing in the boots of cabbage palms. Common name from tiny golden colored spores on the underside of the leaf.
- **Greenbrier** aka cats paw or catbrier (*Smilax*) Climbing vine with scattered prickles has small white/green clustered flowers followed by berries that turn blue-black when ripe, providing food for birds and other animals. Young shoots can be eaten raw or cooked, said to taste like asparagus, and berries can be eaten both raw or cooked. Several species of Greenbrier are found within the preserve, including catsbrier, earleaf and bamboo vine.
- **Seven-year Apple** (*Casasia clusifolia*) This evergreen shrub or small tree is one of Florida's most exceptional native, salt-tolerant plants. It grows up to the first dune near the ocean. It has clusters of fragrant, white, pink-tipped flowers that emerge in the spring. The fruits are green when they first appear and ripen in about one year, so 7 years is a misnomer. The fruit is appealing birds and mammals.

- **Bay Cedar (*Suriana maritima* L.)** Endangered plant helps stabilize beaches and coastal dunes, and furnishes food and cover for wildlife. Herbalists employ extracts of the leaves and bark to treat rheumatism. [used to be on right--verify]
- Virginia White Crown

24. Beach Area - talk about Pioneer Plants as you head onto beach:

- **Sea Oats (*Uniola paniculata*)** Excellent beach stabilizer, as the roots grow down to ground water. Plants spread by means of underground rhizomes. Each plant develops a showy inflorescence about 5 feet tall. The oat-like fruit persists on the plant, giving the plant a nice texture as the wind blows. This plant is protected and should not be harvested. Please inform visitors that this plant along with all plants in the preserve are protected and should not be picked.
- **Railroad Vine or Goatsfoot (*Ipomoea pes-caprae*)** A trailing vine in the sweet potato family, whose runners may reach over 30 feet in length. Taproots sometimes penetrating more than 3 feet into the sand. Flowers are similar to morning glory. The Carib Indians used railroad vine in ritual baths to alleviate evil spells. The juice from the succulent leaves has been used as a first aid to treat jellyfish stings.

25. **As you start to walk north, back to Learning Center on beach, discuss how the beach is dynamic.** Why does it change? It is ever-changing because of winds, tides, and currents. Discuss importance of barrier island and preserving plants on the island.

26. **Discuss birds you might see.** We get many migratory birds, who feed and rest along our beaches. They come as far away as the Arctic and travel as far south at the Antarctic. Discuss walking around birds, so that they do not flush/fly up and re-land as this uses a lot of their stored energy that they need to conserve for travel.

27. **Discuss shells** and let participants know about the Monday/Friday talks on Shelling and Beachcombing, that will give a lot more information. Identify any shells found.

Alternative to returning totally along the beach is to take the beach to parking area #2 and take the boardwalk from there. Along this walk, you will see some of the plants seen before, but in a different setting that runs between the Fore dune and Coastal Strand.

OTHER things that might pop up:

- **What animals live or visit BBP?** Other than birds, animals that have been documented being at BBP from time to time are: Snakes (yellow rat snake, red rat snake, black racer, coachwhip, indigo snake), lizards, spiders, butterflies, raccoons, marsh rabbit, possums, gray fox, bob cats, armadillo, and Gopher Tortoise. Infrequent: Florida panther, black bear, and alligator. Near shore: various fish, plus occasionally dolphins, manatees, and sharks. During summer occasionally Loggerhead sea turtles.
- **Spanish Bayonet (*Yucca aloifolia*)** Watch out for the sharp tips. The fibrous leaves used in brooms, baskets, and weaving. During WWI, used to make burlap sacks. Extract from stem used as the foaming agent in root beer. Flowers and stalk are edible.
- **Spanish Stopper (*Eugenia foetida*)** Has very fragrant flowers. Fruits ripen turning from red to black.
- **Ball Moss (*Tillandsia recurvata*)** An epiphyte (air plant) that lives on a host. It gets its nutrients from air and rain. It does not harm its host plant.
- **Periwinkle or Sailor's Button (*Catharanthus roseus*)** Distributed from Madagascar by sailors into warm parts of the world by the end of 18th century, because they thought it had magical properties. It was a folk remedy for diabetes. Juice from the leaves used to treat wasp stings and other insect bites. Currently being researched as possible treatment for leukemia.
- **Century Plant (*Agave americana*)** originated in Mexico, but cultivated worldwide. Thrives in sandy soil found in coastal dunes. Plant dies after blooming. The fibers of the leaves have been used to make rope, matting, and coarse cloth. Flowers in 25 to 50 years, so "century" is a misnomer.
- **Morning Glory** A trailing vine in the sweet potato family can grow up to 100 feet from. Flower usually lasts for a single morning and dies in the afternoon. Thick mats of this vine are very effective in erosion control. The plant seems to sense the high-tide mark and changes direction of growth before reaching it. *Note:* There are several varieties of Morning Glories found at BBP, with different shaped leaves and flower colors.

- **Groundsel or Salt Bush** (*Baccharis halimifolia*) In the Aster family. Flowers are small and fragrant, appearing in the early fall. The female flowers are like a fine paint brush and the seeds float on the wind. Brew made from roots used to treat consumption (tuberculosis).
- **Groundcherry** (*Physalis angustifolia*) Small plant has a yellow flower that hangs downward like a lantern, followed by a small, edible fleshy fruit enclosed in its own 'paper bag' (botanically, the calyx) to protect it from pests and the elements. This calyx is toxic and should not be eaten. Found in open coastal soils.
- **Spanish Moss** (*Tillandsia usneoides*) Spanish moss is not a moss at all. It is actually an epiphyte or air plant related to bromeliads. It does not harm the plants it lives on and absorbs nutrients and water from the air and rainfall. At one time, Spanish moss was harvested and used to stuff mattresses for the U.S. Army. Spanish moss is also known to have been dried and the inner core of the plant woven to fabric by the native Americans.
- **Coinvine** (*Dalbergia ecastaphyllum*) pronounced: dal-BERG-ee-uh. Native. This plant is in the bean (*fabaceae*) family. It is a trailing shrub or vine and its stems can get 25 feet or more. In spring and summer, it has fragrant white to pink flowers in clusters, followed by 1-inch pods with a single seed, at first green and turning copper as they mature. Tea from the root was used to sooth sore throats. It has fish stunning properties when the roots or bark are crushed and placed in the water. It is illegal to fish this way today. Larval host plant for *Statira sulfer* butterfly.
- **Gray Nickerbean** (*Caesalpinia bonduc*). Native. The stem of this prickly, aggressive, leguminous, climbing bush can grow to 2 inches or more in diameter and 18 to 20 feet in length. The yellow, five-petaled florets occur year-round in clusters. The spiny green pods eventually turn brown. When fully ripe they will open and let a couple of shiny gray beans tumble out. In the West Indies the bark has been used to treat malaria and the leaves to treat toothaches. Also, some natives carry the seeds around as a form of "pet rocks" or make them into necklaces. If the beans fall into water, they have been known to float as long as 32 years. For that trait they are sometimes they are called sea beans. Facts: This shrub has many hooked spines. The seeds are roasted, ground and boiled and used as a diuretic, for diabetes, for hypertension, and formerly used as quinine in treating malaria. The seeds are also used in a traditional African game Wari, widely played in the West Indies.
- **Non-native (exotic) and invasive plants: Brazilian Pepper *Schinus terebenthiflia*; Australian Pine *Casuarina equisetifolia*; beach naupaka *Scaevola sericea***