


Everglades Ecosystems Information Sheets

	Slough	
What is it?	<p>Within the sawgrass marsh are channels and ponds of deeper water that contain water year-round, except in the driest years. The wider, deeper channels of water are called sloughs. Sloughs are main routes of moving water through the Everglades.</p>  <p style="text-align: right;">Slough</p> <p style="text-align: right;">https://commons.wikimedia.org/wiki/File:Anhingatrail.jpg#mw-jump-to-license Author: Averette Public Domain</p>	
Where is it?	The two major sloughs in Everglades National Park are Shark River Slough and Taylor Slough.	
What are special features?	Hydroperiods are approximately 11 months. Water moves very slowly through them, and they are dotted with tree islands.	
Common plant species	<ul style="list-style-type: none"> • Sawgrass • Pond apple • Pickerelweed • Arrowhead • Buttonbush • Alligator flag • Spikerush 	
Common animal inhabitants	<ul style="list-style-type: none"> • Dragonfly • Snapping turtle • Water moccasin • American alligator • Anhinga • Purple Gallinule • Wood Duck • Florida gar • River otter 	


EVERGLADES CURRICULUM

Adaptations in Everglades Ecosystems - Lesson 2



Featured adaptations of living in ecosystem	<p>The deepest marsh habitats within the Everglades are found in freshwater sloughs. Sloughs are the main paths of moving water through the Everglades. They are dotted with tree islands, which are areas of higher elevation that escape flooding during the rainy season and provide nesting places and refuge for animals.</p>
Resources	<p>http://sofia.usgs.gov/virtual_tour/kids/ecosys.html http://softel.fiu.edu/index_files/Page0009.htm http://www.nps.gov/ever/forkids/freshwater-slough.htm http://www.flmnh.ufl.edu/fish/southflorida/everglades/marshes/sloughs.html</p> <p>Publication: Association of Florida Native Nurseries (1991) <i>Xeric Landscaping with Florida Native Plants</i> Hollywood: <i>Florida Betrock Information System, Inc.</i></p>

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	Pine Flatwoods		
What is it?	<p>Open woodlands of slash pines with an understory of saw palmetto, shrubs, grasses, and wildflowers. Under natural conditions it is maintained by periodic fire. One of the most extensive habitats within Everglades National Park.</p>  <p style="text-align: center;">Pine Flatwoods http://etc.usf.edu/clippix/picture/pine-forest.html Author: Dr. Roy Winkelman http://etc.usf.edu/clippix/</p>		
Where is it?	<p>In southern Florida, pinelands occur on flat sandy soils. Pine flatwoods have a natural range extending southward, even to the Florida Keys. Pine flatwoods prosper in areas that are high and dry to levels that are only slightly higher than marsh habitats.</p>		
What are special features?	<p>Many plants in this ecosystem are adapted for periodic fires. Acidic soil is sandy with some peat. Moisture rates vary from very dry to nearly saturate.</p>		
Common plant species	<ul style="list-style-type: none"> • Slash pine • Swamp fern • Cabbage palm • Wild coffee • Buttonbush 	<ul style="list-style-type: none"> • Stopper • Wax myrtle • Myrsine • Saw palmetto • Beautyberry 	<ul style="list-style-type: none"> • Cardinal air plant • Cocoplum
Common animal inhabitants	<ul style="list-style-type: none"> • Diamondback rattlesnake • Grey squirrel • Gopher tortoise • Skunk • Oak toad • Cottontail rabbit 	<ul style="list-style-type: none"> • Red-shouldered Hawk • White-tailed deer • Blue Jay • Black bear • Red-cockaded Woodpecker • Bobcat 	<ul style="list-style-type: none"> • Cotton rat • Florida panther • Opossum • Raccoon


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Featured adaptations of living in ecosystem	<p>Periodic fires are an important part of maintaining the health of this ecosystem to clear the faster growing hardwoods that would block the light of pine seedlings. Trees shed their lower branches to keep low-burning fires out of the tree tops.</p>
Resources	<p>http://sofia.usgs.gov/virtual_tour/kids/ecosys.html http://www.nps.gov/ever/naturescience/pinelands.htm http://www.flmnh.ufl.edu/fish/southflorida/everglades/pinelands/Pinelands.html http://www.sfrc.ufl.edu/extension/florida_forestry_information/forest_resources/pinelands_ http://webworld.freac.fsu.edu/eco/upland/pine.html</p> <p>Publication: Association of Florida Native Nurseries (1991) <i>Xeric Landscaping with Florida Native Plants Hollywood: Florida Betrock Information System, Inc.</i></p>

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	Mangrove Swamp		
What is it?	<p>Mangrove swamps are saltwater to brackish areas subject to tidal fluctuations, sheltered from high energy wave action. Contains dense forests of one or more mangrove species. These areas often serve as nursing grounds where young marine life is protected during development.</p>  <p style="text-align: right;">Mangrove Swamp https://commons.wikimedia.org/wiki/File:Mangrove_Swamp_-_panoramio.jpg Author: Rocky Mbithi CC BY SA 3.0</p>		
Where is it?	Where salt and fresh water meet near the coastline. Due to warming (i.e. reduced frost frequency and intensity), mangrove distribution is moving northward.		
What are special features?	Habitat for over 220 species of salt water fish.		
Common plant species	<ul style="list-style-type: none"> • Red mangroves • Black mangroves • White mangroves • Buttonwood • String lily 		
Common animal inhabitants	<ul style="list-style-type: none"> • Mangrove tree crab • Bald Eagle • Horseshoe crab • Raccoon • Blue crab 	<ul style="list-style-type: none"> • West Indian manatee • Grey snapper • Mangrove water snake 	<ul style="list-style-type: none"> • Loggerhead sea turtle • Roseate Spoonbill • Wood Stork • Brown Pelican


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Adaptations in Everglades Ecosystems - Lesson 2



Featured adaptations of living in ecosystem	<p>Because of fluctuation in water's salt content, mangroves have salt-secreting glands that remove ingested salt particles. Root adaptations increase stability of mangrove trees in the soft sediments along shorelines.</p>
Resources	<p>http://www.marinediscoverycenter.org/community-restoration/mangroves/ http://www.dep.state.fl.us/coastal/habitats/estuaries.htm http://www.floridaplants.com/horticulture/mangrove.htm http://www.flmnh.ufl.edu/fish/southflorida/mangrove/introduction.html http://sofia.usgs.gov/virtual_tour/kids/ecosys.html http://discover.pbcgov.org/parks/NaturalAreas/Mangroves.aspx</p> <p>Publication: Association of Florida Native Nurseries (1991) <i>Xeric Landscaping with Florida Native Plants</i> Hollywood: <i>Florida Betrock Information System, Inc.</i></p>

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	Cypress Swamp		
What is it?	<p>Cypress swamps are the most common and widespread of the Everglades freshwater swamps, dominated by cypress trees. These swamps occur where depressions expose the shallow water table and bordering rivers and lakes.</p>  <p style="text-align: center;">Cypress Swamp https://commons.wikimedia.org/wiki/File:Everglades_National_Park_cypress.jpg Author: National Park Service Public Domain</p>		
Where is it?	They are found in low-lying, inland areas with standing water much of the year.		
What are special features?	<p>Soils are composed of silts and other sediments mixed with peat and other organic material and are fairly fertile. Cypress swamps have "domes" which form in shallow depressions which may be dry most of the year and "strands" which occur along rivers and deeper water. They are not salt tolerant.</p>		
Common plant species	<ul style="list-style-type: none"> • Bald cypress • Wax myrtle • Pond apple • Pickerelweed 	<ul style="list-style-type: none"> • Leather fern • Cardinal wild pine • Alligator flag • Marsh pink 	<ul style="list-style-type: none"> • Red maple • Swamp bay • Buttonbush
Common animal inhabitants	<ul style="list-style-type: none"> • Crayfish • Wood Stork • Florida panther • Mosquito fish • Green Heron • Raccoon • Largemouth bass • Anhinga 	<ul style="list-style-type: none"> • Bobcat • Red-bellied slider • Egret • White-tailed deer • Florida softshell turtle • Limpkin • Brown water snake 	<ul style="list-style-type: none"> • Purple Gallinule • Water moccasin • Red-tailed Hawk • American alligator • Bald Eagle • Tricolored Heron • River otter

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Adaptations in Everglades Ecosystems - Lesson 2



Featured adaptations of living in ecosystem	<p>Cypress trees have 'knees' as part of their root system and buttressed trunks, which help supply oxygen to the root system and provide stabilization. Cypress trees grow in solution holes - depressions in the limestone bedrock that have been broken down over time with the acidic conditions that come from decaying.</p>
Resources	<p>http://soils.ifas.ufl.edu/wetlandextension/types/cypress.htm http://corkscrew.audubon.org/cypress-swamps http://www.nps.gov/bicy/forteachers/cypress-swamps.htm http://www.sfrf.ufl.edu/extension/florida_forestry_information/forest_resources/cypress_swamps.html http://www.flmnf.ufl.edu/fish/southflorida/everglades/cypress/cypress.html http://sofia.usgs.gov/virtual_tour/kids/ecosys.html</p> <p>Publication: Association of Florida Native Nurseries (1991) <i>Xeric Landscaping with Florida Native Plants Hollywood:</i> <i>Florida Betrock Information System, Inc.</i></p>

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	Sawgrass Marsh		
What is it?	<p>Sawgrass marshes are freshwater marshes dominated by sawgrass. Sawgrass marshes are usually flooded with water for most of the year.</p>  <p style="text-align: center;">Sawgrass Marsh https://en.wikipedia.org/wiki/Everglades#/media/File:Everglades_Sawgrass_Prairie_Moni3.JPG Author: Moni3 CC BY-SA 3.0</p>		
Where is it?	Sawgrass is also found throughout the southern and central regions of the Everglades. Sawgrass once covered the northern portion of the Everglades as well, growing to heights of over 9 feet tall, but much of this land has been drained and cleared and is used to grow sugarcane.		
What are special features?	Hydroperiods range from less than 6 months to year-round. A longer hydroperiod along with increased water levels produces taller, thicker stands of sawgrass, while a short hydroperiod and shallow waters result in limited growth. Species diversity is low.		
Common plant species	<ul style="list-style-type: none"> • Periphyton • Sawgrass • Arrowhead • Spikerush 	<ul style="list-style-type: none"> • Wax myrtle • Bladderwort • Buttonbush • Pond apple 	<ul style="list-style-type: none"> • Red maple • Pickerelweed
Common animal inhabitants	<ul style="list-style-type: none"> • Dragonfly • Apple snail • Crayfish • Mosquito fish • Florida gar • Water moccasin 	<ul style="list-style-type: none"> • Pig frog • American alligator • Florida softshell turtle • Anhinga • Coot 	<ul style="list-style-type: none"> • Wood Stork • Osprey • River otter • White-tailed deer


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Featured adaptations of living in ecosystem	Plants and animals are adapted to changing water levels. Some plants have air bladders. Wading birds have long legs and beaks. Sawgrass is adapted to fire and has low nutrient requirements.
Resources	<p>http://www.flmnh.ufl.edu/fish/southflorida/everglades/marshes/sawgrass.html</p> <p>http://soils.ifas.ufl.edu/wetlandextension/types/marsh.htm</p> <p>http://www.dep.state.fl.us/water/wetlands/delineation/wetcomm/fwmarsh.htm</p> <p>http://webworldwonders.firn.edu/eco/aquatic/freshwater.html</p> <p>Publication: Association of Florida Native Nurseries (1991) <i>Xeric Landscaping with Florida Native Plants</i> Hollywood: <i>Florida Betrock Information System, Inc.</i></p>

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	Hardwood Hammock		
What is it?	<p>Hardwood hammocks are closed canopy forests, dominated by a diverse assemblage of evergreen and semi-deciduous tree and shrub species.</p>  <p style="text-align: center;">Hardwood Hammock https://commons.wikimedia.org/wiki/File:Tropical_hardwood_hammock_on_Everglades_National_Park_Mahogany_Hammock_Trail.jpg Author: Miguel.v CC BY SA 3.0</p>		
Where is it?	They are found inland where the ground is slightly higher than the surrounding landscape. Hammocks can be found nestled in most all other Everglades ecosystems.		
What are special features?	Because of their slight elevation, hammocks rarely flood.		
Common plant species	<div style="display: flex; justify-content: space-between;"> <ul style="list-style-type: none"> • Live oak • Saw palmetto • Buttonwood • Myrsine • Wax myrtle <ul style="list-style-type: none"> • Cocoplum • Red maple • Pigeon plum • Stoppers • Wild coffee <ul style="list-style-type: none"> • Cardinal air plant • Beautyberry • Cabbage palm </div>		
Common animal inhabitants	<div style="display: flex; justify-content: space-between;"> <ul style="list-style-type: none"> • Tree snail • Green tree frog • Red rat snake • Northern Cardinal • Bald Eagle • Raccoon <ul style="list-style-type: none"> • Opossum • Bobcat • White-tailed deer • Marsh rabbit • Florida panther • Black bear </div>		

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Featured adaptations of living in ecosystem	<p>Hardwood hammocks grow in elevated areas that do not often flood. The tree canopy is 'closed', not allowing much sunshine to reach the ground. The soil is rich in nutrients. The branches on many hardwood trees in tropical hammocks have adapted to the winds by spreading out and growing horizontally to minimize damage to the trees and loss of limbs. Hardwood hammocks can exist in a small area on tree islands dispersed throughout marshes.</p>
Resources	<p>http://edis.ifas.ufl.edu/uw206 http://www.evergladesimagery.com/everglades/communities/communities-hammocks.html http://www.nps.gov/ever/naturescience/hardwoodhammock.htm http://sofia.usgs.gov/publications/papers/pp1011/hardhammocks.html Video: https://www.youtube.com/watch?v=0NImnYrQKjU</p> <p>Publication: Association of Florida Native Nurseries (1991) <i>Xeric Landscaping with Florida Native Plants</i> Hollywood: <i>Florida Betrock Information System, Inc.</i></p>