



Birds Talk

Native Plants Listen

Native Plants for Birds Activity Book

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Teacher's note: Why Teach About Native Plants for Birds?

We wrote this booklet to help create more sustainable habitats for birds with Florida native plants. During the past 50 years, North America has lost 3 billion of its entire bird population according to the Journal of Science. This booklet is designed to help enable elementary school and home school teachers to teach the natural world to students. We want to inspire communities to enrich school grounds and backyards with native plants. Our goal is to learn with the assistance of fun activities and playing games while encouraging general ecological philosophies and sustainability in urban areas. Native plants enhance urban planning within a natural world. Every child should have the right for an outdoor natural classroom.

We found a wonderful source called Green Schoolyard America, who created a dynamic guide with 130 activities for children between the ages of 3-18. The Living Schoolyard Activity Guide (http://ecoschools.com/Assets/Documents/GSA-LSYM_2018sc.pdf) was written by 122 organizations all across the United States. Although it takes awhile to load, it is well worth the wait. As we thumbed through the pages, it made us wish we were starting all over again, teaching with a whole new arsenal! Science is interwoven throughout the activities and lesson plans. Watershed stewardship, energy and climate have huge sections of games, activities, experiments and lesson plans. Community engagement, thoughtful use of materials and recycling ideas are demonstrated in the activity descriptions. We loved the exciting camouflage caterpillar - bird relay game and painting with garden paint brushes. There are activities that create empathy for nature, healthy choices, risk taking, diversity and sustainability. In addition math, business, agriculture, culinary arts and journaling are included. Moreover, there is an International School Grounds Activity Guide produced by the International School Grounds Alliance with 100 different activities.

To help you get started, a flash drive containing a powerpoint presentation with lesson plans (including STEM Core curriculum standards) is available. Learn how you can help protect our birds by bringing back our native plants. Teach the children how to have fun learning about our natural world by solving puzzles and exploring! Contact Bren Curtis to obtain the flash drive. Meanwhile enjoy our booklet. Our tiny hummingbird will guide you through our booklet with page numbers and humdingers (facts and sayings).

Booklet Creators and Life-long Learners

Bren Curtis, the Conservation Chair of the Peace River Audubon Society Board co-authored the booklet. She is an active bird monitor and sea turtle patroller in Sarasota and Charlotte Counties and holds a high school wildlife biology teaching certificate. She is a delegate to Everglades Coalition and Audubon Regional Conservation Committee. She mentors high school and FGCU students. She has ten years combined experience as a California Elephant Seal Docent and Nashville Zoo Keeper. She loves to travel to wilderness areas like Alaska, Uganda-Rwanda Gorilla Mountains, Kenya-Tanzania, South Africa, Botswana, Costa Rica, Trinidad and Aruba. She can be reached by email at bctrackwalker@gmail.com.

Linda Soderquist is a retired elementary teacher who has embraced a second career as a watercolor artist. She regularly exhibits her work in Florida galleries and art festivals. Her love of the outdoors was nurtured during the many years she lived on the bridgeless barrier Little Gasparilla Island working with shorebird protection and sea turtle conservation. Venice Area Audubon Society provides her with the opportunity to create and coordinate education programs for second graders in twelve local schools and supervise field trip activities to the Venice Rookery. Visit her website www.LindasIslandArt.com to see her watercolors of birds, landscapes, and beach scenes. You can reach Linda at linist@hotmail.com.

Birds Talk Plants Listen



Birds talk by making alarm calls when cats come near them. Birds also talk with songs. They sing songs to find each other and to protect their homes. Each kind or specie of bird has its own song. Usually the male bird teaches the young how to sing the song before they leave the nest. He teaches the song by singing it over and over again. Scientific experiments have shown that playing music for plants promotes faster and healthier growth. The tree where the bird sings and all the plants near him feel the beats from the song. Those beats spark the plant to grow. There are many ways that birds help plants and plants help birds. The leaves below have thoughts about how plants and birds are interdependent.

Put the correct idea in the right column.

Plants Help Birds

Birds Help Plants



How Plants Reproduce

Plants have many ways to reproduce (make new life). Young plants get started from:



Seeds



Cones



Spores



Bulbs

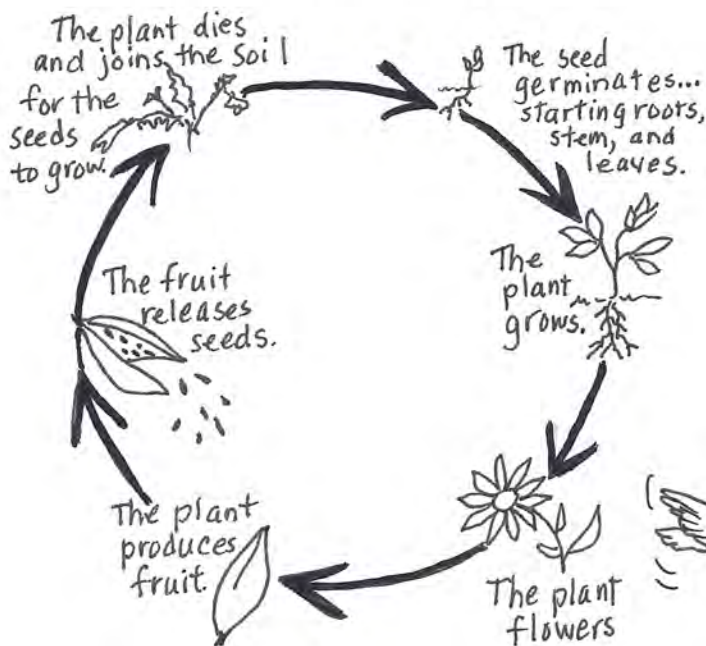
Fruits have **seeds** inside to start new life. A seed gets into the soil. Then rain dampens the soil so that the seed can go deeper for protection from creatures that eat seeds. The water in the soil soaks into the seed and softens it. The seed swells to start a new stage. It **germinates** (starts a root, stem & leaves). The plant produces **flowers** which mature into fruit. Some plants have beans or nuts that act like seeds.

Conifers are plants that produce **cones**. They have thin leaves called needles. Cones have seeds or nuts inside just like fruit. Birds open the cones to get to the seeds. Fire can also open cones. A few seeds escape into the soil. Red Cedar, Bald Cypress and Pine are a few of Florida's native trees.

Mushrooms, ferns and moss reproduce by making tiny **spores**. Spores can germinate like seeds. This plant group has complicated reproduction ways. Florida's Spanish Moss is misnamed because it is not really a moss. It is a flowering plant with tiny flowers.

Onions, daffodils and tulips produce storage sacks called **bulbs** that can be planted in soil to make new plants. Other plants like potatoes create buds that act like blubs. If your plant a potato with buds, it grows into lots of new potatoes. Sweet potatoes can reproduce by growing tubers from their roots. Tubers act like long bulbs.

Flowering Plant Life Cycle



Unscramble the letters to form words

Hints are highlighted in the above squares

minegtraes _____

lubbs _____

ressop _____

tuirfs _____

wersolf _____

senco _____

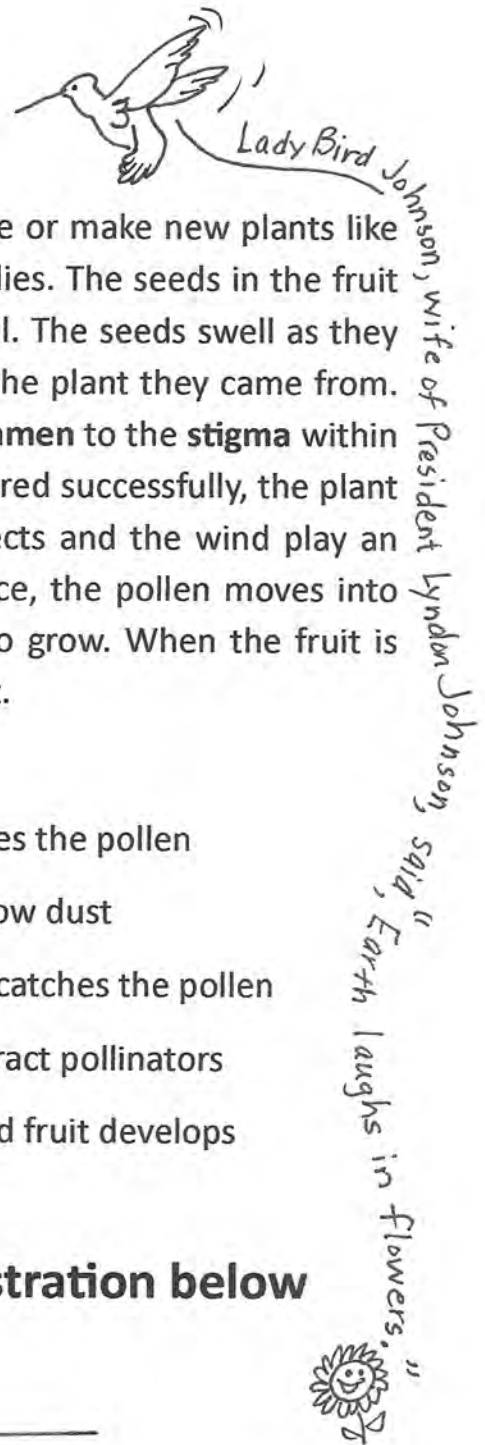
deses _____



Why do I hum humm hm hmm?
I don't know the words!

FACT: I make that humming with my fast moving wings!

Fascinating Flowers

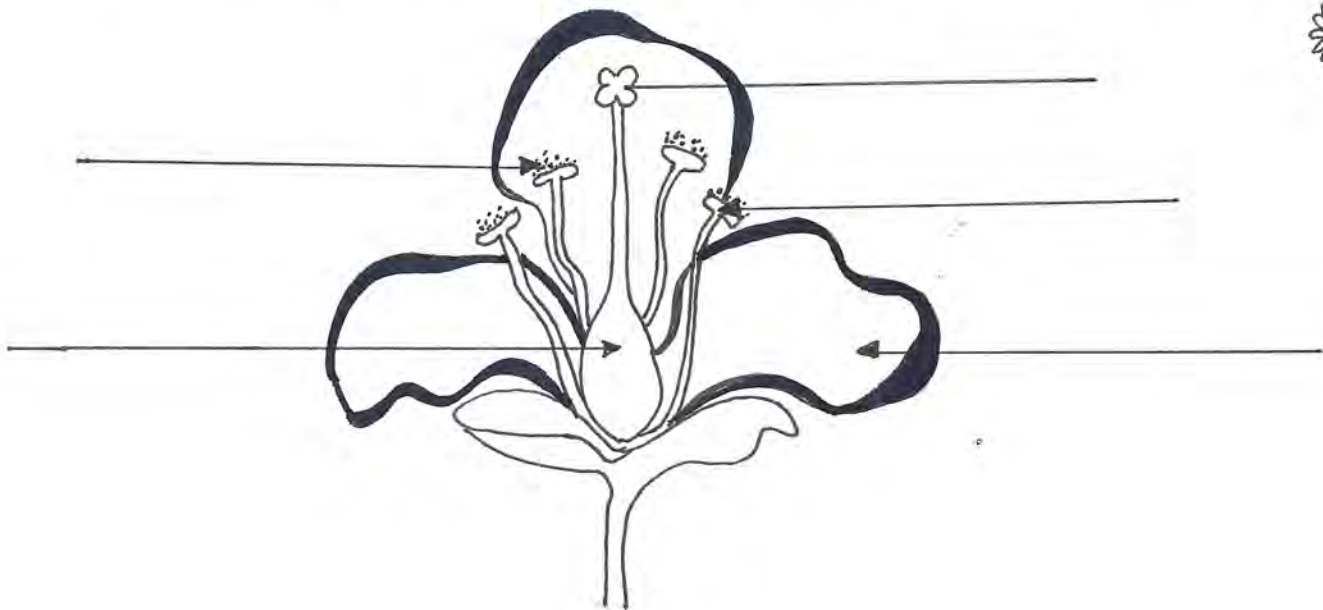


Fruit-eating birds can help flowering plants to reproduce or make new plants like themselves. Birds eat the fruit which passes through their bodies. The seeds in the fruit are moved to another place by birds and dropped into the soil. The seeds swell as they are watered by rains and begin to grow into new plants, like the plant they came from. Flowers produce **pollen** which needs to be moved from the **stamen** to the **stigma** within the same flower or another flower. If this pollen is not transferred successfully, the plant cannot reproduce. Pollinators like nectar drinking birds, insects and the wind play an important role in moving pollen. Once this transfer takes place, the pollen moves into the **ovary**, the flower **petals** drop away and the fruit starts to grow. When the fruit is mature or fully grown, it contains the seeds of a newborn plant.

Parts of a flower

- Stamen** – small stalks with an enlarged tip that produces the pollen
- Pollen** – very tiny grains that often appear like fine yellow dust
- Stigma** - sticky part on top of a large middle stalk that catches the pollen
- Petal** – specialized leaves with scents and colors to attract pollinators
- Ovary** – chambers where the pollen is transformed and fruit develops

Label the parts of the flower in the illustration below



Why Put Native Plants Back into Yards

Birds have been using Florida "native" plants for thousands of years. The word **native** comes from an ancient word that means born. Birds and native plants from the same place started to live together and adapted to one another. Birds depend on native plants for food, shelter and nests. Florida's native plants are best for the birds that live here and for birds that have always migrated here during the winter for thousands of years.

Non-native plants are often seen in **landscapes** of our towns, cities and backyards. They are chosen for colorful features so they are called **exotic ornamentals**. Many native plants are seen as weeds and are replaced by foreign plants with showy flowers or non-native lawn grass that must be watered, treated for unwanted insects, and must be mowed. Some of these foreign plants are **invasive** plants that spread fast and take over neighboring landscapes. Invasive plants can quickly replace native plants by outcompeting for the same resources. In addition, some exotic ornamentals may need to be treated with **pesticides** or **fertilizers**. They often need extra water to survive in the dry season of Florida. When we bring these plants from other habitats, it upsets our native **ecology**. Many soil critters like worms and pill bugs do not like the roots of exotics. These exotic ornamental plants do not attract the native insects that birds know. Insects and birds do not know how to use the strange berries, fruits and tough thick grass. Birds need the right insects and caterpillars to feed their chicks and themselves. They need to know how to avoid poisonous ones. Birds learn from their parents where to look for the right insects. Insects like butterflies prefer their favorite native plants to lay eggs. These plants host the caterpillars that hatch from the eggs and eat particular leaves of native plants for nourishment. Native plants host spiders, beetles, grubs and moths that birds recognize and normally eat. Birds also have learned to forage in soil or in tree bark for grubs or worms found in native sandy Florida soils. If birds forage in the tightly woven sod lawns, they can get tangled or worse - poisoned by pesticides or **herbicides** which are used on lawns to kill weeds.

Finally, the most important reason to put native plants back into schoolyards and backyards is for **sustainable** purposes. Our underground water must be protected from harmful chemicals used in treated landscapes. During the rainy season, fertilizers wash away from lawns and load nutrients into our streams that flow into the Gulf. Excess nutrients can feed red tide events that kill our fish. Native plants are best to sustain life by maintaining a balanced ecology and by meeting long term needs for children of the future.

Use your own words to define important vocabulary words
Use the glossary inside the front cover of the booklet for hints

Native _____
Landscapes _____
Exotic ornamentals _____
Invasive _____
Pesticide _____
Fertilizer _____
Ecology _____
Herbicides _____
Sustainable _____



Suck up this knowledge like
I drink nectar with my
long tongue!

Bonus: Use the underlined letters in the words to finish the sentence below.

Florida _____ plants
_____ the _____ idea
for a sustainable future.

Spread it around like
wall paper



Birds Shelter and Nest in Native Plants

plant a tree not only for yourself but also for the future.

Small birds depend upon plants for protection from hawks. They can fly behind dense leaves and hide among thick branches. Shadows of leaves blend their silhouettes into the background. Native plants camouflage birds and their nests in thick foliage so raptors, owls and crows cannot easily find them. Birds fly to the top of tall native trees so that they can look out for predators or sing to declare their territories. Alert calls of birds tell fellow birds that there are predators around and to be careful or to take cover. Songs help birds locate each other when they want to attract a mate. Father birds need to teach the hatchlings how to sing their song. Branches are good places for perching birds to rest or preen (clean their feathers). Sometimes they pick shady places when it is hot and sometimes they pick sunny spots to warm up on a cold morning. Thick bushes protect them from heavy winds and rain. Native plants are used for nests. Some woodpeckers prefer old dead trees that are still standing while others like living trees to drill cavities for homes.

Draw a line from the nest description in the boxes to the nest in the picture.

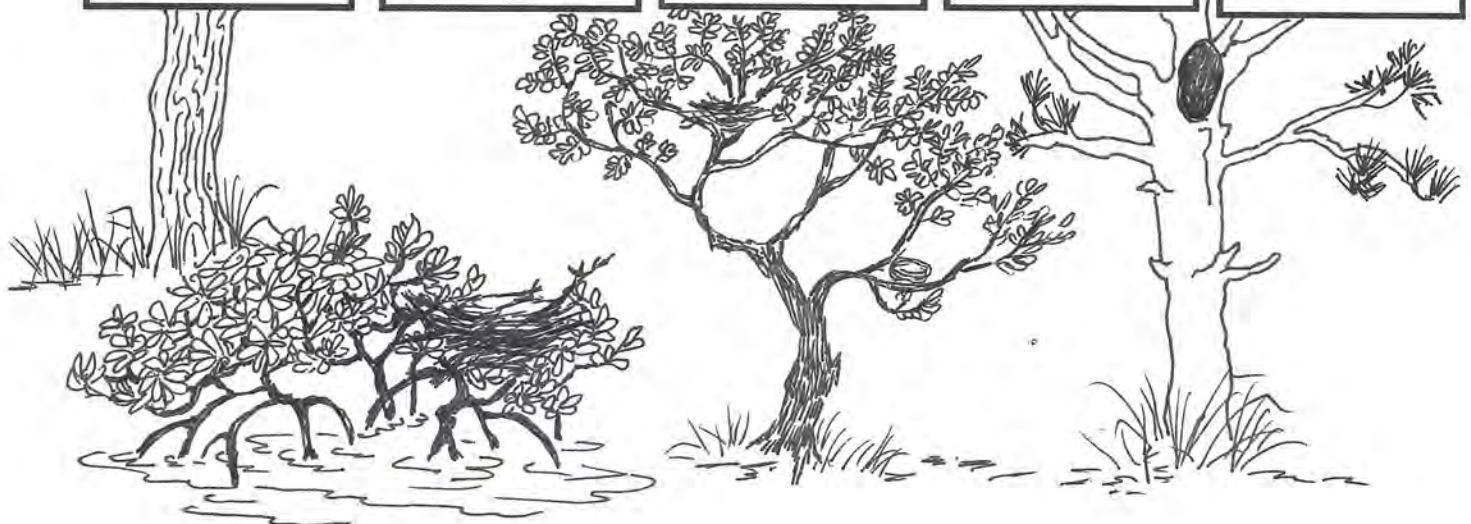
Mockingbirds use twigs to build their nest in the boughs of Laurel Oak trees. The twigs become the foundation in the shape of a bowl. Male birds start the nest, then females line the bowl with soft grasses.

Hummingbirds start with moss or lichens. Females use down from a dandelion and then line the tiny cuplike nest with soft spiderweb silk. She takes a week to build and lays 2 jellybean size eggs.

Wetland birds like egrets and herons build large stick nests in colonies on an island. They are isolated from many predators. Camouflage isn't as important with close neighbors on the lookout who live in the colony.

Woodpeckers, wrens, bluebirds, owls, flycatchers, chickadees and kestrels nest in holes or cavities of native trees. Sometimes they drill holes in snags (dead trees) that haven't fallen.

Eagles build giant nests high in the tallest, strong trees. They can take 3-5 months to build. Eagles mate for life and use the same nest for several years by adding more branches or repairing it.



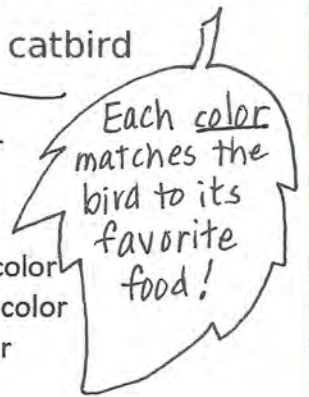
Native Plants for Birds Word Search

w p f q d f c m a p p y c b a k o i c g
 m p z m b f o j f v t t g r k j o s b d
 o e k c d e m a f b a k q n y y o z m s
 c m k b o r a e k a u b u o c x k a r t
 k u m n v r e u c t t s c c v y x f r x
 i l w x x m a m t z r n r l r p t p k h
 n b y o p s u l x y v e i d h q x d s f
 g e r v o m a h h d b e e j m r r c p i
 b r s a x d l n l o r e b g h f e a a d
 i r o m w s p s d y n y r z r u v t r a
 r y r d n r y e j o g e x r l u j b r l
 d t i b r x w j c p a r y h y m b i o x
 i r o f z k l e p k y k a s p o l r w w
 v e l w c e n h u w e e a s u l i d d l
 l e e s e a g r a p e r t c s c j v c d
 w h u m m i n g b i r d q t o s k b l n
 d a m l w a r b l e r m g q j r e l d r
 e o z q p w p c f a w x i z f n n e e c
 l j v o f l s c r u b j a y w o t d d f
 p b k e b c i s x t a n a g e r l q z a

coralhoney-suckle	muhlygrassseed	mulberrytree	sandoakacorn
mockingbird	hummingbird	oaktreegrub	woodpecker
beautyberry	flscrubjay	seagrape	warbler
tanager	sparrow	dove	catbird
oriole			



Circle or highlight hummingbird and Coral Honeysuckle in red color
 Circle or highlight woodpecker and oak tree grub in brown color
 Circle or highlight FL. Scrubjay and Sand Oak acorn in blue color
 Circle or highlight warbler, sparrow and Muhlygrass seed in green color
 Circle or highlight catbird, mockingbird and Beauty Berry in purple color
 Circle or highlight oriole, tanager and Mulberry Tree in orange color
 Circle or highlight dove and sea grape in a gray color



In 1953 Florida chose a state tree — The Sabal Palm —

In 1991 Florida picked the Tickseed (*Coreopsis floridana*) for its State Wildflower.

**Coreopsis floridana* is endemic to Florida.

17 years later it was put on Florida's flag!

Adaptive Birds



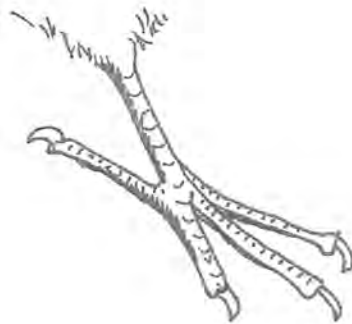
Color the Berries, Leaves and Feet

plants are
berry pretty!

Passerine Feet

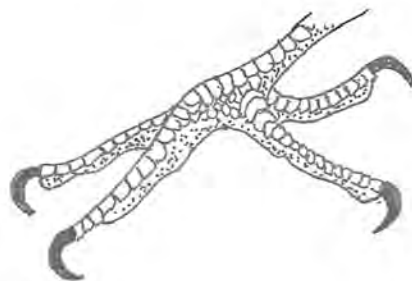
Perching Feet to Pluck a Berry

- ❖ Passerine birds have perching feet used to help them land on branches.
- ❖ Passerine feet have three toes that point forward and one toe pointed backwards. This makes it easy for a bird to get a firm grasp on the branch.
- ❖ Many native plants have berries that attract Passerines.
- ❖ Omnivores are birds that vary their diet from insects which hatch in spring and summer and then eat berries when they ripen in the fall.



Zygodactyl Feet for Climbing Trees

- ❖ Zygodactyl feet have two middle toes pointed forward and two outside toes pointed backward.
- ❖ Woodpeckers and sapsuckers have this kind of foot so they can hold on to trunks of oak and pine trees
- ❖ Yellow-bellied Sapsuckers drill holes in a straight row searching for tree sap. They prefer Red Maple, American Holly, Pine and Live Oak Trees. When the sap runs down the trunks, it attracts insects that both birds like to eat.



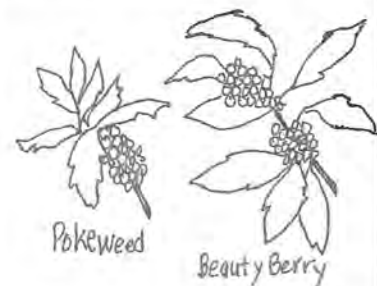
Red berries grow on Holly, Wild Coffee, Wild Strawberry and Hawthorne plants. They are favorites of mockingbirds and robins. Bluebirds and finches like berries of the Sumac bush whose fragrant leaves turn red & purple in the fall.



White waxy berries appear on Wax Myrtle bushes in late summer through winter for catbirds and swallows. Yellow-rumped Warblers dine on whitish-blue Bayberries. Grosbeaks, waxwings, towhees and thrushes search for Snowberries.

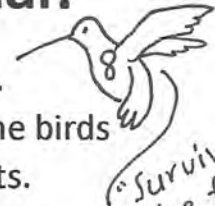


Blue and purple colored berries mature on pokeweed, elderberry, mulberry, blackberry, and Beauty Berry native plants. Crows, jays, wrens, finches and sparrows like these berries.



All Beaks Are Not Created Equal!

Birds have beaks or bills adapted for the different food that they eat. Think about the varied kinds of food that birds eat. Even though some birds don't feed on plants, these birds eat organisms that depend on plants.



*"Survival of the fittest,"
Charles Darwin*

Put the letter of the tool in the box with the bird beak.

Ducks have long flat bills that filter food from water.

Cardinals, finches, and grosbeaks have strong cone-shaped beaks to crack seeds and nut shells.

Hawks and owls have strong hooked beaks to catch prey or tear meat.

Herons and egrets have long probing beaks to search for food in wetlands.

Meadowlarks and Robins have pointed beaks that can grasp insects or pull worms from the ground.

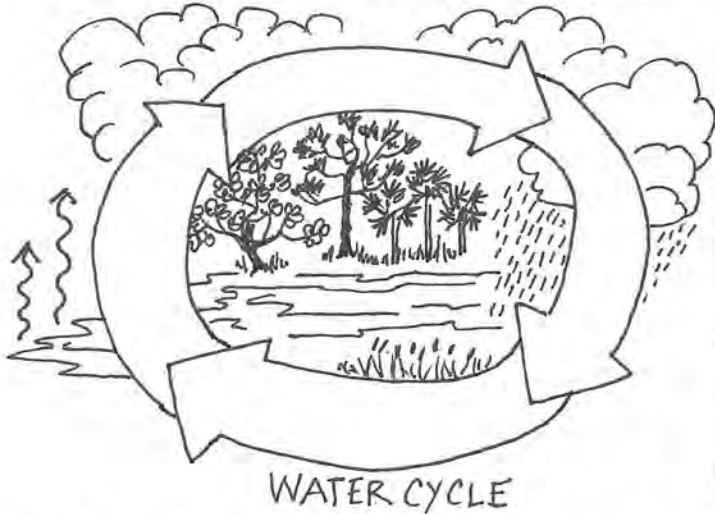
Hummingbirds have long tubular beaks used to drink nectar.

Swallows and flycatchers have short, thin pointed beaks to catch insects on the fly by pinching the top and bottom together to trap the insect.

Woodpeckers have strong bills to bore holes in wood, bringing out insects with their long sticky tongues.

Tools	
A Straws	
B Ice Pick Drill	
C Tweezers	
D Needle-nosed Pliers	
E Nutcracker	
F Strainer	
G Strong Pliers	
H Grabber	

Water Cycle & Soil Ecology

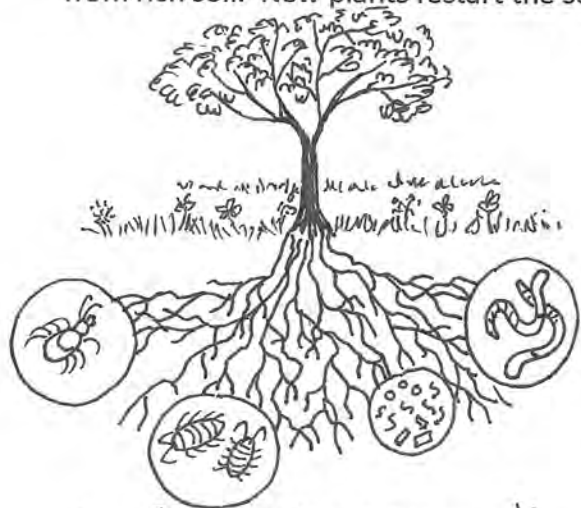
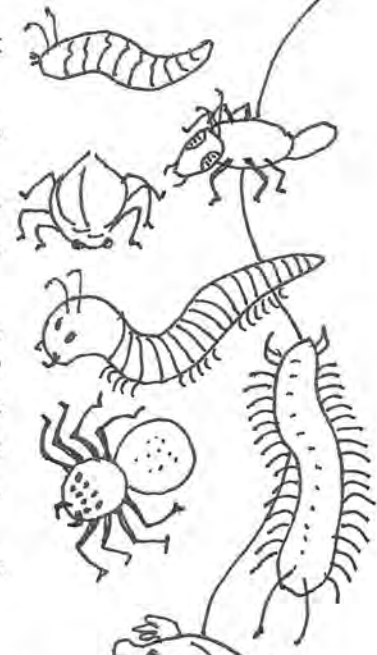


Activity: Write the highlighted word describing a water cycle action in the correct arrow

- Precipitation** is rain, sheet, hail or snow
- Collection** is when water fills ponds, canals, and rivers that flow into the ocean
- Evaporation** is when heat from the sun heats water like a boiling pot that steams or turns the liquid into water vapor in the air
- Condensation** is when water vapor cools high in the sky, forming clouds

Soil Ecology is the study of how things in the soil act together. Soil is a cycle that continues in a circle like the Water Cycle.

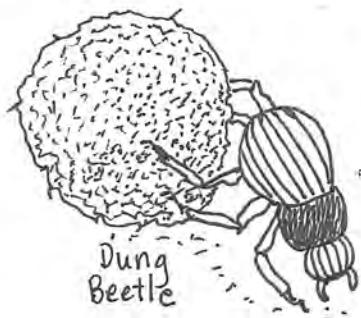
- The ground is a place to live for creatures like worms, beetles, ants, millipedes, spiders, moles and microbes (tiny living things like bacteria).
- Plant roots take nutrients from the soil for energy. Leaves take carbon dioxide from the air and release oxygen. Roots keep soil in place and stop storm runoff.
- Soil stores carbon dioxide and filters water.
- Plant life dies and becomes loam. Loam is a loose mixture of dead leaves, stems and roots of plants that collect on top of the hard packed sand and clay of earth. When it rains, the water seeps down and mixes up these materials into a compost that filters into the dirt and creates rich soil. We can create more soil by mixing dead yard material with food wastes to make compost. This is cheaper than buying fertilizer and keeps the water cycle cleaner.
- Seeds, nuts, spores and bulbs germinate with new roots, stems and leaves from rich soil. New plants restart the soil cycle & the circle goes around again.



SOIL ECOLOGY
Soil contains many kinds of creatures, Soil has diversity!

Dung Beetle Story Roll with our Soil Hero Rainbow Scarab

He pushes poo into a ball with his hind legs and rolls it into his cave standing on his front legs. Eggs are deposited inside. The ball supplies nutrients for the eggs that mature into grubs. He cleans the yard, then he breaks up packed dirt, aerating the soil. Seeds that birds drop will thrive in the leftover ball nutrients within the cave of this beetle.



...but the early worm gets eaten!

Help the Mockingbird get to his nest to help his mate. He must avoid predators, protect his food source from competing neighbors, and find insects for his chicks.

Mockingbird (mimus polyglottos)

mmm... insects to eat

Competing neighbors

Catbird

Brown Thrasher

Food!

Caterpillars

He escapes from a hungry predator...

Great Horned Owl

Blackberry bramble

A Grasshopper Meal

Sowbugs

Hawthorn tree

He sings all night to keep their territory.

seagrapes

Nest lining materials...

A spider! Yum!

A predator that he must avoid!

snail

crayfish

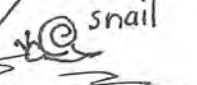
Nice place for a home...

- food
- shelter
- water

Sharp Shinned Hawk

In winter Mockingbirds eat berries and fruit.

Mockingbird Maze

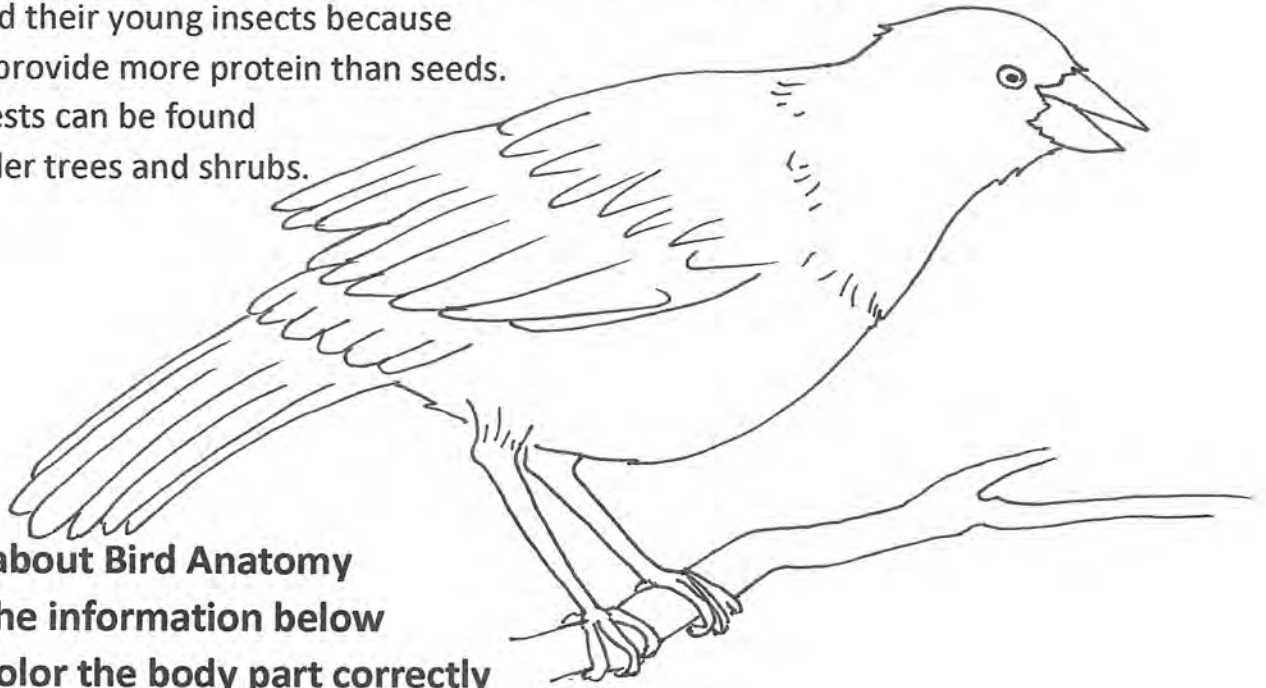


Painted Bunting

Painted Buntings are members of the Cardinal family. The **plumage** (feathers) of the male is colorful. Plants are an important food source for the Painted Bunting.

They feast on seeds from grasses and weeds. Painted Buntings also feed their young insects because insects provide more protein than seeds.

Their nests can be found in smaller trees and shrubs.



Learn about Bird Anatomy
Read the information below
Then color the body part correctly

Beak: The mouth → Bright Yellow

Eye: On the head to spot food → Black outer circle with orange inside

Crown: Top of the head → Bright Blue

Throat: Neck beneath the beak → Red-Orange

Cheek: Part beneath the eye → Bright Blue

Eyebrow: Above the eye → Bright Blue

Nape: Back of the neck → Bright Blue

Tail: Feathers at the body's end → Olive Green and dull Orange

Rump: Lower backside → Bright Red-Orange

Vent: Area under the rump → Bright Red-Orange

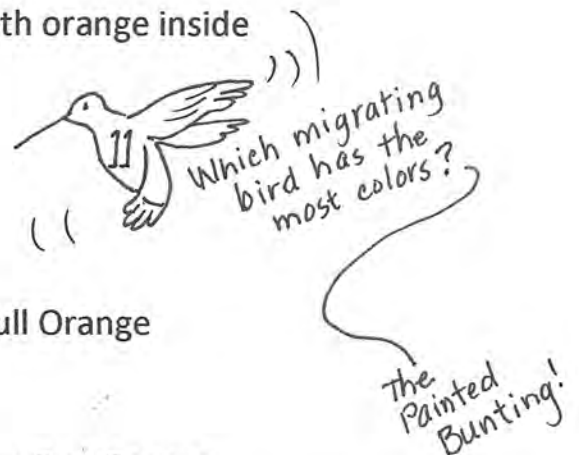
Upper Tail Coverts: Tail feathers closest to the body → Dull Orange

Flight Feathers: On the wings → Dull Orange close to the body, ends Yellow and Brown

Breast: Chest area below the throat → Red-Orange

Back: Between the nape and the rump → Bright Yellow-Green

Bonus - Label the body parts.



How to Draw and Identify Birds

1. Start with two ovals
in this position.

2. Add wings, beak,
and tail.

3. Add an eye and feet.
Draw in details.

My Bird Illustration

Artist name:

Bonus Activity: Look in a bird field guide for a favorite bird.

Change the drawing details to make an illustration of your favorite bird.

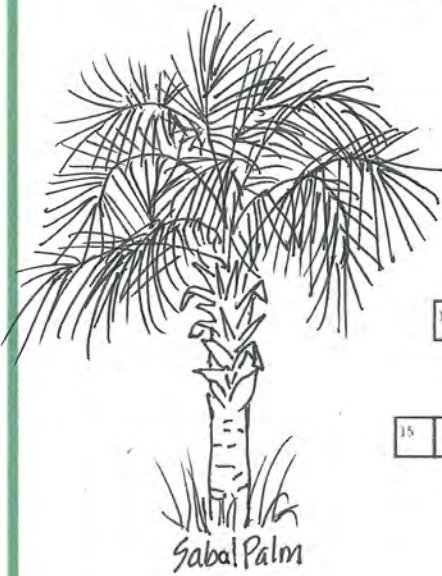
Crossword Puzzle

Use these words

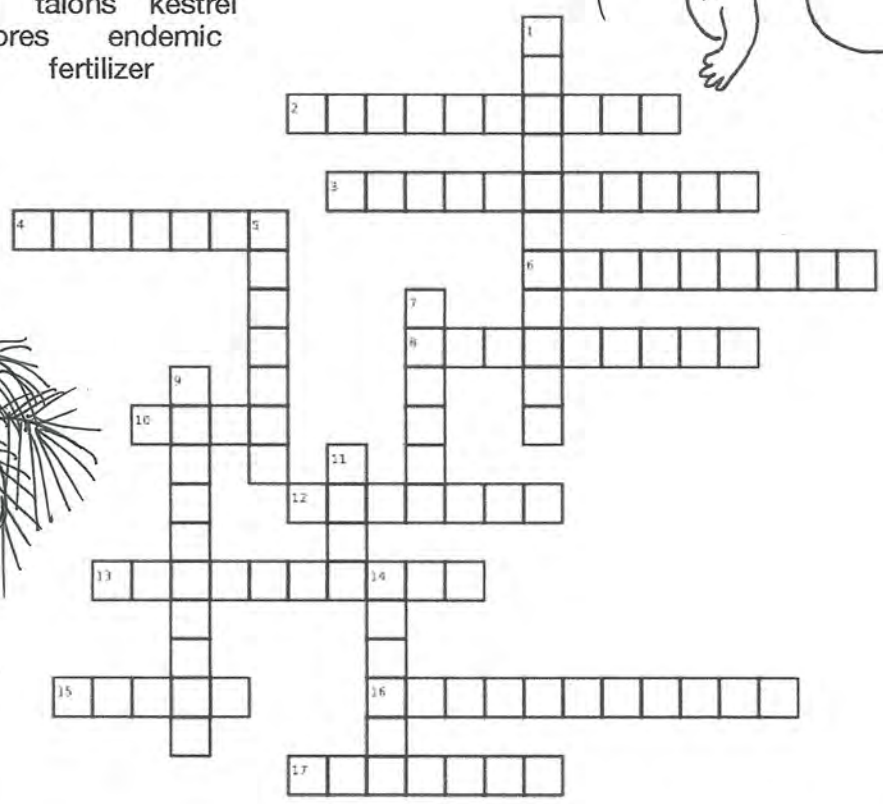
sustainable mockingbird water beak
 zygodactyl pollen cuplike nape
 germinate rainbow talons kestrel
 ornamentals omnivores endemic
 silhouette fertilizer



What is the State Bird of Florida?



Sabal Palm



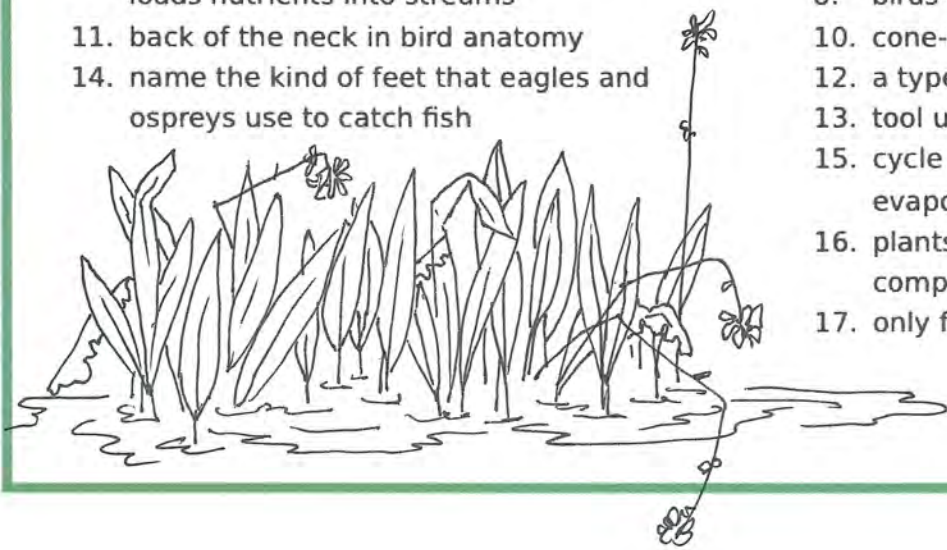
The Mockingbird

Down:

- 1. Florida's state bird
- 5. nest shape for hummingbirds
- 7. fine yellow grains that go from stamen to stigma in a flower
- 9. substance that helps plants grow but often loads nutrients into streams
- 11. back of the neck in bird anatomy
- 14. name the kind of feet that eagles and ospreys use to catch fish

Across:

- 2. woodpeckers feet for climbing tree trunks
- 3. meeting present and future needs
- 4. Florida Scrub Jays only live in one place
- 6. process when water swollen seeds grow roots, stems & leaves
- 8. birds that eat insects and seeds
- 10. cone-like bill for cracking seeds
- 12. a type of scarab dung beetle
- 13. tool used to identify birds
- 15. cycle of precipitation, collection, evaporation, condensation
- 16. plants that many commercial landscaping companies use
- 17. only falcon that nests in tree cavities





How to Recognize Birds

Why did the 5th grader toss a stick of butter out the window?

Identifying tools for birds are the same things you use when you see your friends in the distance. You look at size, color, shape or **silhouette** and you listen to the sounds. You ask what, where, when, why and how questions. You look for something familiar or something unique that makes your friend different from the crowd. It is the same thing when looking for a bird.

Use the description of the Florida Scrub-Jay below to describe and answer the questions.

- Size
- Color.....
- Shape.....
- Silhouette..
- Sound.....



- What plant does the bird use?
- Who does the bird look like?
- When does the bird feed?
- Where does the bird hang out at night?
- Where does the bird nest?
- What does the bird eat?
- How does it use its beak & feet?
- How does the bird fly?
- Ask around if anyone has seen the bird?
- Who are its enemies?
- When does it make a sound?

Florida Scrub-jay

He wanted to see a butterfly!

The Scrub-jay is a medium sized, gray and blue bird with a round head. It is a passerine bird that perches in an upright silhouette position like a mockingbird. It has a harsh call instead of all the songs that the mocking bird sings. Female jays make a rapid call while bobbing up and down and looking up when alarmed. The jays are cooperative breeders which means that they have family groups that help rear new chicks. The bowl shaped nest is made of twigs and palmetto fibers in springtime. Scrub-jays are territorial birds that do not migrate.

One member of the family acts like a lookout and flies directly with steady wing beats to the top of trees to give danger warning calls when Birds of Prey come into the habitat. Crows and Blue Jays eat eggs. Birds of Prey like Red-tail Hawks and Eastern Screech Owls attack hatchlings in addition to Coopers Hawks, Sharp-shinned Hawks and Merlins who attack adults.

These birds like to hang out in scrub habitats near Sand Live Oak trees which are small to medium sized evergreen trees. Florida Scrub-jays love the smaller acorns of this scrubby native plant and are known to bury them for storage. They hold acorns with their feet and use their chisel-like beaks to crack the shell. Jays are omnivores and eat acorns, seeds, frogs, insects, baby turtles and snakes. It is the only endemic bird species in our state. Florida Fish and Wildlife, Florida Audubon and local volunteers use a group called Jay Watch to protect the species. They do surveys to keep track of this vulnerable species.

Project Guide for Students - Educators - Parents

Florida Friendly Landscapes and Green Schoolyards

Excerpts from Guide to Plant Selection & Landscaping Design (copyright 2010 U. of FL)

The Florida Yards and Neighborhoods Handbook based on UF/IFAS science recommends Nine Florida-Friendly Landscaping principles:

1. "Right plant, right place" which means matching plants with site conditions based on USDA zones, water and light requirements, soil makeup and conditions, salt and wind tolerance and the natural ecosystem. If the plant is well-suited to the site, less irrigation, fertilizer, and other treatments will be required.
2. Water efficiently. Prevent automatic irrigation during periods of sufficient moisture. Only water when plants show signs of wilt, preferably in the early morning. Overwatering can lead to pest infestation and higher water bills.
3. Native plants do not require purchasing fertilizer.
4. Mulch with organic matter instead of fertilizers protect soil erosion, maintain moisture, inhibit weed growth, improve soil structure and aeration. Use organic pesticides or herbicides.
5. Plant to attract native birds, bats, insects, and other creatures that diversify the yard ecology. Plants that supply berries, seeds and bird eatable insects are encouraged. Bat and bird houses, and water sources like bird baths or ponds work well. Increase vertical layering in landscaping plans.
6. Manage pests and invasives ecologically with low toxicity. Plant resistance should be studied.
7. Recycle yard waste by compost or mulching.
8. Manage stormwater runoff with porous pavers, rain barrels, cisterns, rain gardens, swales, and berms so water percolates into the ground or is captured for later use.
9. Protect the watershed and waterfront so that excess nutrients are contained in the wet season. Create a ten foot maintenance-free area from any waterway which means a no-mowing zone and no-toxic treatments.

Choices that you make can have more far-reaching consequences than you might imagine.



What happened to the naughty child at school?

Our Favorite Schoolyard Landscaping Websites and Links

Green Schoolyards America greenschoolyards.org

Link to Living Schoolyard Activity Guide US Edition for Elementary Schools - Loads of Kids Activities
http://ecoschools.com/Assets/Documents/GSA-LSYM_2018sc.pdf (may take a while to load)

Aldo Leopold Nature Center in Monona, Wisconsin (author of A Sand County Almanac)

AldoLeopoldNatureCenter.org

*The principal
egg-spelled the
child!*

Backyard Landscaping Links & Books

Peace River Audubon Society Yard Certification - Plants for Birds and Butterfly Gardens

Plant native plants for birds or butterflies and provide a water source to get your sign.

<http://peacriveraudubon.org/have-your-yard-certified-as-a-bird-and-butterfly-sanctuary/>

More Native Plant Resources

Atlas of Florida Plants: www.florida.plantatlas.usf.edu

Plant Real Florida <https://www.plantrealflorida.org>

Florida Association of Native Nurseries current information on native nurseries with a MAP of retail nurseries <https://www.plantrealflorida.org/professionals/>

Florida Wildflower Foundation website www.flawildflowers.org

webinar <https://flawildflowers.org/tag/webinar/>

school grants for seedlings <https://flawildflowers.org/grants/#seedlings-for-schools>

Florida Association of Native Nurseries www.fann.org

Florida Exotic Pest Plant Council - Invasive Plant Lists <https://www.fleppc.org/list/list.htm>

Mangrove Chapter of FL Native Plant Society <https://mangrove.fnpschapters.org/resources/links/>

Osorio, R. 2001 A Gardener's Guide to Florida's Native Plants 345pp Book

UF/IFAS The Florida-Friendly Landscaping™ Guide to Plant Selection & Landscaping Design

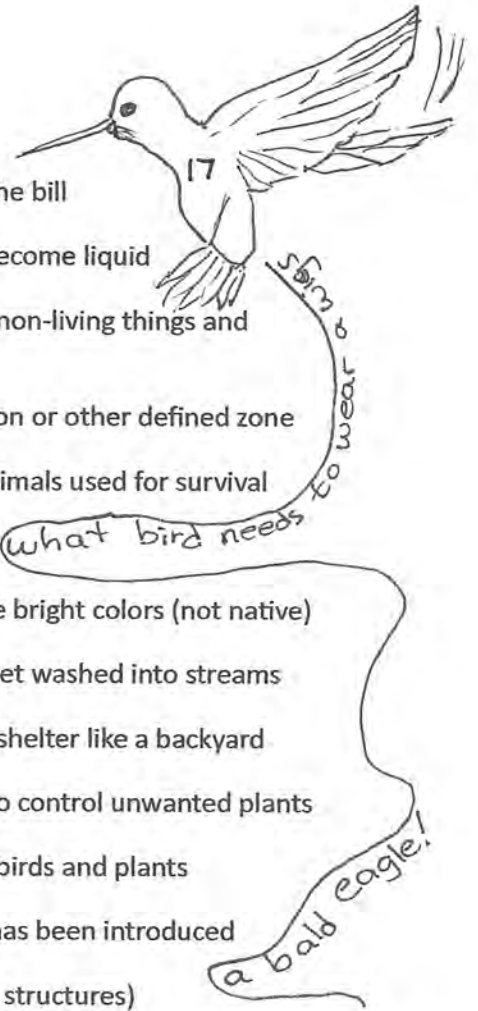
Venice Area Audubon Society <https://www.veniceaudubon.org>



Let your
dreams fly!



Glossary



Beak - hard extension from the face of a bird used for eating, also called the bill

Condensation - process where water vapor (steam) collects in clouds to become liquid

Ecology - study of how things that live in the soil react to other living and non-living things and how they rely on each other

Endemic - a plant that lives only in a particular location, habitat type, nation or other defined zone

Environment - All surroundings including the air, soil, water, plants and animals used for survival

Evaporation - the sun heats up water and turns it into vapor or steam

Exotic Ornamentals - foreign decorative plants with attractive features like bright colors (not native)

Fertilizer - chemicals that provide nutrients for plants to grow which can get washed into streams

Habitat - a place that a plant or bird lives which provides food, water and shelter like a backyard

Herbicides - commonly known as weedkillers, chemical substances used to control unwanted plants

Interdependence - when two things help each other in a relationship like birds and plants

Invasive - any nonnative species that disturbs the ecosystems in which it has been introduced

Landscape - visible features of an area of land (both natural or man-made structures)

Native Plants - life forms including grass, trees, flowers, bushes, ferns & mosses that evolved together and have adapted to the soils, climate, animals, insects and other plants in a habitat

Nutrient - a substance that is needed for healthy growth, development, and functioning

Ovary, Stigma & Stamen - parts of flowers: stamen produces pollen, stigma catches pollen, ovary is container part of a plant where pollen meets egg cells and grows into fruit (usually enclosing seeds)

Passerine - a category of birds that can perch (includes more than half of all bird species)

Pesticides - a chemical that is used to kill pests or prevent unwanted living entities from growing (can be harmful to humans, animals or the whole ecology)

Pollen - very tiny grains produced by the stamens of a flower that usually appear as fine yellow dust

Precipitation - small droplets of water join together in the clouds until they become too heavy and gravity pulls them down to earth in the form of rain, snow, sleet or hail

Bird of Prey - predatory large bird that hunts and kills small birds, fish, mammals, lizards, and insects (some are raptors who catch their prey with large clawed feet, called talons)


Sustainable - meeting the needs of the present without compromising needs of the future

Zygodactyl feet - a pattern of birds feet to climb tree trunks with 2 inside toes pointer forward and two outside toes pointed backwards, commonly on woodpeckers



It is increasingly clear that much of our wildlife will not be able to survive unless food, shelter, and nest sites can be found in suburban habitats. And because it is we who decide which plants will grow in our gardens, the responsibility for our nation's biodiversity lies largely with us. Which animals will make it and which will not? We help make this decision every time we plant or remove something from our yards.

— Doug Tallamy,
Bringing Nature Home, 2007



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