



Okaloosa County, FL Biodiversity

This 28-card deck covers common and iconic species of the Florida panhandle, many of which have been observed in schoolyard bioblitzes. It was designed for classroom activities in classification, ecology, and adaptations, which can be found at: education.eol.org/lesson_plans

This card deck has been developed as part of the Okaloosa SCIENCE project, a collaborative STEM education grant for the Okaloosa County School District in Florida. The goals of this project include enhancing scientific literacy, connecting to place, and building community by engaging in hands-on activities.

Find this card deck and more at:
education.eol.org/species_cards



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Title Image Credit: Shih LC CC-BY-SA

Project Description

Blue Jay *Cyanocitta cristata*

Birds



Okaloosa County, Florida
+ Urban Habitats

OMNI
Foodweb Role

Wingspan	34-43 cm
Adult Weight	70-100 g
Lifespan	7 yrs (avg)
Clutch/Broods	2-7; 1/yr
Nest Type	Open cup in tree

LC
IUCN Redlist™

Adaptations + Energy Sources

Physical: Have pouch under tongue to store acorns
Behavioral: Often mimic the calls of hawks

Energy: Seeds, nuts, arthropods, eggs, nestlings

Image: Saforrest CC-BY-SA

Northern Bobwhite *Colinus virginianus*

Birds



Okaloosa County, Florida
+ Hardwood Forested Uplands

OMNI
Foodweb Role

Wingspan	9-12 cm
Adult Weight	140-170 g
Lifespan	8-12 months
Clutch/Broods	7-28; 1-3/yr
Nest Type	Ground

NT
IUCN Redlist™

Adaptations + Energy Sources

Physical: Brown coloration for camouflage in vegetation
Behavioral: Have many calls to direct group movement

Energy: Seeds, acorns, fruits, leaves, arthropods

Image: U.S. Fish and Wildlife Service Headquarters CC-BY

Common Name

Scientific Name

Taxon Group

Food Web Roles

DECO	Decomposer: Energy from dead material
AUTO	Autotroph: Energy from sun, water, CO ₂
HERB	Herbivore: Energy from plants
OMNI	Omnivore: Energy from plants, animals
CARN	Carnivore: Energy from animals
APEX	Apex Predator: Top predator
DETR	Detritivore: Energy from dead vegetation
SANG	Sanguinivore: Energy from blood
MULT	Multiple: Energy from multiple sources

Habitat (where species is found)
+ (indicates species is also found in other habitats)

Species Conservation Status

IUCN Redlist™

International Union for
Conservation of Nature

LC	Least Concern
DD	Data Deficient
NT	Near Threatened
EN	Endangered

NE Not Evaluated

VU	Vulnerable
CR	Critically Endangered
EW	Extinct in Wild
EX	Extinct

Fishes

Bowfin *Amia calva*

Fishes



Okaloosa County, Florida
+ Freshwater Forested Wetlands

CARN
Foodweb Role

Standard Length	31-35 cm (avg)
Adult Weight	975 g (avg)
Lifespan	12 yrs (avg)
Number of Eggs	2,000-5,000; 1/yr
Nest	Sticks

LC
IUCN Redlist™

Adaptations + Energy Sources

Physical: Can breathe air directly from the water surface
Behavioral: Males show paternal behavior with juveniles
Energy: Insects, fishes, crustaceans, amphibians

Image: Phil's 1stPix CC-BY-NC-SA



Coyote

Canis latrans

eol
Mammals



+ Okaloosa County, Florida
Urban Habitats

CARN

Foodweb Role

Adult Body Length 81-94 cm

Adult Weight 7-21 kg

Lifespan 6-9 yrs (avg)

Offspring/Litter 6 (avg); 1/yr

Female Maturity 9-10 months



Adaptations + Energy Sources

Physical: Keen sense of smell for locating prey

Behavioral: Change hunting styles seasonally

Energy: Mammals, birds, snakes, invertebrates, carrion

Image: Franco Folini CC-BY-SA

Field Mushroom

Agaricus campestris

eol
Fungi



+ Okaloosa County, Florida
Urban Habitats

DECO

Foodweb Role

Cap Size 3-11 cm

Growth Habit Central stem

Spore Surface Gills

Cap Color White

Spore Print Dark brown



IUCN
Redlist™

Adaptations + Energy Sources

Physical: Hyphae threads absorb nutrients from food

Reproduction: Gill surface increases spore production

Energy: Absorb nutrients from dead organic matter

Image: Drew Henderson CC-BY-NC-SA

Eastern Fox Squirrel

Sciurus niger

eol
Mammals



+ Okaloosa County, Florida
Urban Habitats

OMNI

Foodweb Role

Adult Body Length 19-43 cm

Adult Weight 800 g (avg)

Lifespan 4-7 yrs (avg)

Offspring/Litters 2-3 (avg); 1-2/yr

Female Maturity 8 months



Adaptations + Energy Sources

Physical: Sharp claws, muscular bodies for climbing

Behavioral: Cache acorns and other nuts for winter

Energy: Acorns, nuts, insects, birds, eggs, carrion

Image: Julian, W.H.

Earthworm

Lumbricus terrestris

eol
Inverts - Annelids



+ Okaloosa County, Florida
Urban Habitats

DET R

Foodweb Role

Adult Body Length 35 cm (max)

Development 4 stages; no molt

Lifespan 6 yrs (avg)

Number of Eggs 1-20; cocoon

Activity Nocturnal



IUCN
Redlist™

Adaptations + Energy Sources

Physical: Bristles on each body segment help grip soil

Behavioral: Move to surface when feel vibrations in soil

Energy: Decaying vegetation, feces, carrion

Image: Malcolm Storey CC-BY-NC-SA

Gopher Tortoise

Gopherus polyphemus

eol
Reptiles



+ Okaloosa County, Florida
Pines/Sandhill

HERB

Foodweb Role

Carapace Length 17-24 cm

Adult Weight 5.5 kg (avg)

Lifespan 40-60 yrs (avg)

Clutch/Broods 5-6; 1/yr

Activity Diurnal



IUCN
Redlist™

Adaptations + Energy Sources

Physical: Stumpy front legs for digging

Behavioral: Dig extensive burrows for rest + protection

Energy: Grasses, flowers, fruits from herbs and shrubs

Image: http://www.birdphotos.com CC-BY

Red-legged Grasshopper

Melanoplus femur-rubrum

eol
Inverts-Insects



+ Okaloosa County, Florida
Pines/Sandhill

HERB

Foodweb Role

Adult Body Length 1.8-2.8 cm

Development Incomplete

Adult Lifespan 45 days (avg)

Number of Eggs 336 (avg)

Wings 2 pairs



IUCN
Redlist™

Adaptations + Energy Sources

Physical: Develop longer wings to disperse

Behavioral: Fly short distances in swarms for forage

Energy: Foliage of forbs and grasses

Image: Armin H. CC-BY-NC



Green Anole

Anolis carolinensis

eol
Reptiles



CARN
Foodweb Role

Okaloosa County, Florida
+ Urban Habitats

Snout-vent Length 4-7 cm
Adult Weight 2-6 g
Lifespan 2-8 yrs (avg)
Clutch/Broods 6-9; 1/yr
Activity Diurnal

IUCN Redlist™ LC

Adaptations + Energy Sources
Physical: Adhesive pads on toes to climb
Behavioral: Males puff up throat sac in mating display
Energy: Insects, other arthropods, mollusks

Image: BJ Stacey CC-BY-NC

Florida Harvester Ant

Pogonomyrmex badius

eol
Inverts - Insects



HERB
Foodweb Role

Okaloosa County, Florida
+ Pines/Sandhill

Adult Body Length 0.6-1.0 cm
Development Complete
Adult Lifespan 2-6 months
Number of Eggs 1,000 eggs/day
Wings 2-pair (queen, mates) Redlist™

IUCN Redlist™ NE

Adaptations + Energy Sources
Physical: Polymorphic workers for specialized jobs
Behavioral: Relocate nest once/ year for sunlight
Energy: Seeds of grasses and forbs

Image: Bob Peterson CC-BY-SA

Humans

Homo sapiens

eol
Mammals



APEX
Foodweb Role

Okaloosa County, Florida
+ Urban Habitats

Adult Body Length 147-181 cm (avg)
Adult Weight Variable
Lifespan 32-84 yrs (avg)
Offspring/Litters 1 or more; variable
Female Maturity 8-17 yrs (avg)

IUCN Redlist™ LC

Adaptations + Energy Sources
Physical: Opposable thumbs, highly complex brain
Behavioral: Long-term care, cooking food, clothing
Energy: Wide variety of plants, animals, fungi

Image: C.K. Koay CC-BY-NC

Sand Live Oak

Quercus geminata

eol
Flowering Plants



AUTO
Foodweb Role

Okaloosa County, Florida
+ Urban Habitats

Height 9.1 m (avg)
Growth Form Tree
Leaf Duration Evergreen
Flower Color Green
Sunlight/Soil Full sun; sandy

IUCN Redlist™ LC

Adaptations + Energy Sources
Growth: Most of tree is underground, regrows after fire
Reproduction: Acorns favored by wildlife, spread seeds
Energy: Sunlight, carbon dioxide, water

Image: Homer Edward Price CC-BY

Longleaf Pine

Pinus palustris

eol
Conifers



AUTO
Foodweb Role

Okaloosa County, Florida
+ Pines/Sandhill

Height 30.5 - 36.6 m
Growth Form Tree
Leaf Duration Evergreen
Flower Color Yellow
Sunlight/Soil Sun; dry, sandy

IUCN Redlist™ EN

Adaptations + Energy Sources
Growth: Develop thick, fire-resistant bark
Reproduction: Seeds grow best on bare soil after fire
Energy: Sunlight, carbon dioxide, water

Image: Mary Keim CC-BY-NC-SA

Marsh Slug

Deroceras laeve

eol
Inverts - Mollusks



HERB
Foodweb Role

Okaloosa County, Florida
+ Urban Habitats

Adult Body Length 1-3 cm
Shell/Mantle Mantle 50% of body
Lifespan 3-5 months (avg)
Number of Eggs 33 (max)
Environment Moist, terrestrial

IUCN Redlist™ NE

Adaptations + Energy Sources
Physical: Self-fertilizes with male and female organs
Behavioral: Can forage underwater + survive for days
Energy: Live and dead vegetation

Image: Jozef Grego CC-BY-SA



Western Mosquitofish

Gambusia affinis

Fishes



CARN
Foodweb Role

Okaloosa County, Florida
+ Freshwater Forested Wetlands

Standard Length 2.8-5.3 cm (max)
Adult Weight 2.31 g (avg)
Lifespan 3 yrs (max)
Number of Eggs 60 live young
Nest Type Variety; shallow area

IUCN Redlist™

Adaptations + Energy Sources
Physical: Fertilization is internal
Behavioral: Kill or injure competition species
Energy: Zooplankton, small insects, larvae, carrion

Image: Wikimedia Commons

Oyster Mushroom

Pleurotus ostreatus

Fungi



DECO
Foodweb Role

Okaloosa County, Florida
+ Hardwood Forested Uplands

Cap Size 4-25 cm
Growth Habit Shelf
Spore Surface Gills
Cap Color White to light brown
Spore Print White to lilac

IUCN Redlist™

Adaptations + Energy Sources
Growth: Utilizes nutrients from host to grow
Reproduction: Animals eat mushroom, spread spores
Energy: Absorb nutrients from trees, decaying material

Image: Biopix CC-BY-NC

Pillbug

Armadillidium vulgare

Inverts-Crustaceans



DETR
Foodweb Role

Okaloosa County, Florida
+ Urban Habitats

Adult Body Length 1 cm (avg)
Development Molts
Lifespan 1.5 yrs (avg)
Number of Eggs 100/yr (avg)
Activity Nocturnal

IUCN Redlist™

Adaptations + Energy Sources
Physical: Back covered in plates that act as armor
Behavioral: Roll body into ball for protection
Energy: Plant litter, seeds, scavenged dung

Image: Stanislav Krejčík CC-BY

Powder-puff Lichen

Cladina evansii

Lichens



AUTO
Foodweb Role

Okaloosa County, Florida
+ Pines/Sandhill

Height 10 cm (max)
Growth Form Fruticose
Longevity 100 yrs (max)
Reproduction Regenerative
Substrate Soil

IUCN Redlist™

Adaptations + Energy Sources
Growth: Fungi structure absorbs water/minerals from air
Reproduction: Fragment regeneration or spores
Energy: Algal cells utilize sunlight, carbon dioxide, water

Image: Seuss CC-BY-NC

Gray Rat Snake

Pantherophis spiloides

Reptiles



CARN
Foodweb Role

Okaloosa County, Florida
+ Hardwood Forested Uplands

Snout-vent Length 130-190 cm
Adult Weight > 1 kg
Lifespan 25-30 yrs
Clutch/Broods 5-27; 1-2/yr
Activity Nocturnal in summer

IUCN Redlist™

Adaptations + Energy Flow
Physical: Sensory organ on tongue detects prey
Behavioral: Climb trees skillfully in search of prey
Energy: Small mammals, bats, birds, eggs, frogs, lizards

Image: Justin Guyer CC-BY-NC

Red-tailed Hawk

Buteo jamaicensis

Birds



APEX
Foodweb Role

Okaloosa County, Florida
+ Urban Habitats

Wingspan 114-133 cm
Adult Weight 0.9-1.5 kg
Lifespan 10-21 yrs (avg)
Clutch/Broods 1-5; 1/yr
Nest Type Pile on tree or cliff

IUCN Redlist™

Adaptations + Energy Sources
Physical: Sharp talons for catching prey
Behavioral: Soar above open areas searching for prey
Energy: Rodents, rabbits, birds, snakes, carrion

Image: Dan Hutcheson CC-BY-NC



Saw Palmetto

Serenoa repens

eol
Flowering Plants



AUTO

 Okaloosa County, Florida
+ Coastal Uplands 

Height 0.6-2.1 m **Growth Form** Shrub **Leaf Duration** Evergreen **Flower Color** Yellow-white **Sunlight/Soil** Shade; sandy soil 

Adaptations + Energy Sources
Growth: Shade-tolerant leaves can live up to 3.5 years
Reproduction: Seeds dispersed by fruit-eating animals
Energy: Sunlight, carbon dioxide, water

Image: Randolph Femmer /life.nbl.gov CC-BY-NC-SA

Slimy Salamander

Plethodon grobmani

eol
Amphibians



CARN

 Okaloosa County, Florida
+ Pines/Sandhill 

Snout-vent Length 6.1 cm (avg) **Adult Weight** 4.2 g (avg) **Lifespan** 5 yrs (avg) **Clutch/Broods** 5-22; 1/yr **Activity** Nocturnal 

Adaptations + Energy Sources
Physical: Male spots turn pink/red during mating display
Behavioral: Become immobile or flip body if disturbed
Energy: Ground-dwelling arthropods, snails, worms

Image: Todd Pierson CC-BY-NC-SA

Southern Toad

Anaxyrus terrestris

eol
Amphibians



CARN

 Okaloosa County, Florida
+ Urban Habitats 

Snout-vent Length 6.5 cm (avg) **Adult Weight** 19 g (avg) **Lifespan** 10 yrs (max) **Clutch/Broods** 2,500-4000; 1/yr **Activity** Nocturnal 

Adaptations + Energy Sources
Physical: Secretes bufotoxin to deter predators
Behavioral: Burrow underground in winter for warmth
Energy: Insects, spiders, and other arthropods; snails

Image: 2010 Matthew Niemiller CC-BY-NC

Spotted Gar

Lepisosteus oculatus

eol
Fishes



CARN

 Okaloosa County, Florida
+ Freshwater Forested Wetlands 

Standard Length 43-49 cm (avg) **Adult Weight** 2,442 g (avg) **Lifespan** 18 yrs (max) **Number of Eggs** 13,000 (avg) **Nest** Bass nest 

Adaptations + Energy Sources
Physical: Two layers of scales for protection
Behavioral: Float on surface of water waiting for prey
Energy: Fish, insects, aquatic crustaceans

Image: User:Raymond/author CC-BY-SA

Squirrel Treefrog

Hyla squirella

eol
Amphibians



CARN

 Okaloosa County, Florida
+ Coastal Uplands 

Snout-vent Length 2.3-3.7 cm **Adult Weight** 0.2-0.5 g **Lifespan** 8.5 yrs (max) **Clutch/Broods** 1000 (max); 1/yr **Activity** Nocturnal 

Adaptations + Energy Sources
Physical: Sticky toe pads aid in tree-climbing
Behavioral: Male attracts female with squirrel-like call
Energy: Small insects

Image: 2010 Matthew Niemiller CC-BY-NC

White-tailed Deer

Odocoileus virginianus

eol
Mammals



HERB

 Okaloosa County, Florida
+ Urban Habitats 

Adult Body Length 150-200 cm **Adult Weight** 57-137 kg **Lifespan** 2-3 yrs (max) **Offspring/Litters** 1-3; 1/yr **Female Maturity** 1-2 yrs 

Adaptations + Energy Sources
Physical: Eyes on side of head to widen field of vision
Behavioral: Males fight for mates during the rut season
Energy: Leaves, stems, flowers, grass, acorns, berries

Image: Averette CC-BY-SA



Wolf Spider
Hogna carolinensis

eol
Inverts - Arachnids



CARN
Foodweb Role

Okaloosa County, Florida
+ Hardwood Forested Uplands

Adult Body Length	1.8-3.5 cm
Development	Molts
Lifespan	1+ yrs
Number of Eggs	100 (est.)
Activity	Nocturnal

IUCN Redlist™
NE

Adaptations + Energy Sources
Physical: Uses venom to subdue prey
Behavioral: Female carries egg sac/young on abdomen
Energy: Insects, invertebrates, small vertebrates

Image: 2014 William Flaxington CC-BY-NC

eol species cards

Adaptation: A physical characteristic or behavior that helps an organism survive in its environment

Brood/Litter: Group of young produced at one time

Carapace: Shell of a turtle or head and thorax of arthropods

Clutch Size: Number of eggs laid in a nest at one time

Complete Metamorphosis: Some insects have a four stage life cycle: egg, larva, pupa, adult

Crepuscular: Active at dawn and dusk

Diurnal: Active during the day

Vocabulary

eol species cards

Habitat: The area an organism lives and can find its resources

Growth Form: Classification of plants as trees, shrubs, herbaceous, and grasses

Incomplete Metamorphosis: Some insects have a three stage life cycle: eggs, nymph, adult

Molt: The act of shedding exoskeleton, skin or feathers as an animal grows

Snout-vent Length: In amphibians and reptiles, the length from tip of nose to tail base (cloaca)

Standard Length: In fishes, length from tip of snout to end of last vertebra

Vocabulary

