

# *Water, Wildlife and Wilderness*

## *Field Studies Program*

at Circle B Bar Reserve



### **Mission**

Polk's Nature Discovery Center will provide hands-on learning experiences in an outdoor setting that engage students in investigating the value of Polk County's natural resources. Through this exploration, students will discover the interconnection of water, wildlife and wilderness; understand their impact on the environment; and foster a sense of personal stewardship towards the environment.

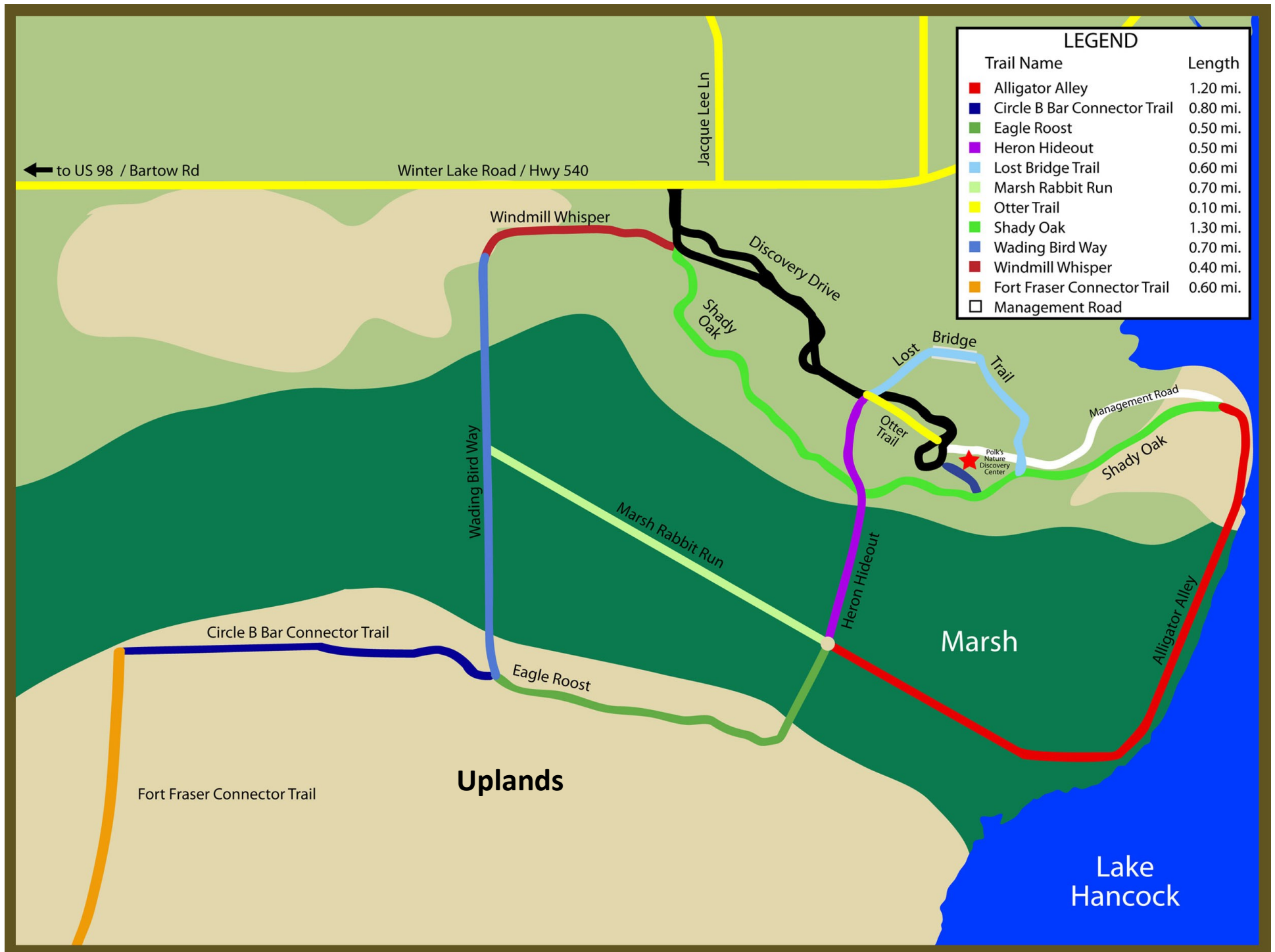
Funding for this Field Studies Program is provided by Polk County Environmental Lands Program and Southwest Florida Water Management District.

Team \_\_\_\_\_

Date of Visit \_\_\_\_\_

Student	Scientist	Job
	Botanist	ID plant species found in the wetland and the upland habitats
	Geologist Project Manager	Describe the soil color and texture Collect all team data
	Hydrologist	Test water quality and ID macro invertebrates while dip netting
	Meteorologist	Collect atmospheric data in the wetland and the upland habitat
	Zoologist	ID animals in wetlands and uplands; ID other signs of animal life (tracks, scat, burrows, etc); discuss bird beak adaptations

This Field Studies Logbook is where all of your team data will be recorded for your onsite visit. Everyone in your team is responsible for contributing to your teams data collection. The Logbook is organized in alphabetical order, by science research topic. For each science page, it is also broken down into upland habitat and wetland habitat data. Please make sure you are marking your data in the correct habitat.



# BOTANIST

## Upland Habitat

My plant is:

- ☐ A tree.
- ☐ A shrub.
- ☐ A grass.
- ☐ A flower.

Plants come in all different sizes. The top of my plant is:

..... ☐ So tall that I have to look up to see the top of it.



..... ☐ About as tall as me.

..... ☐ Above my knee but shorter than me.

..... ☐ Lower than my knee.

I can put my arms around my plant..... ☐ Yes ☐ No

Plants are found in different sorts of places. My plant is:

Near a building..... ☐ Yes ☐ No

Alone ..... ☐ Yes ☐ No

Near other plants..... ☐ Yes ☐ No

Near a street or sidewalk..... ☐ Yes ☐ No

## Plant Report #1

This is a report about what  
my plant is like on this date:

Month Day Year

Here's a picture I drew of what my plant looks like now:

*Draw a picture of your plant.*

Today, my plant has:

- ☐ No leaves
- ☐ Little Buds
- ☐ Flowers
- ☐ Leaves
- ☐ Seeds or Fruit

I also noticed:



# BOTANIST

## Wetland Habitat

My plant is:

- ☐ A tree.
- ☐ A shrub.
- ☐ A grass.
- ☐ A flower.

Plants come in all different sizes. The top of my plant is:

..... ☐ So tall that I have to look up to see the top of it



..... ☐ About as tall as me.

..... ☐ Above my knee but shorter than me.

..... ☐ Lower than my knee.

I can put my arms around my plant..... ☐ Yes ☐ No

Plants are found in different sorts of places. My plant is:

Near a building..... ☐ Yes ☐ No

Alone ..... ☐ Yes ☐ No

Near other plants..... ☐ Yes ☐ No

Near a street or sidewalk..... ☐ Yes ☐ No

## Plant Report #1

This is a report about what  
my plant is like on this date:

Month Day Year

Here's a picture I drew of what my plant looks like now:

Draw a picture of your plant.

Today, my plant has:

- ☐ No leaves
- ☐ Little Buds
- ☐ Flowers
- ☐ Leaves
- ☐ Seeds or Fruit

I also noticed:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



## GEOLOGIST

Upland Habitat

SOIL COLORS (check all that apply)

☐

GRAY

☐

BLACK

☐

BROWN and GRAY

☐

GOLDENROD

Wetland Habitat

SOIL COLORS (check all that apply)

☐

GRAY

☐

BLACK

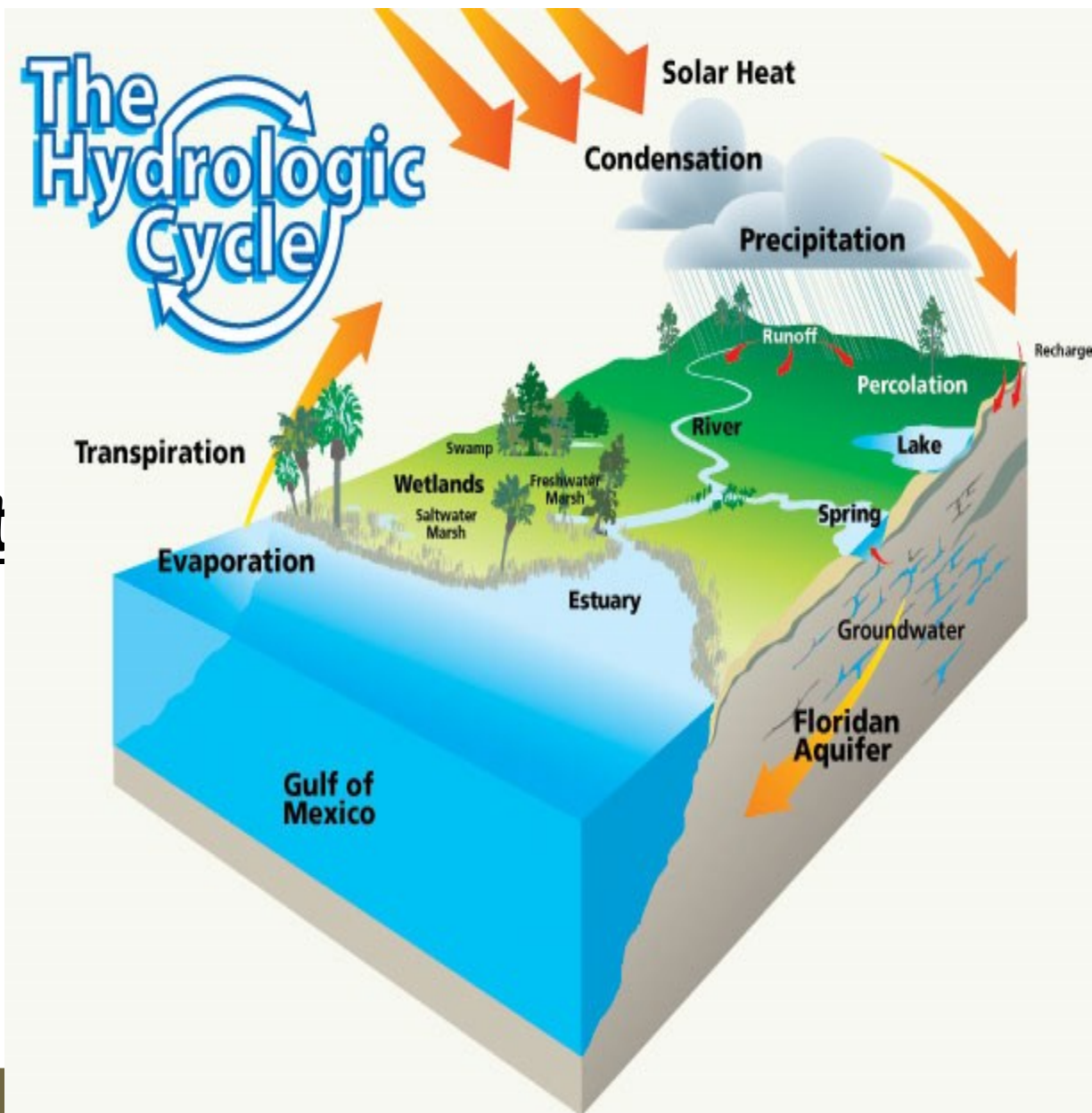
☐

BROWN and GRAY

☐

GOLDENROD

How does water move through the soil? Circle all process that apply.



# GEOLOGIST

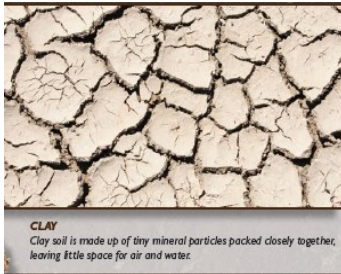
Example



Draw a line to connect which soil type your sample is most like for each habitat (use Geologist reference sheet “WHAT’S IN YOUR SOIL?” as a guide).

## Upland Habitat

## Wetland Habitat



CLAY



SANDY



SILTY



LOAM

GEOLOGIST

## Upland Habitat

Use a metric ruler to measure the water level.

☐ Depth of water level \_\_\_\_\_mm from top

☐ NO water level in sample

\*water level change is indicated by a change in color of soil

## Wetland Habitat

Use a metric ruler to measure the water level.

☐ Depth of water level \_\_\_\_\_mm from top

☐ NO water level in sample

\*water level change is indicated by a change in color of soil

# HYDROLOGIST

Circle the species you found while dip netting from each category.

## SENSITIVE



Dobsonfly Larva



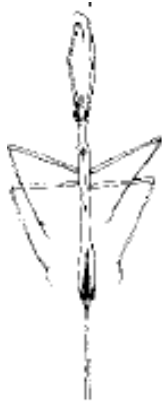
Caddisfly larva



Stonefly larva



Sowbug



Water Scorpion 'Ranatra'

## SOMEWHAT SENSITIVE



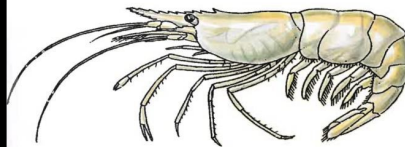
Six-spotted fisher spider



Crayfish



Scud or Amphipod



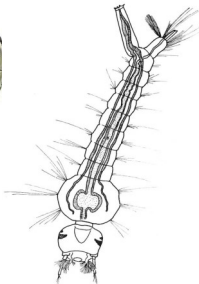
Shrimp



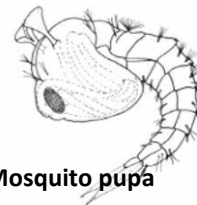
Predaceous Diving Beetle Larva



Dragonfly Larva



Mosquito larvae



Mosquito pupa



Whirligig Beetle



Damselfly Larva

## NOT SENSITIVE



Leech



Water Boatman



Creeping water bug



Chironomids



Water Strider



Orb Snail



Backswimmer



Nematode or Threadworm



Predaceous Diving Beetle



Male Belostoma Water Bug (with and without eggs)



Giant water bug

Number of Sensitive species circled:

Number of Somewhat Sensitive species circled:

Number of Not Sensitive species circled:

# HYDROLOGIST

## Data Collection

Water Temperature \_\_\_\_\_ °C

**Approximate Temperature Ranges for Certain Organisms**

Greater than 68°F (20°C) = Warm water

Much plant life, many fish diseases and most bass, crappie, bluegill, carp, catfish, Caddisfly, dragonfly, mayfly, mussels

55 - 68°F (12.8 - 20°C) = Cool Water

Plant life, some fish diseases and small-mouth and rock bass, various minnows and darters, stonefly, mayfly, caddisfly, water beetles, mussels

Less than 55°F (12.8°C) = Cold Water

Various minnows, darters, sculpins, caddisfly, stonefly, mayfly

## Predictions

Is the aquatic habitat in the wetlands safe for life?

Give 3 pieces of evidence from your data to explain your reasoning.

How does water move through the marsh? Circle all process that would apply.



HYDROLOGIST

# METEOROLOGIST

Upland Habitat Date \_\_\_\_\_ Time \_\_\_\_\_

If Clouds are Visible select all Cloud Types Seen

Air Temperature

\_\_\_\_\_ (°C)

Rainfall select one: ☐ Measurable ☐ Trace ☐ Missing  
(if measurable is selected, complete the following fields)

Rainfall

Accumulation \_\_\_\_\_ mm

Wind Direction \_\_\_\_\_

High (in the sky):

(Check all types seen)



☐ Cirrus



☐ Cirrocumulus



☐ Cirrostratus

Middle (of the sky):

(Check all types seen)



☐ Altostratus



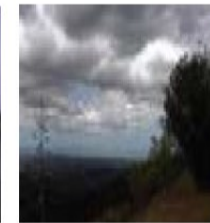
☐ Altocumulus

Low (in the sky):

(Check all types seen)



☐ Stratus



☐ Stratocumulus



☐ Cumulus

Rain or Snow Producing  
Clouds:

(Check all types seen)



☐ Nimbostratus



☐ Cumulonimbus

## Clouds

Sky Conditions (Check one):

- ☐ Clear (no Clouds Visible)  
☐ Clouds Visible (1% to 100% Covered by Clouds or Contrails)

What Percent of the Sky is Covered by Clouds? (Check One) Three-quarters or  
More of the Sky is Visible: Cloud Cover (Check One)



No Clouds

☐ 0%



Clear

☐ >0 to 10%



Isolated

☐ 10 to 25%



Scattered

☐ 25 to 50%



Broken

☐ 50 to 90%



Overcast

☐ >90%

# METEOROLOGIST

Wetland Habitat Date \_\_\_\_\_ Time \_\_\_\_\_

If Clouds are Visible select all Cloud Types Seen

Air Temperature

\_\_\_\_\_ (°C)

Rainfall select one: ☐ Measurable ☐ Trace ☐ Missing  
(if measurable is selected, complete the following fields)

Rainfall

Accumulation \_\_\_\_\_ mm

Wind Direction: \_\_\_\_\_

## Clouds

Sky Conditions (Check one):

- ☐ Clear (no Clouds Visible)  
☐ Clouds Visible (1% to 100% Covered by Clouds or Contrails)

What Percent of the Sky is Covered by Clouds? (Check One) Three-quarters or More of the Sky is Visible: Cloud Cover (Check One)



No Clouds

☐ 0%



Clear

☐ >0 to 10%



Isolated

☐ 10 to 25%



Scattered

☐ 25 to 50%



Broken

☐ 50 to 90%



Overcast

☐ >90%

High (in the sky):

(Check all types seen)



☐ Cirrus



☐ Cirrocumulus



☐ Cirrostratus

Middle (of the sky):

(Check all types seen)



☐ Altostratus



☐ Altocumulus

Low (in the sky):

(Check all types seen)



☐ Stratus



☐ Stratocumulus



☐ Cumulus

Rain or Snow Producing Clouds:

(Check all types seen)



☐ Nimbostratus



☐ Cumulonimbus

# ZOOLOGIST

ZOOLOGIST

## Upland Habitat

This areas has ..... (Check off everything you see)			
HABITAT CHARACTERISTICS		EVIDENCE OF ANIMALS	
_____	Water	_____	Animal Trails
_____	Undisturbed bare ground		<i>Animal Homes</i>
_____	Sunny openings	_____	Burrows in ground
_____	Grasses	_____	Holes in trees
_____	Shrubs	_____	Nests
_____	Flowers	_____	Mounds in ground
_____	Dead trees	_____	Eggs
_____	Leaf litter	_____	Scat
_____	Muddy or other damp areas	_____	Partially Eaten leaves, seeds
_____	Live trees	_____	Sounds
		_____	Webs

DRAW and LABEL the habitat:

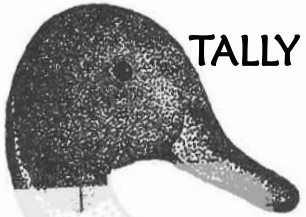
## Wetland Habitat

This areas has ..... (Check off everything you see)			
HABITAT CHARACTERISTICS		EVIDENCE OF ANIMALS	
_____	Water	_____	Animal Trails
_____	Undisturbed bare ground		<i>Animal Homes</i>
_____	Sunny openings	_____	Burrows in ground
_____	Grasses	_____	Holes in trees
_____	Shrubs	_____	Nests
_____	Flowers	_____	Mounds in ground
_____	Dead trees	_____	Eggs
_____	Leaf litter	_____	Scat
_____	Muddy or other damp areas	_____	Partially Eaten leaves, seeds
_____	Live trees	_____	Sounds
		_____	Webs

DRAW and LABEL the habitat:

# ZOOLOGIST

Dabbling beak



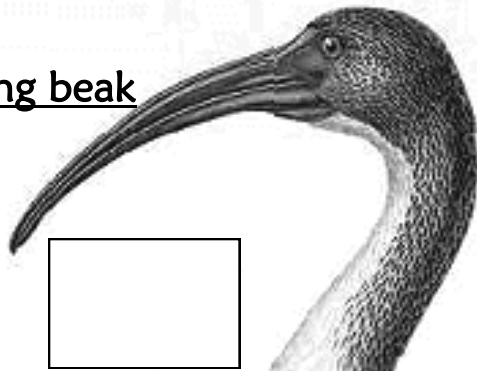
TALLY

Skimming beak



TALLY

Probing beak



TALLY

Grasping beak



TALLY

Tearing beak



TALLY

Cracking beak



TALLY

**Directions:** Tally all of the bird beak shapes that you observe and put the totals in the box provided.

What is the purpose of birds with different beak shapes?

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ZOOLOGIST



Data	Upland	Wetland
Temperature	°C	°C
Soil Color		
Soil Sample		
Evidence of Birds	List Examples	List Examples
Evidence of Mammals	List Examples	Examples
Evidence of Reptiles	List Examples	List Examples
Evidence of invertebrates?	List Examples	List Examples



What similarities and difference are there between the uplands and the wetlands? Use evidence from all of your teams data to explain in complete sentences and drawings.

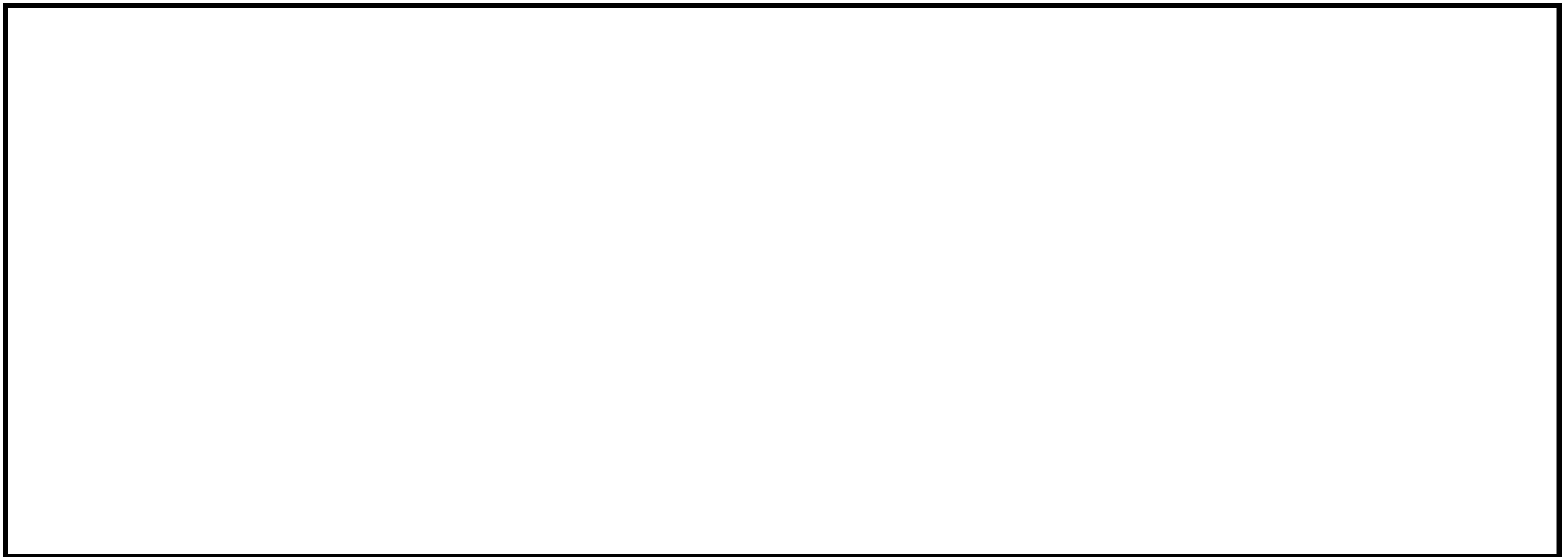
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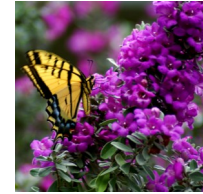
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### Mission

Polk's Nature Discovery Center will provide hands-on learning experiences in an outdoor setting that engage students in investigating the value of Polk County's natural resources. Through this exploration, students will discover the interconnection of water, wildlife and wilderness; understand their impact on the environment; and foster a sense of personal stewardship towards the environment.



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Alafia River, Hillsborough River  
and Peace River basin boards of the

**Southwest Florida**  
*Water Management District*

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Reference: Information and diagrams in this field notebook, were taken from the following sources and are used purely for environmental education.

[www.swfwmd.state.fl.us](http://www.swfwmd.state.fl.us)

[www.fws.gov](http://www.fws.gov)

<http://pubs.usgs.gov>

