

# St. Marks National Wildlife Refuge Junior Ranger Badge Activity Book



Jing Ping Chen

Name:



# Welcome to St. Marks National Wildlife Refuge

So you want to be a St. Mark's Junior Ranger? To earn your Junior Ranger badge complete this activity book and return it to the visitors center. There it will be verified by one of the staff rangers, you will be given a certificate of completion, and receive your St. Marks Junior Ranger Badge! Our Junior Ranger program is designed for children ages 6-12. The goal of the program is to introduce children not only to the natural wonders of St. Marks National Wildlife Refuge, the world around them, but also their role in preserving nature for themselves and future generations.

In addition to the activities in this booklet a service project is required to complete your Junior Ranger training. A service project is exactly what it sounds like; it is a project that provides a service to the refuge and/or its visitors. Remember this refuge and the wildlife within it belongs to you too so it's up to you to take care of it. There are several ways to complete this section:

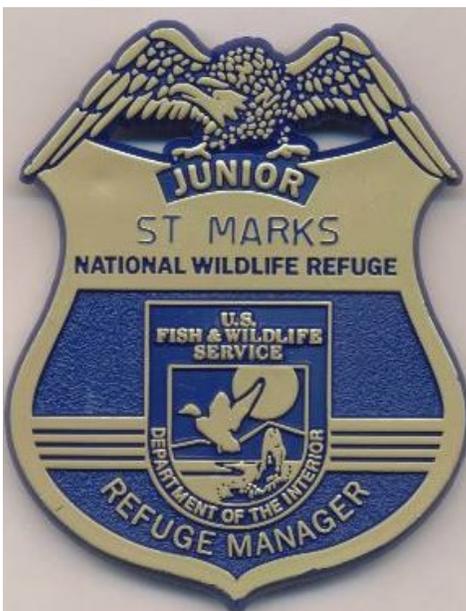
1. Pick up 5 pieces of trash
2. Give a ranger program on what you've learned to a family member
3. Reuse something you have already used in another way (i.e.– Reuse a soda bottle to hold water)
4. Create your own St. Mark's Service Project (i.e.– Monitor an area for animals and report your observations at the visitors center, clean up any trash you see at the refuge, etc.)

Your Service Project \_\_\_\_\_

Adult's Signature \_\_\_\_\_

Make sure to take along some water to drink , bug spray and sunscreen, and to wear appropriate clothing and closed toed shoes during your activities. Good luck and have fun!

*Ranger Lori Nicholson*



# St. Marks – A Model of Diversity

Within the boundaries of St. Mark's National Wildlife Refuge are several very different ecosystems which are home to species of wildlife that are specially adapted to live in their part of the refuge. See if you can match the animals to the ecosystem they are best suited for.



A. Salt Marsh



B. Pine Flatwoods



C. Fresh Water Marsh



Bullfrogs live in \_\_\_\_\_.



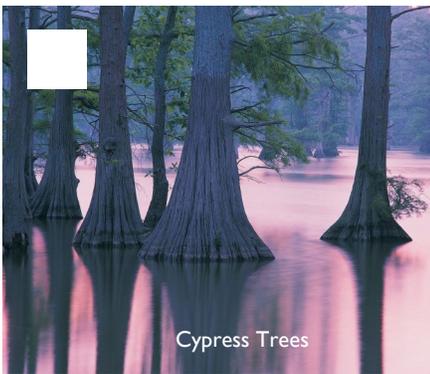
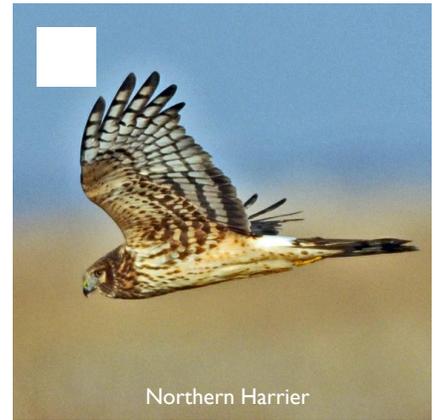
Red Cockaded Woodpeckers live in

\_\_\_\_\_  
\_\_\_\_\_.



Fiddler Crabs live in \_\_\_\_\_.

# St Marks Scavenger Hunt Bingo



Place an X in each wildlife box as you find it in the refuge. Connect three to win!

3 in a Row: You're an Alligator!  
3 in a Column: You're an Ibis!  
3 Diagonal: You're a Butterfly!  
Find them All: You're a Panther!



# Florida's First People

Before Europeans arrived in Florida, the native peoples here had already been in the area for thousands of years growing, changing, and developing complex and dynamic cultures. One of the things that they left behind have become an important source of information on how they lived so long ago...their trash! A midden mound, sometimes called a shell mound, is the name given to the area where a village threw its trash. By exploring these sites we can get a glimpse of what their lives were like by learning what animals they ate (by the bones) what kinds of bowls they made (from the pottery), and what kinds of tools they used (points, knives, and axes). Now its your job to search through this midden mound of letters and find the words from the word bank below to learn more about the native Floridians lifestyles.



R F I L  
B E A D S N W A  
V I A R L S T I F Y U I  
W E S A L P I R I E S I G T U L  
C O F E P R Y U D S I V R T Q U E F T S W  
A N V T E A F E W U M I K E S N E D D I M A L E T R W Q O  
Z D O G R E L A T R E G Y I L A C U T D E S T U L I B E S T B E C I  
H I L L Y R W A R E G T N E C Y U B E R Y I O L A C R E C U I C A R  
O A Q Y C X T U C C T R Y J I M B O P A Q F E W U B E F E R T H A P  
R A C R T R N C B H A Q T U E D C W A B Y R E S W T Y U O N A I W T  
S V T Y I W E U P I E A C T E B I O C E W S R Y T U K L L I O E A C  
E R T B T W Y N T E S E A V R T U R A C E S W T U I P P A E W F A Q  
S F E Y U I O P E D F T V E R T Y R S T R W E R U M T B V U I P O A  
X W E R T N U L P A Q C X E Z T Y A P U T Y R O I R R A W A C R T Y

## Word Bank

Midden Arrow Beads Warrior Tribe Chief Apalachee Osceola

# Refuge Safety Plan

National Wildlife Refuges are for everyone to enjoy. Learn how you can help preserve and protect our National Wildlife Refuge as you answer the clues to help fill in the crossword puzzle.

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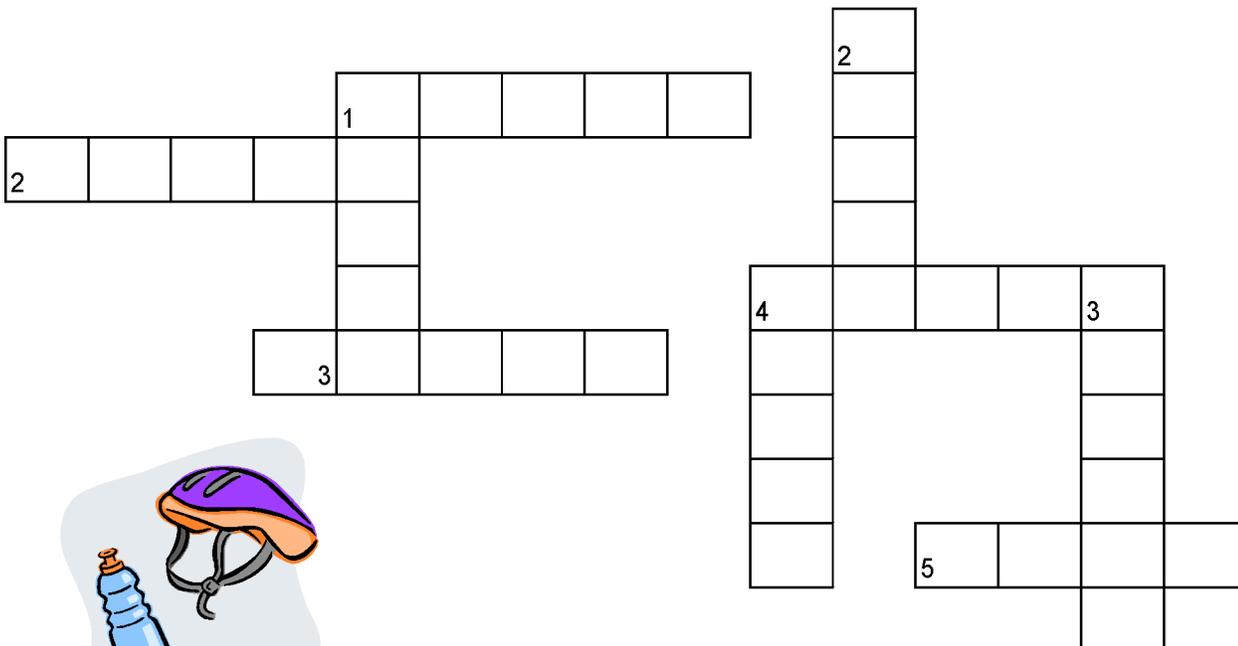
## Across

1. When hiking, always stay on the \_\_\_\_\_
2. Plan ahead and always carry drinking \_\_\_\_\_.
3. Always wear appropriate \_\_\_\_\_ for hiking.
4. Always keep your dog on a \_\_\_\_\_.
5. Watch out for \_\_\_\_\_ and other wildlife on the roads.



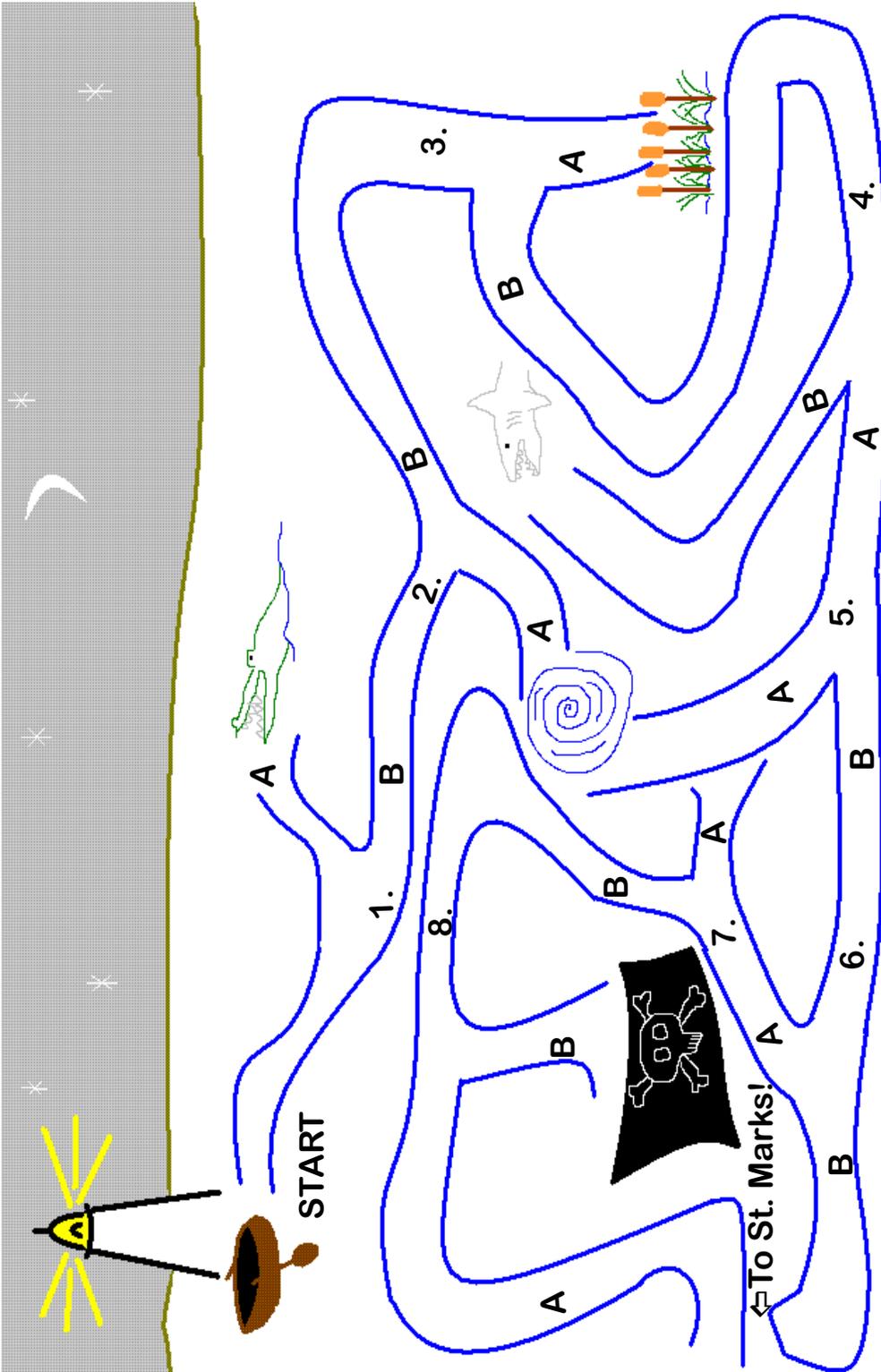
## Down

1. Don't litter. Your \_\_\_\_\_ can be harmful to wildlife.
2. If you find a baby animal, it's best to \_\_\_\_\_ it where you find it.
3. Always wear a \_\_\_\_\_ to protect your head when riding your bike.
4. Obey the posted speed \_\_\_\_\_ when driving through the refuge.



# Lighthouse River Quest

Did you know that before there even was a Lighthouse Road people lived at the lighthouse. They usually had to get there from St. Marks by boat. That's a six mile trip one way and a lot of the time their boat was powered solely by the person at the oars! Try and make it to St. Marks through the winding river and avoid danger and dead ends by answering the questions correctly.



1. The St Marks Lighthouse was built in - A) 1981 B) 1831
2. Before the lighthouse was built it was - A) Safe to sail into St Marks B) Dangerous to sail into St Marks
3. The original lighthouse - A) Is still standing B) Was moved farther inland when threatened by erosion
4. In the Civil War troops wanted the lighthouse - A) For a lookout tower B) Because it looked pretty
5. Before being switched to solar power the light was produced by - A) 500 Candles B) Burning oil
6. When turned on the light from the lighthouse can be seen - A) 15 Miles Away B) 50 Miles Away
7. During hurricanes the family at the lighthouse would take shelter - A) In the trees B) In the lighthouse
8. The Lighthouse doesn't have a keeper anymore because - A) It is run by computer B) No one wants to

# Wildlife Checklist

Because St. Marks is a National Wildlife Refuge, every living and non-living thing found on the refuge is protected by law to help preserve the wildlife, habitat, and special resources. As you hike through the refuge, try to find as many Wildlife Checklist items as you can. Mark off each item on your list, but leave everything as you find it, so other visitors can have the same chance to discover it for themselves. Then see if you can answer the bonus questions.



Black Bear



Fox



Florida Panther



Wild Turkey



White-tailed Deer

- \_\_\_ A water source for wildlife. Who drinks here? \_\_\_\_\_
- \_\_\_ A food source for wildlife. What is it? \_\_\_\_\_
- \_\_\_ A home for wildlife. Who lives here? \_\_\_\_\_
- \_\_\_ Tracks. Who do they belong to? \_\_\_\_\_
- \_\_\_ Scat. Who does it belong to? \_\_\_\_\_
- \_\_\_ Animal sound. Who is making it? \_\_\_\_\_
- \_\_\_ Trampled grass. Who might have done it? \_\_\_\_\_
- \_\_\_ Snag (A standing dead tree). Who lives here? \_\_\_\_\_
- \_\_\_ Bones. Who did they belong to? \_\_\_\_\_
- \_\_\_ Nest. Who lives here? \_\_\_\_\_
- \_\_\_ A flying animal. What is it? \_\_\_\_\_
- \_\_\_ A running animal. What is it? \_\_\_\_\_
- \_\_\_ A crawling animal. What is it? \_\_\_\_\_



Opossum



Crow



Bobcat



Northern Flicker



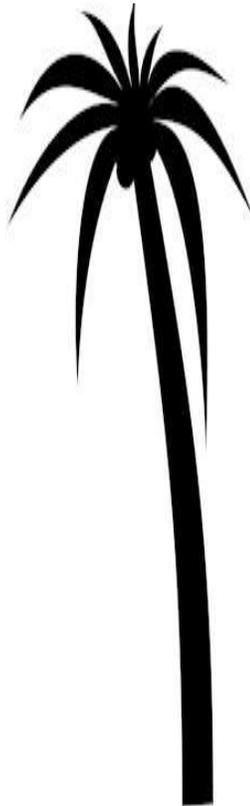
Raccoon

# Alphabet Observation

Look around you as you walk the refuge and find things that start with letters of the alphabet. See if you can find something on the refuge for all 26 letters.

Example: A for Armadillo, F for Fox Squirrel

A \_\_\_\_\_  
B \_\_\_\_\_  
C \_\_\_\_\_  
D \_\_\_\_\_  
E \_\_\_\_\_  
F \_\_\_\_\_  
G \_\_\_\_\_  
H \_\_\_\_\_  
I \_\_\_\_\_  
J \_\_\_\_\_  
K \_\_\_\_\_  
L \_\_\_\_\_  
M \_\_\_\_\_



N \_\_\_\_\_  
O \_\_\_\_\_  
P \_\_\_\_\_  
Q \_\_\_\_\_  
R \_\_\_\_\_  
S \_\_\_\_\_  
T \_\_\_\_\_  
U \_\_\_\_\_  
V \_\_\_\_\_  
W \_\_\_\_\_  
X \_\_\_\_\_  
Y \_\_\_\_\_  
Z \_\_\_\_\_

How many letters were you able to match with things in the refuge?

1-7: Keep your eyes peeled.

8-14: Looking good.

15-21: Superior Sighting!

22-26: Eagle Eyes!



# Marsh Habitat Observation

One of the most important things for all living creatures to have is a healthy habitat to live in and raise a family. For the animals that live in the marshes at St. Marks a healthy habitat requires pollution free water, dissolved oxygen in the water for fish to breath, good places to spawn, shelter in which to hide, and plenty of food to eat. Visit a section of marsh in the refuge, salt water or fresh water is fine, and spend some time noticing the kind of habitat it provides. Use the scale below to determine how healthy the habitat is for fish and other marsh animals.

Circle the number that best describes what you observe.

As you approach the stream, notice what you find within the watershed.

1

2

3

4

5

Very few plants or trees, many roads or parking lots.

Lots of plants and trees, few roads or parking lots.

Look for signs of Pollution at the site.

1

2

3

4

5

Lots of litter, foam, or shine on water, bad odors, erosion.

No signs of pollution, little or no erosion.

Check for signs of wildlife around the marsh.

1

2

3

4

5

No animal or bird tracks, no other visible wildlife.

Lots of animal tracks and other visible wildlife.

Look in the water to examine what lives there.

1

2

3

4

5

No fish, turtles, or aquatic insects.

Lots of fish and other aquatic wildlife and insects.

Now add up all the numbers you've circled and use the key below to estimate how healthy the marsh habitat might be based on your observations.

If your total is between:

4-8: This habitat may be poor. Most fish and other aquatic species might struggle to survive here.

9-12: This habitat may be fair and needs a lot of improvement.

13-16: This habitat may be in good shape but could be better.

17-20: This habitat may be excellent and ideal for fish and aquatic species.

## Habitat Conclusions

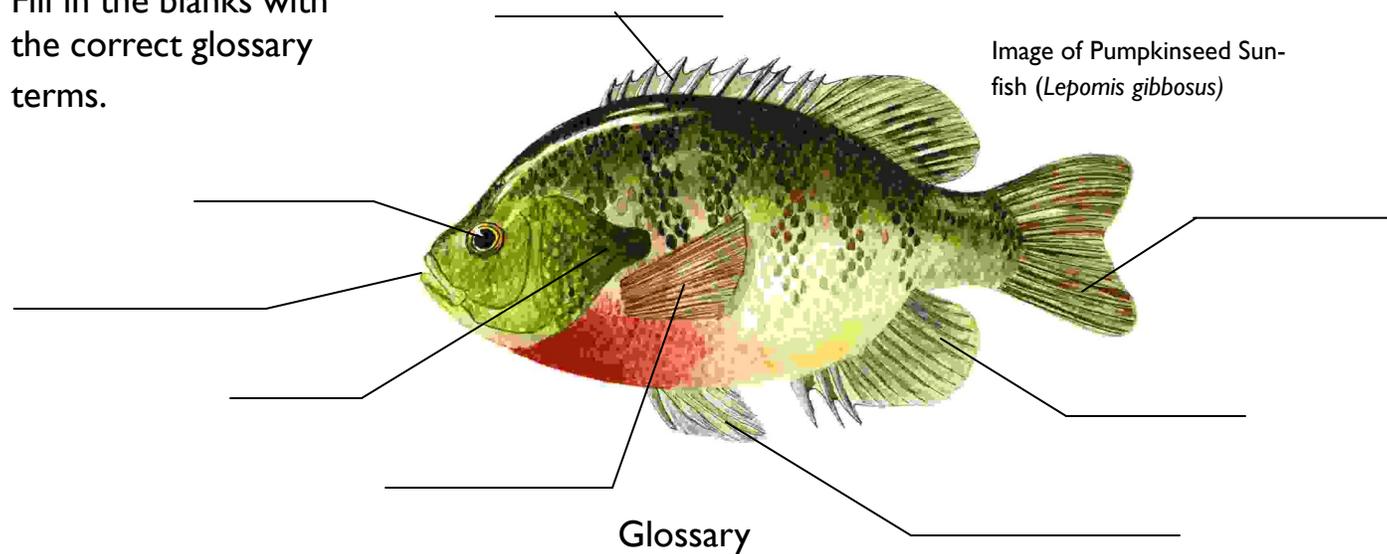
Remember, each waterway is unique. And our scale used here only gives us basic guidelines of what makes some types of waterways healthy. Coastal areas especially can vary widely in the types of habitat and amount of wildlife supported in any given area. This is, however, a good foundation for how to observe a wildlife water habitat. Knowing what kind of waterway you are observing and more in-depth studying are needed to make an accurate, scientific judgment.

Do you think your estimate of habitat health was accurate? Why or why not?

What other ways could you and scientists study the health of this area?

## Fish Parts

Fill in the blanks with the correct glossary terms.



**Anal Fin** - Single fin mounted vertically below the fish

**Caudal Fin** - Single fin at the back of the fish, tail fin

**Dorsal Fin** - Single fin mounted on top of the fish (Some species have two)

**Eye** - Visual organ usually on either side of the face

**Gills** - Breathing organ which filters oxygen from the surrounding water

**Mouth** - Opening in the face for feeding

**Pectoral Fin** - Paired fin, one on each side of the body behind the gills

**Pelvic Fin** - Paired lateral hind fin

# Bird Parts

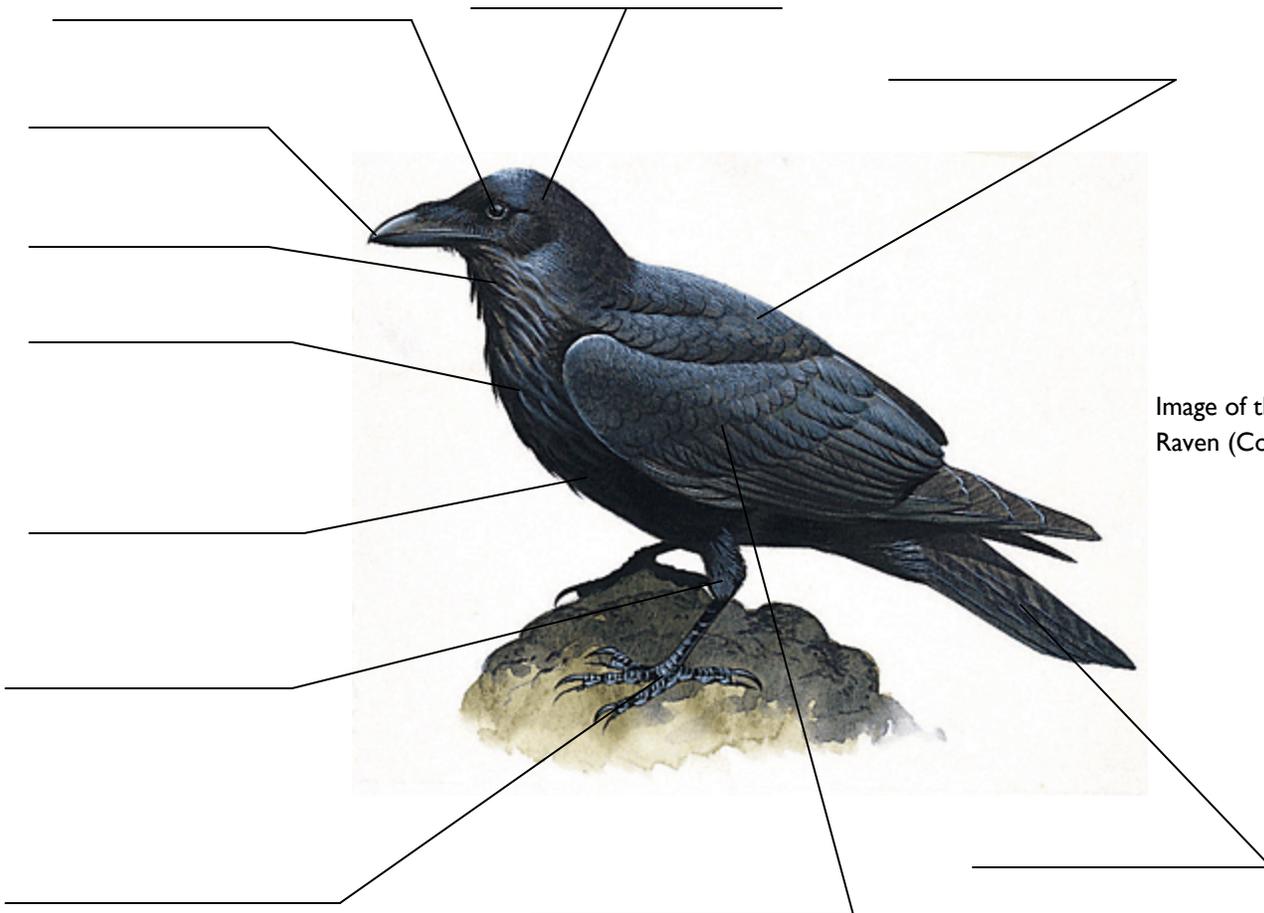


Image of the Common Raven (*Corvus corax*)

Fill in the blanks with the correct glossary terms.

## Glossary

**Back** - Dorsal part of the bird between neck and the tail

**Beak** - the feeding apparatus of a bird, consisting of two pointed jaws

**Belly** - Lower front of the bird, abdomen

**Breast** - Front part of the chest

**Eye** - Visual organ usually paired on either side of the face

**Head** - Upper part of the body

**Feet** - Terminal end of the leg usually adapted to either gripping or paddling

**Leg** - Limb supporting the body of the bird

**Throat** - Front part of the neck

**Tail** - Feathers extending from the rear of the bird

**Wing** - Moveable feathered appendage for flapping and gliding

# St. Mark's Daily Weather Report

Congratulations, you are now a St. Marks meteorologist (weather person). Remember though, this can be a pretty tough job, sometimes the weather can be very different in places that are relatively close to each other. Take some observations here in the refuge and answer the questions below.

Name \_\_\_\_\_ Today's Date \_\_\_\_\_

**Check the words that describe what you observe about the weather at the Visitor's Center:**

_____ warm	_____ hot	_____ cool	_____ cold
_____ sunny	_____ clear	_____ cloudy	_____ overcast
_____ dry	_____ rain	_____ sleet/hail	
_____ calm	_____ breezy	_____ windy	

Time of observation \_\_\_\_\_

**Check the words that describe what you observe about the weather at the Lighthouse:**

_____ warm	_____ hot	_____ cool	_____ cold
_____ sunny	_____ clear	_____ cloudy	_____ overcast
_____ dry	_____ rain	_____ sleet/hail	
_____ calm	_____ breezy	_____ windy	

Time of observation \_\_\_\_\_

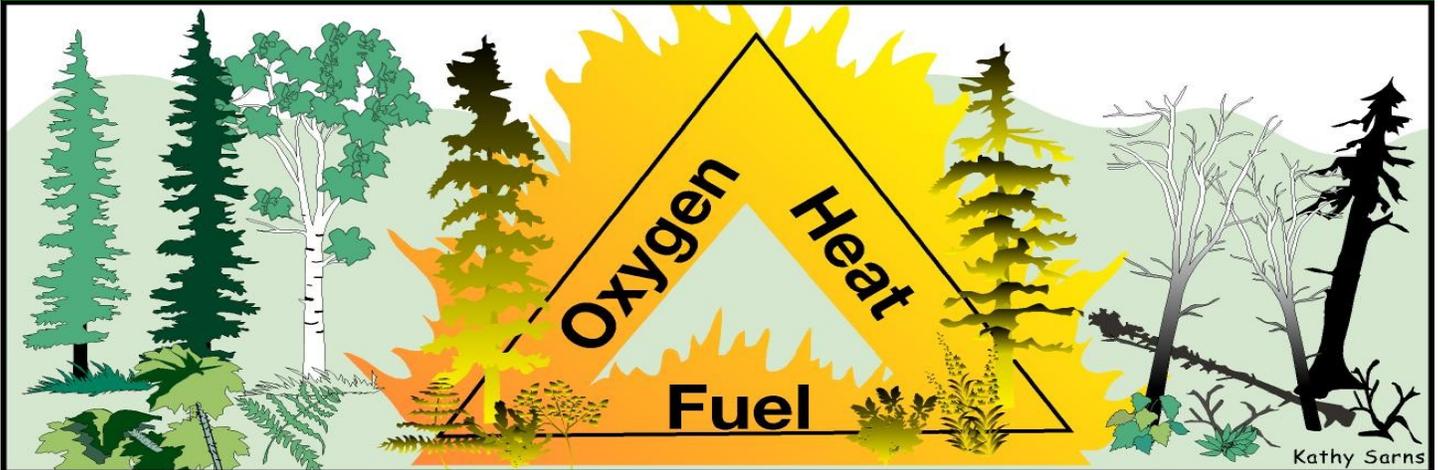
Is there a difference in observations? \_\_\_\_\_

If so, what could be the reason? \_\_\_\_\_

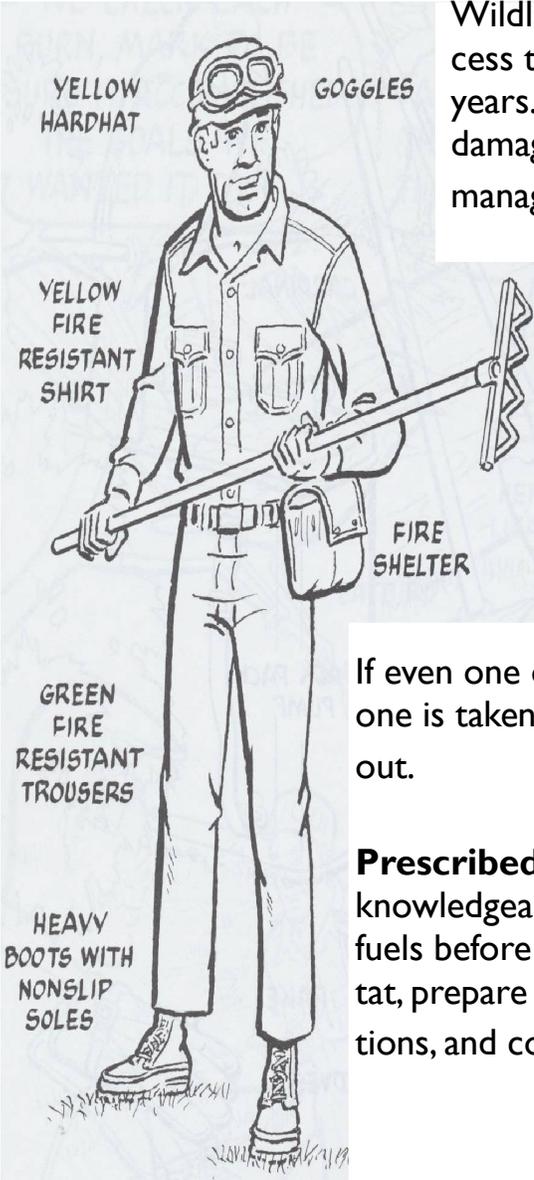
Would it be a good day to go boating? \_\_\_\_\_

Why or why not? \_\_\_\_\_

# Living with Fire



## Wildland Fire Protective Gear



Wildland fires, or forest fires, are an essential and natural process that has helped to shape our ecosystem for thousands of years. Although this process is natural it can cause incredible damage to our homes and property if not respected and managed properly.

**Fire Triangle**— A fire is a chemical reaction which needs three things to be present so it can happen:

**Oxygen**—  $O_2$ , the air we breathe.

**Heat**— A form of energy; like a lightning strike, small spark, or hot ember.

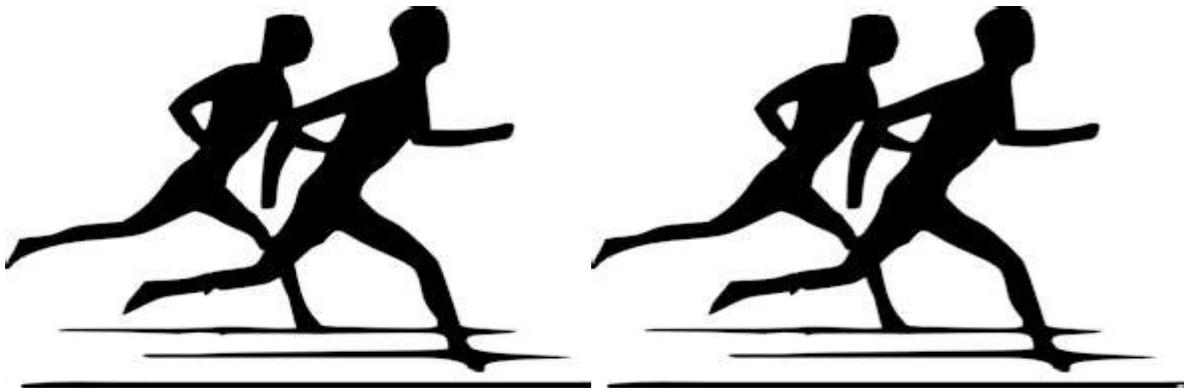
**Fuel**— Any flammable solid, liquid, or gas; -e.g.- grasses, gasoline, hydrogen, etc.

If even one of these things is not present the fire cannot begin and if one is taken away the fire triangle will collapse and the fire will be put out.

**Prescribed Burn**— A fire intentionally set in a controlled setting and knowledgeable manner. These fires can be used to remove a buildup of fuels before they become potentially hazardous, improve wildlife habitat, prepare ground for seeding or planting, manage competing vegetations, and control insects and disease.

# Firefighter Physical Fitness

Wildland firefighters must be ready at all times to respond quickly and calmly to emergency situations in rugged terrain and under demanding weather conditions. To make sure that they are always ready they exercise regularly throughout the year and to show they are in good shape they are tested once each year by taking the pack test. To pass the pack test firefighters have to carry a 45 pound back pack for three miles in under 45 minutes. Forest fires can take many hours and sometimes days or weeks to get under control. That means a lot of hiking and working while carrying around all of your gear. Now its time to test your level of fitness!



Put a check mark next to each physical test you complete.

1. Do FIVE push ups \_\_\_\_\_

2. Do TEN jumping jacks \_\_\_\_\_

3. Do FIVE sit ups \_\_\_\_\_

4. Do TEN bicycle crunches \_\_\_\_\_



## Refuge Fun Facts!

- ◆ A group of hawks is referred to as a cast or a kettle.
- ◆ Dolphins are carnivores which means they live on a diet solely of meat.
- ◆ Frogs don't drink water through their mouths, they absorb it through their skin.
- ◆ The largest bald eagle nest on record was in Florida and measured 9.5 ft. (3 m) wide and 20 ft. (6 m) high. It weighed almost three tons.
- ◆ Fossils have shown that the sandhill cranes of today are structurally the same as the cranes of 10 million years ago.
- ◆ Fox Squirrels are pregnant for about a month and a half and typically give birth to a litter of 2-3 pups.
- ◆ The average lifespan of an American alligator in the wild is 35-50 years.
- ◆ Gopher Tortoise burrows can be up to 10 feet deep and 40 feet long. These burrows are very important to the animals around them as they are also used by more than 350 different species, some of which are the indigo snakes, Florida mice, gopher frogs, burrowing owl and rattlesnakes.

Add some of your own Refuge Facts that you learned!

◆

◆

◆

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## Junior Refuge Ranger Pledge

Read the pledge below and have a staff member sign.

I promise to help protect St. Marks National Wildlife Refuge, my community and the earth. I will practice the “pack it in, pack it out” motto by not leaving any trash on the refuge. I will not feed wildlife, pick up plants, rocks, wildlife, or disturb any living or non-living thing on the refuge. I will show respect to people at the refuge and elsewhere. I also will show respect in historical and cultural places. I will continue to learn about St. Marks National Wildlife Refuge and other Refuges in our great nation. I will help teach others about the great resources found at St. Marks National Wildlife Refuge.

Junior Ranger Signature \_\_\_\_\_

Staff Signature \_\_\_\_\_

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## Junior Refuge Ranger Club

If you would like to join the Junior Refuge Ranger Club Please fill out the information below. All information will be kept confidential and will not be sold or given away. Junior Rangers will be invited to attend special events and programs not open to the general public.

Name \_\_\_\_\_

Mailing Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Email Address \_\_\_\_\_