

Junior River Ranger Booklet Guidelines

Similar to the Junior Ranger program available in national parks, the Junior River Ranger program is intended for children from age 8-12, to enhance their visit to a National Wild and Scenic River, by providing fun and educational activities.

Contained in this packet are activity templates for you to use in your Junior River Ranger booklet. While there are many themes that are common to all rivers, others are specific to each river. Use any or all of these templates to create a booklet that matches the unique characteristics of your river.

The booklet you create should reflect what is unique about your river. Our initial efforts and examples are for National Wild and Scenic Rivers and they will be referenced throughout this document. Feel free to use this framework even if your river is not designated as a National Wild and Scenic River. The main themes we aim to address are:

1. National Wild and Scenic Rivers are free flowing rivers that are recognized and protected because of their resource values.
2. These rivers have unique resources worth learning about.
3. Our actions affect these rivers. Everyone can be a river steward and take actions individually and/or as part of a group to protect the rivers.

Following these themes, there should be three major sections to a Junior River Ranger Booklet:

1. General Introduction to Wild and Scenic Rivers
2. Learning about Outstanding Resource Values of your river
3. Human impact on rivers and how to be a good steward

When developing your Junior River Ranger booklet, first review the information in the National Park Service's Junior Ranger program kit ("hard copy" kit and companion website). The kit provides excellent guidelines and notes, as well as a CD full of clipart and graphics that are very helpful for designing a booklet.

There are rivers across the country within the National Wild and Scenic Rivers system. Many of these rivers flow through public lands and are protected by the appropriate land manager. Some of the National Wild and Scenic Rivers, particularly on the east coast, flow through public and private lands and their protection depends on a partnership of public and private organizations. Many other rivers are special and some are protected by the state, while some are protected just by local efforts. The Junior River Ranger program can be used on any river to help engage youth. Select the parts of this booklet that are appropriate for your river.

Once you have reviewed the kit, it is time to create your Junior River Ranger booklet.

Throughout this guide you will see asterisks (*) directing you to sections of the Junior Ranger Kit to review.

Pages to Include

Consider using the following as a check list for pages to include in your booklet:

- ☐ Cover
- ☐ This book belongs to / welcome page

Use this page to welcome the child and their parent(s)/guardian to the river, give a brief description of the river and its ORVs, and include the logos of any conservation partners, such as the NPS, National Wild and Scenic Rivers System, and key river stewardship council or primary community conservation coordinator:

This book belongs to:

Welcome! You are about to begin the exciting journey of becoming a **JUNIOR RIVER RANGER**. We are so glad you are visiting this special place! The Sudbury, Assabet, and Concord Wild & Scenic Riverway (often called "SuAsCo") consists of 29 miles of these three rivers. Our rivers were designated as Wild & Scenic in 1999 because of their five outstanding resources: ecology, scenery, recreation, history, and American literature.

These rivers flow through many communities and are used by a lot of people. Because of this, it is very important for people and towns to work together to protect the rivers. As you explore and learn about the rivers, think of ways you can help protect them!

Have fun and ask lots of questions!



- ☐ How to become a Junior River Ranger / Activities Checklist

Use this page to tell the participant how they may complete the booklet to receive their badge and certificate, where they may turn their booklet in, and how many activities they must complete. Include a check list of all activities in the book so they can keep track of their progress.

***Junior Ranger Program Booklet Basics (http://www.nps.gov/interp/jr_ranger_kit/create/bookletbasics.html)**

- ☐ Safety First

It's very important to make sure all visitors to the river remain safe. Use this page to give safety tips (eg, wear sunscreen, always go with an adult, wear a life jacket when on the water) and to point out potential dangers like ticks or poison ivy. Include graphics of anything that participants or their accompanying adult may need to identify, such as poison ivy and other irritating plants, deer ticks, etc.

□ What is a National Wild and Scenic River?

Not many people may know what a National Wild and Scenic river is, or much about the program. Use this page to introduce young people to the National Wild and Scenic Rivers System, free-flowing rivers, and why rivers are important. Incorporate activities to make it more interactive. National Wild and Scenic Rivers recognize specific resource characteristics and call them Outstanding Resource Values.

□ What Makes Your River Special?

Use this page to give a one sentence description of what makes your river special. Even if you are not a designated National Wild and Scenic River, your river has special features. Use this section to highlight them. Include a general activity to round out the page, such as a life jacket demo:

Outstanding Resources

Every Wild and Scenic river is special for different, unique reasons. These reasons are called **Outstandingly Remarkable Values**, or ORVs for short. The SuAsCo rivers have five ORVs!



- Ecology
- Scenery
- Recreation
- History
- American Literature

You'll learn more about each one as you explore the rivers!

KNOW BEFORE YOU GO!

It is important to be safe while you explore the river. Do you have a life jacket? Life jackets help keep your head above water, and keep you safe from drowning! It is always recommended to wear one while doing any activities on the water.

 Demonstrate to a ranger or staff member how to properly put on a life jacket. Have them initial this page when you are done!



Staff initials / name



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□ Resource-Specific Activity Pages

Your number of pages will vary, but split your booklet into sections for each unique feature. Maintain a consistent header for all of the pages in each section so that the participant can

easily know what type of activity they are working on. We also have icons that represent each resource, so you may incorporate those into your page design to “brand” each category. Below are some activities with suggested corresponding resources in parentheses:

1. Scavenger hunts with local pictures (Ecology, Scenery, History, Wildlife, Botany)
2. Scavenger hunt bingo (Wildlife, History, special places)
3. I Spy
4. Fill in the blank sentences (History, Cultural, Literature, Ecology, Recreation, Geology, Fish)
5. Maze (Recreation, History, Cultural, Scenery)
6. Arrowhead symbols
7. Tracks – mix and match with correct animal (Wildlife, Ecology)
8. Storytelling with follow up questions (History, Archaeology, Paleontology, Literature)
9. Code sentences – water safety example (Recreation)
10. Write poetry (Literature, History, Ecology, Wildlife)
11. Special places with photos (Scenery)
12. Man’s impact – what would happen (Scenery, Ecology, Wildlife)
13. What is wrong with this picture (Scenery, Ecology, Wildlife)
14. Cross word puzzle (History, Archaeology, Paleontology, Cultural, Ecology, Fish, Wildlife, Recreation)
15. Observation notes – be like a scientist
16. Draw a picture (any resource)
17. Word scrambles (any resource)
18. Time lines – fill in the blank (History, Prehistory, Archaeology, Cultural, Paleontology)
19. Dragon fly dance game
20. Name that plant (Ecology, Wildlife)

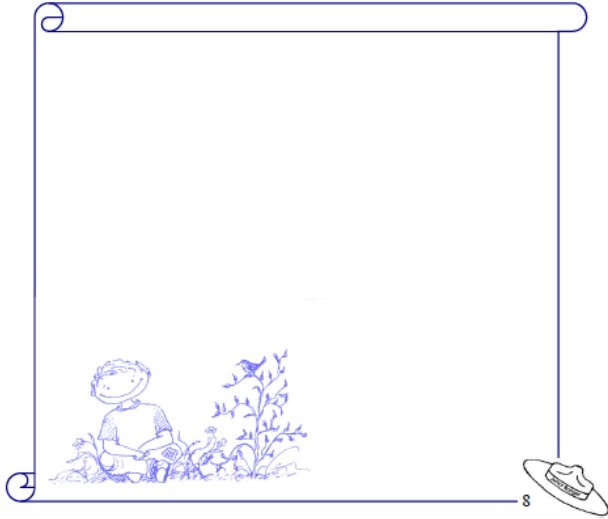
Included here are some examples of activity pages from the Farmington and Sudbury, Assabet, and Concord National Wild and Scenic rivers:

Wild and Scenic Rivers

Walk down to the river's edge and pick a good place to just sit and watch the river. Get as comfortable as you can, but don't forget to bring your booklet and a pencil.

For about 10 minutes just sit and watch the river. Listen for all the different sounds that are around the river.

Now, describe what you experienced. Write a poem or a story, or draw a picture of what you have seen and heard.



Recreation

There are thousands of activities to do in and around a river. Try to explore the river and do as many activities as possible. To make them even more fun, bring a friend or family member along with you.

Unscramble the words in the word box, and place them in the puzzle to show a list of activities on the Farmington River.

F _ _ S _ _
 _ A _ Y _ _ G
 R _ W _ _
 _ W _ M _ _
 _ I _ N _ _
 B _ _ N _ _
 _ _ K _ G _ _
 T _ _ _ _
 F _ O _ T _ _
 C _ _ _ N _ _

pimangc	_____	smnwiigm	_____
ihifnsg	_____	kiihgn	_____
rtou	_____	gnaykaki	_____
taiflgn	_____	ngwiro	_____
inikbg	_____	ccnipi	_____



Recreation

How Much is Too Much?

Every park, river, lake, and forest gets impacted by humans and nature every day. In order to do your part in protecting these areas it is best to "take only pictures, and leave only footprints".

Try to think of the river, and how many people use it every day. Now imagine a few of the scenarios below, and describe what would happen if these scenarios were true.

If each river visitor took 1 rock from the river... multiply that 1 rock by 1 thousand visitors...



If each river visitor picked a plant or flower... multiply that 1 flower by 1 thousand visitors...



If each river visitor used a path other than the marked path... multiply that 1 new path by 1 thousand visitors...



If each river visitor took home a few fish they caught... multiply them by 1 thousand visitors...



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Recreation

Staying safe while enjoying your time is the best way to have fun on any water source. Below is a story about two children who were going out to the river for a trip with their family. Fill in the blanks with the safety-related words in the box at the bottom of the page.

Timmy and Tammy's River Adventure

Timmy and Tammy were twins that were packing for a trip to the Farmington River with their family. They packed up bags with clothes and food, and made sure to pack a _____ (three words), just in case anyone got hurt. Their dad tied their canoe on top of the car, and packed four _____ for each person in the family to wear while on the canoe ride.

When they got to the campsite, their parents reminded them to let one of them know where they were going, and when they should be back. They also reminded them not to go swimming or tubing without _____ (two words).

They had lots of fun playing in and around the river, and made sure to stay safe. When they went on a hike with their parents they remembered to bring extra _____ so that they didn't get dehydrated. It was a hot day, and Tammy wanted to wear sandals on their walk, but her Mom said it's always best to wear _____ clothing, so that you don't get injured.

When Timmy and Tammy took their canoe trip with their mom and dad, they saw many things in and around the river. They saw fish swimming, birds flying, animals looking for food along the shore, and other people using the river. Their dad made sure to steer clear of the other people, because this is part of river _____, which is another word for manners.

On their drive home Timmy and Tammy were talking with their parents about their trip.

"Did you both have fun on this trip?" Mom asked.

"Yes!" They both said.

"I'm glad we followed your rules and didn't get hurt!"

"That's right!" Dad said, "It's always good to follow the _____ of the river!"

Adult Supervision	Protective	First-aid-kit
Water	Etiquette	Life-vests Rules

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History

Rivers have been great resources for thousands of years. They can be used for transportation, drinking water, water for crops and livestock, and can be used to power a mill.

Before steam engines and electric motors were used, many people used the river to power their mills and factories. They even harvested ice from the river to keep their food cold.

There were many different types of mills and factories on the Farmington River. These included furniture factories, iron forges, sawmills, gristmills (for grinding grain), and textile mills.

Match the name of the mill or factory to the picture of the product that the mill or factory would make by drawing an arrow.

Iron Forge

Furniture

Sawmill

Grist Mill

Textile Mill



Grain and Flour



Chairs



Nails, hammers



Fabric



Finished wood

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Why Are Rivers Special?

Before there were roads, rivers were like highways, providing a way to get around!

Rivers provide food and water for plants, animals, and people.

Water means life!

Rivers provide critical habitat for many fish, birds, and other animals.

Native Americans, explorers like Lewis and Clark, and settlers used rivers for navigation.

They give us water to drink and water for our fields so we can grow food.



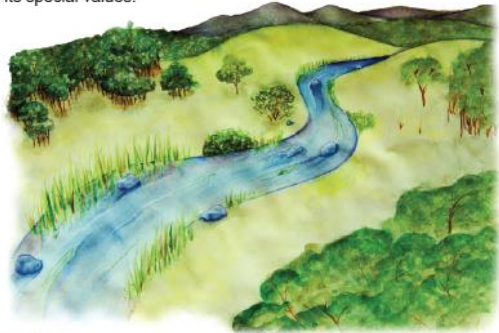
Why do YOU like exploring rivers?

Rivers are fun to visit and explore!

3

Free-Flowing Rivers

Free flowing means water in the river moves naturally and is not held behind a dam, diverted, or modified in a way that affects its special values.



Think of the plants and animals that live along and in a river. Why do you think it is important to keep the rivers free-flowing instead of dammed?

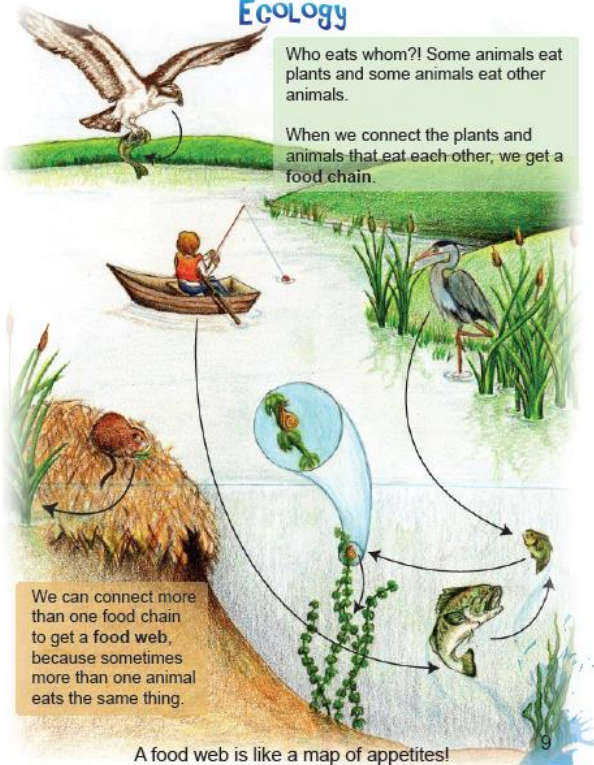


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Ecology

Who eats whom?! Some animals eat plants and some animals eat other animals.

When we connect the plants and animals that eat each other, we get a food chain.



A food web is like a map of appetites!

Ecology

Now that you have learned about food webs, see if you can match the animal to its meal! Write the number of the meal on each animal's plate.

Menu

1 Side Salad - Blend of seasonal algae

2 House salad - mixed greens (cattails, rushes, pond weeds), topped with fresh crayfish and garnished with water lilies

3 River stir fry - mix of frogs, minnows, and crayfish, topped with a variety of insects

4 Surf and turf stew - small fish, frogs, lizards and mice


Sandwich of the Day

5 Peanut butter and jelly on whole wheat bread with a side of carrot sticks


Catch of the Day

6 Fresh, 8-ounce fish. Caught this morning and served whole


Open 24 hours!




human




large mouth bass



snail



osprey



great blue heron



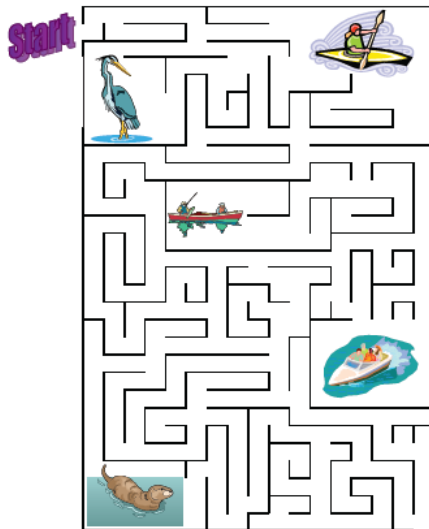
muskrat

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Recreation

The rivers are full of all different kinds of people and animals that use them for play and survival. It is best to always practice good manners, or etiquette, while on the river. Don't get too close to other boaters or wildlife, and be sure you do not create big waves.

Can you find your way through the maze without disturbing the other users?




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History

Over 500 years ago, a group of Native American tribes, called the Algonquians, lived in this area. They called the rivers Musketaquid, which means "place where waters flow through the grasses". The wide, flat meadows attracted early settlers in the mid 1600s and they brought their cattle here to graze.

More and more people came to the rivers because of all the resources they provided. Businesses grew and developed. Concord and Sudbury were the first towns to be established along the rivers, and in 1775 the colonists fought for their freedom in the American Revolution.

 Find the history keywords from the box below in the word search!

Words can be across (left to right) or up and down.




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

MUSKETAQUID	COLONISTS	ALGONQUINS	CATTLE
CONCORD	SUDBURY	ASSABET	MINUTEMEN
THOREAU	HAWTHORNE	EMERSON	SAWMILL
TEXTILES	FARMING	REVOLUTION	

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History

 Imagine you are a Native American, early settler, farmer, or mill owner. What did these rivers look like? Were they a lot different from what you see today? Draw a picture or write a story about what life was like for those who lived on these rivers over 400 years ago.



Visit Minuteman National Historical Park in Concord to learn more about the events that led to the birth of our country! They even have their own Junior Ranger program so you can learn about life in the 1700s!



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*** A library of activities can be found online at: http://www.nps.gov/interp/jr_ranger_kit/pdf/activities.pdf (this is a large file, 22 MB)**

☐ Stewardship

This is not a resource, but still an important concept to teach. This could be a list of stewardship ideas and ways for the participants to help at home or in their own communities, or you could turn it into an activity: ask the participant to write down some ideas of their own, have them describe a stewardship activity they took part in, etc.

☐ Congratulations!

At the end of the book, include a page congratulating the participant for completing the program. We included a Junior River Ranger pledge, similar to the National Park Junior Ranger pledge. These pledges tend to vary from site to site, so feel free to modify it to make it your own. Have the participant sign the page, as one generally must sign a form after taking a pledge – we want to make this process feel as official as possible for participants. Finish the page by reminding the participant where they can bring their (now complete!) booklet to get their official badge and certificate. A regional NPS office may not be near the visitor center of a partnering organization or other NPS property – make sure to consider this when telling participants where they can bring their booklet. They are probably going to be less likely to turn the booklet in for their badge if they have to mail it in to an office, but certainly include the mailing address so that it is an option. Make sure to let them know that they will be getting their booklet back! Also note that you will need an enclosed index card with their name and address on it so that you are able to return the booklet and send them their badge and certificate.

☐ Want to learn more?

Many National Wild and Scenic Rivers have their own website run by a river stewardship council or similar conservation group. This page is an excellent way to include a web address for that website and to encourage participants (and their parent(s)/guardian(s)) to learn more about your river. You may also want to include the web address for the National Wild and Scenic Rivers System site, and encourage participants to learn more about the Wild and Scenic program as a whole. Perhaps encourage them to make other rivers across the country a vacation destination! You could also include a photo and the name of several local Wild and Scenic Rivers.

☐ Comments, Questions, and Concerns

As the Junior River Ranger program is new, we want to encourage user feedback so we can improve it to the best of our ability. As a closing page, targeted more for adults than youth participants, mention that the program is new and that we want to make sure it's the best it can be. Ask for any comments, questions, concerns, or other feedback both from the adults and the

children. Provide contact information for your NPS or conservation group liaison – email, phone number, and mailing address to make them as accessible as possible!

□ Acknowledgements

If you receive help, funds, or donated services for the purpose of creating the Junior River Ranger booklet and/or printing it, it's a great idea to include an acknowledgements page to thank those people or organizations! If you are a partnership river and have many active stakeholders or do not have a single river stewardship council, consider including them in the acknowledgements as well. This is something that can be included on the back cover of your booklet.

Additional Notes

Identifying Your Audience

***See Program Checklist (http://www.nps.gov/interp/jr_ranger_kit/develop/checklist.htm)**

When creating a Junior River Ranger booklet, think of your audience and your river(s). Think about what age range you want to target with your program. The Junior River Ranger program officially targets ages 8-12, but may vary. National Park Junior Ranger programs vary from park to park, with some including children as young as 5. Elementary school through junior high is generally a good range. You may or may not wish to state your intended age group right in the booklet. If you do, it can be very valuable to note that all ages are encouraged. It can also be helpful to make a note that younger children may need help from a parent – this can be addressed in a welcome note to adults in the beginning of the booklet, or as a note to the children themselves.

Unlike many National Parks, your visitors may not be visiting the river as a destination unto itself. This provides unique challenges to considering the length, content, and the distribution of your Junior River Ranger booklet. Many Junior River Ranger participants probably live locally. They might be Scout groups, from after school programs, or families taking an afternoon outing to the river. If you have special facilities, such as a campground, you will have to consider how to engage youth who are there for a longer period of time. It will be important to get to know the character of your visitors to create and distribute the booklets effectively.

River Access

Your river stretches many miles, but traveling along the river to reach particular destinations may not be realistic. Aim to make your activities general so they could be completed at any point along the river. If there are certain landmarks or features that you want to call out specifically, consider making those activities optional. If


you have a number of special points all along the river, consider listing them and requiring the child only visit one.

Selecting Activities

Select activities that feature or focus on each of your Outstandingly Remarkable Values (ORVs) and do your best to distribute the number of activities evenly among the ORVs. Encourage, or even require, participants to complete at least one activity from each section. Also, be sure to include a range of activity types to appeal to different learning styles. Try to design the activity pages such that they appeal to children as much as possible. Not all topics may be readily or visually interesting to children, such as history or literature, so it is important to make these pages as kid friendly as possible. Compare these two pages from the SUASCO Wild and Scenic Rivers booklet:

History and Literary Value

Henry David Thoreau wrote extensively about the Sudbury, Assabet and Concord rivers and the areas nearby. Here are some examples of what he said.....



The river, now that it is so clear and sunny, is better than any aquarium. ... It is an enchanter's wand, ready to surprise you with life.
Aug. 8, 1859, Vol. 12, p. 280

You only need sit still long enough in some attractive spot in the woods that all its inhabitants may exhibit themselves to you by turns.
Walden

The rivers inspired Thoreau to dream and wonder and imagine things beyond his experience. You can try to do the same.

Pretend you are a modern day Thoreau...take a quiet walk along the river. What does the river make you dream and wonder about?

American Literature

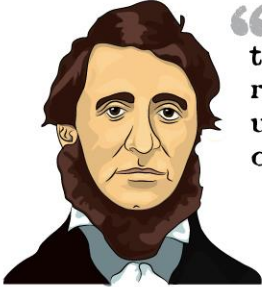
In the mid 1800s many writers came to this area. Three well-known writers lived right in Concord: Nathaniel Hawthorne, Henry David Thoreau, and Ralph Waldo Emerson. They all lived here around the same time and were practically neighbors!

Hawthorne wrote many novels and short stories inspired by New England, and commented on the beauty of the rivers.

Thoreau wrote in his journals about his experiences on the river. His writing shows his great observation skills and his love for the natural world.


Emerson wrote prose and poetry while staying in a house overlooking the rivers.

The rivers influenced and inspired these writers' thinking and we still quote them today.



“Who hears the rippling of rivers will not utterly despair of anything.”

Henry David Thoreau



Thoreau, at around age 39

The page on the left is the original version of this activity addressing the significance of Henry David Thoreau and American literature in the watershed. A potentially dry topic for young children, photographs and text-heavy pages will likely not draw them in. To counter this, add color, consider illustrations in lieu of photographs, and create graphics out of some portions of the text, as with the quote. Note too the difference in the page header, as the one on the right uses more color, and the graphic at the bottom right for the page number. These elements create a more dynamic page layout

***See Creating Your Materials (http://www.nps.gov/interp/jr_ranger_kit/create/index.html)**

***See Booklet Basics (http://www.nps.gov/interp/jr_ranger_kit/create/bookletbasics.html)**

***See Guide to Learning Styles and Child Development
(http://www.nps.gov/interp/jr_ranger_kit/develop/learningintro.html)**

Ordering Badges

You may order the plastic Junior River Ranger badges through a third party vendor. We used Stoffel Seals Corporation. Their badge inventory can be viewed her: <http://www.chiefsupply.com/Brands/Stoffel-Seals.aspx> , and they can be contacted at (888) 588-8569

Design notes

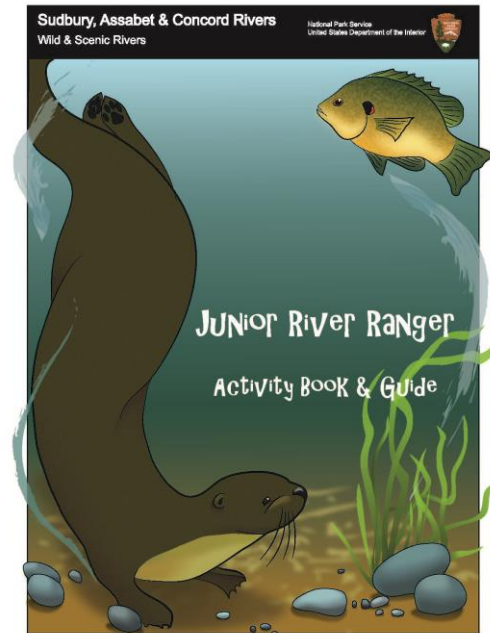
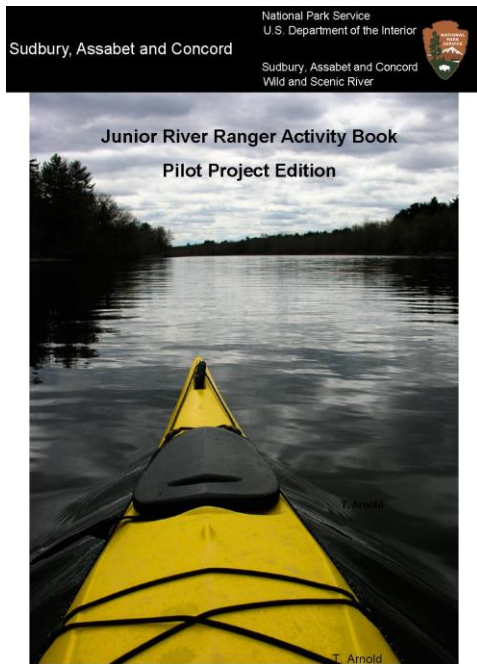
Before you start designing any of the graphical aspects of your book, you must first decide how it will be printed. Will it be in color or black and white? What size will it be? How will the pages be oriented? These things will determine how the rest of your booklet is laid out. Many images that look great in color do not have enough contrast to reproduce well in black and white.

***See Creating Your Materials (http://www.nps.gov/interp/jr_ranger_kit/create/index.html)**

For NPS rivers, include the NPS black bar on the top of your booklet cover to let people know that National Wild and Scenic Rivers are part of the National Park Service and to indicate that the booklet is “official”. This will also help communicate the significance of the National Wild and Scenic Rivers, indicating that they are part of a national, federal program and not *only* a local conservation effort. Many more people will have heard of the NPS than the National Wild and Scenic Rivers program, so you can piggyback on the existing publicity of the NPS in this way.

When choosing an image for your cover, again make sure to consider your audience. A beautiful photograph of a scenic river appeals to us as adults, but children are less likely to be drawn to such photos. If you do want to use a photo, consider using one that includes a child engaged with the river. Make sure any photos you use are extremely clear so that they will reproduce well. The higher the pixel density, the better.

Generally, children will be more drawn to covers that are illustrated in some way – both kids and adults readily associate cartoons with young audiences. Try not to get too cartoony as you are appealing to a range of ages. Bright colors are visually appealing and will catch someone’s attention more easily – whether that is the attention of the adult or the child. Consider these two covers from the SUASCO Wild and Scenic Rivers:



The cover on the left was used in the pilot year for the booklet. The image is a scenic and attractive photo of the river and a kayak, but this scene may not be easily recognizable to children and may not catch their attention or interest. Contrasted with the new cover, on the right, which shows a charismatic otter and fish and a more dynamic font for the title. Also note how the black band is sized in relation to the rest of the cover image in both, and how the site text is structured to more closely resemble other NPS publications in the new cover.

***See Life Under the Black Band (http://www.nps.gov/interp/jr_ranger_kit/create/coverart.html)**

Clean lines and graphics are ideal. If you do create your own art, make sure that it is scanned at a high quality and cleaned up or done digitally. We are advertising the “official” nature of the Junior River Ranger badge – kids want to feel that they are earning a legitimate rank, rather than an unofficial homemade paper certificate.

Images of rivers by themselves can be static. Include dynamic wildlife in their habitats. Charismatic species like beavers, otters, ducks, raccoons, fish and turtles are appealing.

*** See Choosing and Using Images (http://www.nps.gov/interp/jr_ranger_kit/create/choosingimages.html)**

Aim for some consistency to tie your whole booklet together – a similar font and design for all page headings, certain graphics that appear on every page or on many pages (e.g., a graphic behind or as a page number, a Junior Ranger hat in the corner of every page), or a consistent color and font theme.