

Team Information

Project Name

Missouri State Parks Education Resources Website (SPORE- State Parks Online Resources for Educators)

Team Lead

Alison Dubbert, DNR/Missouri State Parks

Team Members

Minimum: 3; Maximum:10

Name	Department	Division
Patricia Chambers	DNR	Missouri State Parks
Brooke Mahar	DNR	Missouri State Parks
Chris Edmondson	DNR	Missouri State Parks
Kelly Koch	DNR	Missouri State Parks
Jamie Hubert	DNR	Missouri State Parks
Kristen McKinney	DESE	Office of College and Career Readiness
Melissa Blank	DNR	Missouri State Parks
Jamie Henry	DNR	Missouri State Parks

Your Pitch

What problem are you addressing? (No more than 200 words)

Missouri State Parks and Historic Sites are nationally recognized for quality interpretive programs, tours and educational materials. Many schools visit our sites. We also deliver programs at schools. However, there has been a recent trend for educators requesting more virtual content. Budget cuts have caused a reduction in funds for fieldtrips. This year our programming for schools has dropped significantly, mostly due to COVID-19. Staff have struggled to continue to provide interpretation allowing students to learn about our cultural and natural resources when field trips are not possible. Virtual programming through videos on topics that are normally interpreted on site have been widely successful on social media. However, developing virtual content takes time and resources, such as video editing software and expertise. Interpreters would also like to make sure the virtual content we produce follows Missouri curriculum standards so teachers will more likely to be able to use it in the classroom. Additionally, it would be more efficient for educators to have an easy, online site to access our educational resources: SPORE, or State Park Online Resources for Educators. That central site for educational content and resources could be developed into a statewide platform with partnerships with other agencies.

What is the root cause of the problem? (No more than 200 words)

During the recent shutdowns due to Covid-19, the need for virtual programs has become even greater. Many other Missouri museums, zoos, and galleries have already incorporated digital content as a tool to engage people to their sites when they can't physically go. The desire for virtual tours and lessons is not going away due to school budget constraints and logistics. With school district budgets tied directly to the success of standardized testing, teachers often feel the pressure to incorporate as many learning standards during the school year to ensure they meet Missouri's curriculum. We have to show that our programs meet those curriculum standards so teachers will use them. Additionally, State park staff have limited resources and equipment to develop virtual programming. We do not have software for editing videos and have often been relying on personal resources to produce the videos we have.

What is your proposed solution? (No more than 200 words)

First, we need to determine how the content we have already developed meets Missouri curriculum standards. We propose to do this by partnering with university education departments that can use our materials in student projects practicing aligning curriculum. Additionally, we can provide internal training for site staff who are interested in aligning their own programs to Missouri curriculum standards. Second we need to work with educators to determine what other virtual content we should develop. We have developed a short survey we propose to send to Missouri educators for feedback. Third, we need to find funding to purchase equipment and software needed to produce virtual programs and work on developing that content. Fourth, we need to develop a webpage for educators to easily access the content and resources. We propose to have a page on the Missouri State Park website, but as we develop partnerships with other agencies the content could go on a statewide site. We also intend to continue to develop virtual programs and materials.

Which area of impact is your primary focus? (No more than 10 words)

improve citizen experience

What is your primary measure for impact?

Primary measure	Current Status	Target
MSP Educational Resources webpage is developed	idea stage	Once the webpage is live we will track website hits to determine if educators are using the MSP Educational Resources webpage to help teach about Missouri's natural and cultural resources. As more content is added, we would like to see the monthly website hits increase.

* Measures should follow SMART principle: Specific-Measurable-Actionable-Relevant-Time bound.

[OA's guidance on performance metrics](#)

Project Plan

What are the major activities and milestones to deliver your solution? (Additional steps may be added)

	Activity	Milestone or deliverable	Due date
1	Reach out to educators via a survey to request virtual content ideas	electronic survey	15-Jan-21
2	Based on educator survey, create a list of additional virtual content needs	virtual content needs list	15-Feb-20
3	partner with university education departments to have students help us align current virtual content and resources and with current MO education standards	current virtual content list compared with MO education standards	1-Apr-20
4	work with MSP website developers to design educational resources page - start with content we currently have available and plan to add more as we produce it	MSP educational resources webpage	1-Aug-21
5	Develop additional virtual content based on virtual content needs list	virtual programs	ongoing with goal of at least one new virtual program a month
6			
7			
8			

Required Resources and Support

What is the expected project duration? Choose one from the list below.

Long term (> 6 months)

How many people will be required to finish the project in the given duration? Choose one from the list below.

Large (>6 people)

Does your project require any specialized skills to complete? If so, explain. (No more than 100 words)

Video production skills, knowledge of MO education standards

Does your project require any statutory change to complete? If so, explain. (No more than 100 words)

no

Can you implement your project with your current resources? If not, explain. (No more than 50 words)

Strongly recommended: Provide a cost breakdown in your additional materials.

Adobe Premier Pro Video editing software - \$239.88/year for each license (propose 8 licenses), Video Kits \$400/ each (propose 15), part-time videographer (\$13/hr) to help produce videos faster

Are there other factors critical to design and implement your project? (No more than 50 words)

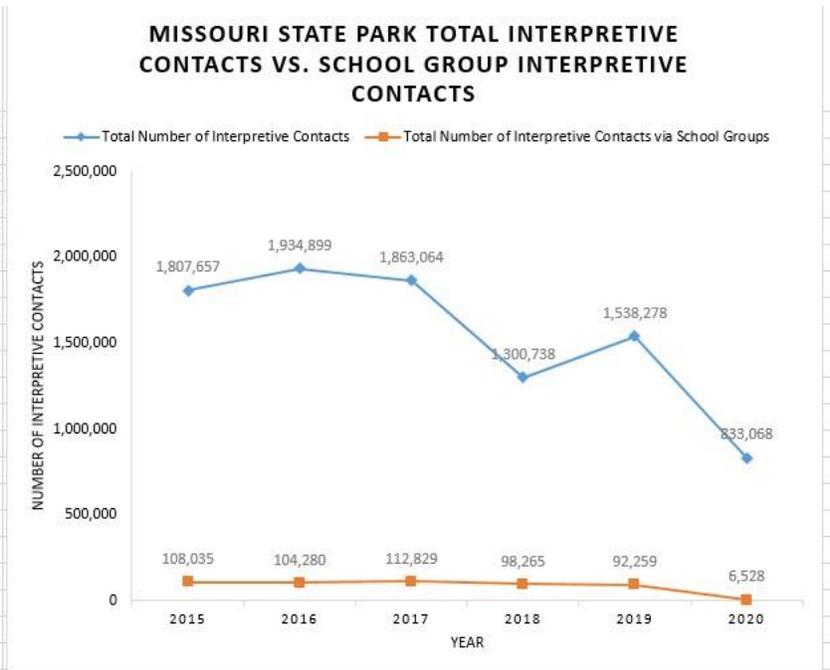
We are exploring partnership opportunities. If this website is expanded to other state agencies, a central website, perhaps on DESE's site, would probably be necessary.

Additional Materials

Please list any additional materials you have provided.

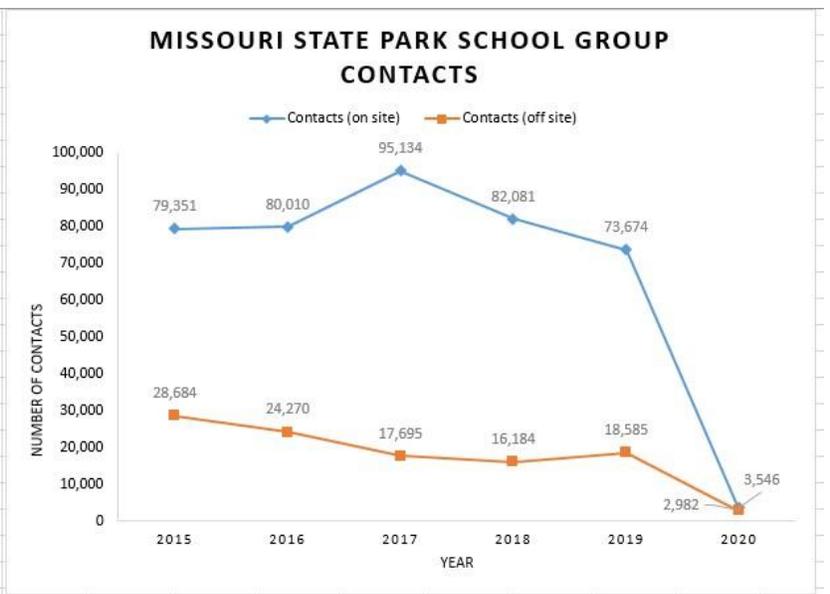
	Brief description
1	Charts with attendance numbers, social media engagement numbers, video kit inventory list, and list of current videos posted to social media
2	Teacher Virtual Programming Needs Survey
3	sample list of in-person MSP program offerings and curriculum alignment information

Year	Total Number of Interpretive Contacts	Total Number of Interpretive Contacts via School Groups
2015	1,807,657	108,035
2016	1,934,899	104,280
2017	1,863,064	112,829
2018	1,300,738	98,265
2019	1,538,278	92,259
2020	833,068	6,528



As the above line chart shows, our total interpretive contacts as well as our school group interpretive contacts have dropped significantly in 2020. Currently, school groups make up a small percentage of our visitation. By making online educational materials available, we could reach a much larger audience and provide assistance to more educators.

Year	Contacts (on site)	Contacts (off site)
2015	79,351	28,684
2016	80,010	24,270
2017	95,134	17,695
2018	82,081	16,184
2019	73,674	18,585
2020	3,546	2,982



Most of our contacts with school groups involve them coming to the park or historic site, which is ideal for our place-based learning. However, we do go to schools with our interpretive programming when requested. An online resource with the opportunity for virtual field trips and interpretive programming would be an ideal resource for schools who do not have funding for fieldtrips or the logistics of getting to parks across the state does not work.

Missouri State Parks Video Project and Social Media Engagement

With the pandemic, interpreters had to figure how to provide contactless interpretation to the public. One method was making use of our various social media platforms. Staff began producing short videos on topics we would normally feature in our in-person programming.

The success of the first several videos has generated enthusiastic participation by a growing number of staff. We've discovered that many of our staff have hidden talents for creating highly entertaining and attention-grabbing videos. The level of public engagement from these videos has grown substantially, resulting in requests by external groups, educators and civic organizations for the creation of topic-specific videos. From Mid-March through October, Missouri State Parks posted **49 videos** on its three main social media platforms (Facebook, YouTube, and Twitter). These videos have received nearly **200,000 views**, and the state parks' social media accounts have gained more than **17,000 new followers**.

List of Interpretive Videos Posted to Social Media

(We are adding more each week)

Apple Tree Christmas Story Book Reading	Royce Martin – Scott Joplin Ragtime Influence	How to Identify Bush Honeysuckle
Victorian Christmas Cards	Learn2Paddle with Missouri State Parks	Spring Peepers
Native American Recognition	Alphabet Hike	Storytime at Babler – ongoing series
Holiday Door Swag	Battle of Island Mound State Historic Site	When Fur and Feather Get Together
Roaring Rive State Park Spooky Halloween	Felix Valle House SHS- The Shaw Fireplace Frieze	Babler Captive Animal Feeding/Watching Videos
22 Push Up Challenge	Missouri State Parks Fear Factor- Series of 6 videos	Dutch Oven Cooking Series at Babler
Milkweed Tussock Moth Caterpillars	Graham Cave State Park – Fern Ridge Trail	Creek Walk Videos (multiple parks)
Trail Etiquette	Camping Safety	Monarch Series at Babler
Leave No Trace at Missouri State Parks	World Bee Day	Missouri State Museum – Landing After Hours Series
Sensitive Briar	Virtual Story Time – The Little House	Missouri State Museum – Museum Minute Series
Clearfork Grassland at Knob Noster State Park	Pond Life at St. Francois State Park	Missouri State Museum – Learning @ 11 and Learning @ 2 series
Clearfork Lake at Knob Noster State Park	How to Remove Invasive Bush Honeysuckle	Missouri State Museum – Mini Tours
Be Well and Safe in the Outdoors		Pond Life
		Redbud Syrup

Birdseed Ornaments

Puff Adder? Hognose? Missouri
Cobra?

Bird Watching

Victorian Mourning Practices Series

Virtual Children's Day

Historic Toys

Hunter-Dawson State Historic Site
Virtual Tours

Video Kits

To encourage the continued production of video programs, the Grants, Recreation, and Interpretation Program purchased 15 video kits and distributed to field staff. Each kit includes an easy-to-use camera, sound equipment and tripods. As budgets allow, the intent is to purchase more kits in the future and provide training on video production.

Video Kit Inventory List

- Canon VIXIA HF R800 Camcorder
- Canon BP-727 High Capacity Intelligent Battery
- Canon 6' HDMI Male to Mini HDMI Male Cable
- Canon CA-110 Compact AC Power Adapter & Charger
- IFC-300PC Interface Cable
- SanDisk Ultra 128GB SDXC Memory Card
- Extended Life BP727 Replacement Battery
- 6.5" Tabletop / Pistol Grip Tripod
- 57" Lightweight Aluminum Alloy Tripod
- Water-Resistant Carrying Case
- Mini HDMI to HDMI Cable
- Equipment Cleaning Kit
- External Lavalier Microphone with 20' Cable
- External Battery Charger
- Memory Card Reader

Educator Questionnaire (To be a survey via QuestionPro)

1. What is your Zip Code?
2. What grade(s) do you teach? (Select all that apply) (pre-k, k, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, University)
3. What subject do you primarily teach?
4. Were you aware that Missouri State Parks offers educational resources, programs, and field trips?
5. Have you visited a State Park/State Historic Site with a class in the last 36 months?

IF YES – Which park(s)?

6. Have you utilized virtual educational resources in the past 24 months? (Y/N)

IF YES – Please list the types of resources you have used? (website url, organization name, etc.)

7. Would you be interested in virtual programming from a Missouri State Park?
8. Which topics would be of interest to you? (Check all that apply)
 - Missouri statehood
 - Famous Missourians
 - Missouri Mammals
 - Missouri Plants
 - Missouri Animals
 - Animal Life Cycle
 - Missouri Geology
 - 19th century history
9. Would you be interested in getting more information about educational resources?
10. Please rank the following virtual programming choice with 1 being the most desirable and 5 being the least.
 - Pre-recorded virtual tour of State Park/Historic Site
 - Pre-recorded video on topic related to current curriculum
 - Education packet on topic related to current curriculum
 - Live virtual program by Missouri State Interpreter
 - Traveling trunk on topic related to current curriculum
11. Please provide any comments related to virtual resources you'd like to see offered

Sample List of In-Person Interpretive Program Titles Currently Offered at Missouri State Parks

(Complete list is 55 pages!)

Adaption Artistry	Flower Hour/Wildflower Hikes	Nature Scavenger Hunt
Archaeology in a Box	Forest Animals	Osage
Archery	Fossils	Owl Pellet Plunder
Bats/Bat Echolocation	Fun in the Mud	Pattern Palooza
Birds/Bird Watching	Historic Atlatl and Darts	Photography Walk
Butterflies/Butterfly Lifecycle	History Detective	Plein Air Painting
Compass Skills/ Orienteering	House Hunting	Pollinator Power
Creek Crawl/Creek Critters	Insects	Primitive Hunting
Dutch Oven Cooking	Knots	Scat
Earth Day	Mammal Hide Match	Spider Sniff
Erosion Challenge	Mammals of Missouri	Stream Team
Exploring the Outdoors	Migration Madness	Toys and Games
Feeling Flighty	MO Fear Factor	Tracks
Feeling Froggy	Museum Scavenger Hunt	Vulture Venture
Fish Maze	Native American Games	Wild Edibles
Fish	Nature Mythbusters	Winter Birds

Missouri State Parks Meets DESE Standards for Educators

For decades, thousands of Missouri public, private and home school educators have used the unique natural and cultural resources of Missouri State Parks to enhance their curriculum and students learning. Interpreters, as informal educators, have the specific background knowledge of their park or site that can provide educators with tangible experiences related to that site that would not be available in the classroom.

In recent years, school districts across the nation are adapting to lower budgets, meaning less funds for field trips. An educator can no longer simply go on a field trip to get the kids out of the classroom. To justify the field trip, the educator must provide tangible links to the curriculum that will ultimately prepare students for standardized testing.

For education from Missouri State Parks to have the biggest impact, it is vital that the programming, supplemental materials for educators and digital/virtual content align with Missouri's Learning Standards, put forth by the Department of Elementary and Secondary Education. It will also be a second priority to align programs with national standards, such as NCSS (National Council for the Social Sciences). Almost all of our sites incorporate the DESE standards into their educational programs.

Provided below are examples of existing interpretive programs and curriculum materials that use cross-curricular connections to aid educators in getting the most out of their virtual or on-site visit to a Missouri State Park or Historic Site.

Example 1: Missouri State Museum

- Lewis & Clark Lesson Plan Elementary-Science 3.LS3.C.1, 3.LS3.B.1, 6-8.LS1.B.1&2, 6-8.LS2.C.1&2; Social Studies 4TS.7.A.a, 5TS.7.A.a, 4TS.7.B.a, 5TS.7.B.b, 4TS.7.D.a, 4.TS.7.E.a-c, 4.TS.7.F.a, 5.TS.7.E.a, 5.TS.7.D.a-c, 6-8.AH.1.CC.A-E; Visual Arts- VA:Pr4A.5-6, VA:Pr5A.5-6; Language Arts-4LA:3.A.a-e, 5LA:3A.a-e.

Example 2: Cuivre River State Park

- Seasons and Shadows/ Fifth Grade Fall Field Trip-Science 5.ESS1.B.2, 5.LS2.B, 3.LS3.B, 4.LS1.A; Math 5.RD.C.5, 5.GM.C.6.a & b, 5.DS.A.1; PE
- Chlorophyll Rules and Prairie Food Webs/Fifth Grade Fall Field Trip-Science 5.LS1.A.2, 5.LS2.B, 5.PS3.D;

Example 3: Felix Valle State Historic Site

- Upper Elementary Educators Guide-Social Studies 3.SS.3a.A, 3.SS.3a.F, 3.SS.4.A, 5.SS.3a.B-C, 5.SS.3a.F, 5.SS.5.A, 5.SS.5.D, 4.SS.6.A, C, 3.SS.6.D, 4.SS.7.A,E,; Math-4.GM.C.7; English/Language Arts-3.R.1.A.b, 4.R.1.A.b, 5.R.1.A.b, 3.R.1.B.i, 4.R.1.B.f, 5.R.1.B.g, 3.R.3.A.d, 5.SL.1.A.d, 3.SL.3.A.c, 4.SL.3.A.b

Missouri Learning Standards Grade-Level Expectations Coding System Explanation for Content Areas

Coding System Example		Coding System Explanation
English Language Arts*	7.W.3.A.d Grade Level, Strand, Big Idea, Concept, Expectation	<p><u>Grade Level:</u> (7) Grade 7</p> <p><u>Strand:</u> (W) Writing</p> <p><u>Big Idea:</u> (3) Approaching the Task as a Reader</p> <p><u>Concept:</u> (A) Revise and Edit</p> <p><u>Expectation:</u> (d) Review, revise and edit writing with consideration for the task, purpose and audience. Use effective transitions to clarify relationships and connect ideas, claims and signal time shifts.</p>
Math	Elementary: 5.GM.C.6.d Grade Level, Domain, Cluster, Expectation	<p><u>Grade Level:</u> (5) Grade 5</p> <p><u>Domain:</u> (GM) Geometry and Measurement</p> <p><u>Cluster:</u> (C) Graph Points on the Cartesian coordinate plane within the first quadrant to solve problems.</p> <p><u>Expectation:</u> (6) Define a first quadrant Cartesian coordinate system. <small>(no special name for the few expectations that have sub categories noted by lower case letters)</small></p> <p>(d) Define the second number in an ordered pair as the vertical distance from the origin.</p>
	Secondary: A1.LQE.A.3 Course Level, Domain, Cluster, Expectation	<p><u>Course Level:</u> (A1) Algebra 1</p> <p><u>Domain:</u> (LQE) Linear, Quadratic and Exponential Models</p> <p><u>Cluster:</u> (A) Construct and compare linear, quadratic and exponential models and solve problems.</p> <p><u>Expectation:</u> (3) Construct linear, quadratic and exponential equations given graphs, verbal descriptions or tables.</p>
Social Studies	Elementary: 3.H.3.B.a Grade Level, Strand, Concept, Expectation	<p><u>Grade Level:</u> (3) Grade 3</p> <p><u>Strand:</u> (H.3) Missouri, United States and World History</p> <p><u>Concept:</u> (B) Historical Perspective, Thinking, Passage of Time</p> <p><u>Expectation:</u> (a) Create a personal history</p>
	Secondary: 9-12.GV.2.CC.A Grade level range, Course, Theme, Strand, Expectation	<p><u>Grade Level:</u> (9-12) Course may be taught in any grade 9 through 12</p> <p><u>Course:</u> (GV) Government</p> <p><u>Theme:</u> (2) Historical Foundations</p> <p><u>Strand:</u> (CC) History: Continuity and Change</p> <p><u>Expectation:</u> (A) Trace the evolution of government in the English colonies to explain American colonist' expectation for self-rule</p>
Science*	2.PS1.A.2 Grade Level, Strand, Core Idea, Component Idea, Expectation	<p><u>Grade Level:</u> (2) Grade 2</p> <p><u>Strand:</u> (PS) Physical Science</p> <p><u>Core Idea:</u> (1) Matter and Its Interactions</p> <p><u>Component Idea:</u> (A) Structure and Properties of matter</p> <p><u>Expectation:</u> (2) Analyze data obtained from testing different materials to determine which materials have the properties that are best suited for an intended purpose. [Clarification Statement: Examples of properties could include, strength, flexibility, hardness, texture, and absorbency.]</p>

*Coding format is K-12 unless noted by Elementary/Secondary