My island pledge

I, [Name], pledge to care for my island’s wild places, its plants and wildlife, and to stay on designated trails, leash my pet/s, and leave no trace* on my visit.

*San Juan County was the first ‘leave not trace’ county in the nation.
Welcome Explorers! Are you ready to explore Moran State Park? Moran State Park is celebrating its 100th anniversary this year (2021), so it's a perfect time to explore this amazing park.

Seattle Mayor and prominent ship builder, Robert Moran, donated more than 2,731 acres in 1921 for the development of this state park and added another thousand acres the following decade. Today, the park boundaries have expanded to 5,252 acres. Thanks to Moran's generous donation, you can explore this special place and learn about its history, its natural environment, and the flora and fauna (plants and animals) that live here.

Being an explorer starts with using your own curiosity and observation skills to answer questions about what you observe within Moran State Park. Keep your eyes open, listen to the sounds around you, and record what you notice. Just remember to observe everything in its natural environment and don’t take home anything that should stay in the park. Observe wildlife from a distance, give them plenty of space, and avoid loud noises that may startle them. Finally, take the island pledge, follow the Leave No Trace principles on your visit, and remember to have fun out there!
This guide includes activities for the "Tails and Tales" summer reading program at Orcas Island Public Library using the natural world for inspiration.

**Activity #1 Trout tales at Cascade Falls** (Moran State Park)

**Activity #2 CCC History at Mount Constitution** (Moran State Park)

**Activity #3 Amphibian tales** (Moran State Park)

**Activity #4 Be a Bird Sleuth!** (Moran State Park & at home)

**Activity #5 Bat tales** (Moran State Park & at home)

**Activity #6 Leave no Trace** (Moran State Park & outdoors)

Plus: Join Park activities & fill up your Passport! (Look for the stamped activities within your explorer guide)

Visit Moran State Park and complete four or more of the above activities, and return your packet to Orcas Public Library for a free prize (while supplies last). Complete all activities and we'll put your name in a drawing for more prizes! Share photos with jdegroot@orcaslibrary.org or on Instagram @orcaskidsread. Please note that any images or text shared may be published by the Library.

Moran State Park Discover passes are available and free to use for a one-week check out to patrons of Orcas Island Public Library, thanks to the Check out Washington Program, a partnership between the Washington State Library and Washington State Parks.
Activity # 1: Trout tales at Cascade Falls

Cascade Falls is the largest waterfall in the San Juan Islands at a height of over 40 feet. There are many waterfalls in the Cascade Creek watershed. (A 'watershed' is an area of land where all the water under it or on top of it drains and collects). What are the other waterfalls?

Cascade Falls and the Cascade Creek watershed originate at Mountain Lake in Moran State Park and flow downstream until they empty into Buck Bay at the hamlet of Olga. Wild fish like Coastal Cutthroat Trout (Oncorhynchus clarki clarki) live in the creek year-round with some living part of their lives in the lake and some in the sea (a.k.a. "sea-run" cutthroat trout). Cutthroat trout are 'salmonids' which means they are in the same family as many Pacific salmon and trout like steelhead. You can distinguish cutthroat trout from other salmonids by the red slash mark under their jaws which makes them look like they have a "cut" on their throat.

Join Jenny De Groot on Thursday, July 29th from 9-noon at the Cascade Falls Trail to make a trout hat and stamp your passport.
Activity #1:

walk down the Cascade Falls Trail until you hear the falls. when did you first hear the falls? what does it sound like?

what are some other clues that let you know you’re getting closer to the creek/ falls? (hint: elevation, moisture,...?)

Draw a picture of Cascade Falls here. Did you see a trout or any other animals using the creek? If so, draw them here.

Remember: cutthroat trout populations are small and sensitive to disturbance so please walk lightly in and around their home.
Activity #1:

Trout need cool, clean, oxygenated water to survive. Healthy streams like Cascade Creek are shaded by trees that keep the stream cool. Tree roots stabilize the stream bank and provide hiding places for fish. Stream banks also filter pollutants, keeping the water clean for fish (and people). Leaves from trees fall into the stream and become food for insects which are later eaten by trout. Water spilling over logs and boulders form deep pools where trout hide, feed, and stay cool as the stream becomes shallower in warm, summer months.

Be a Habitat Hunter: Can you find all the places in Cascade Creek that provide good habitat for trout? Put a trout hat on and circle them when you find them.
Activity #2: Mount Constitution and Stone Tower history

Mount Constitution is the highest point in the San Juan Islands at 2,409 ft. From sea level (0 feet), that's equivalent to 4 Seattle Space Needles standing one on end! Walk up from the parking lot until you reach the summit of Mount Constitution. In one word, try to find the best descriptive word for what you see, feel, or hear at the summit.

The 53-foot stone tower at Mount Constitution was built in 1936 by architect Ellsworth Story and the Civilian Conservation Corp (CCC). President Franklin D. Roosevelt started the CCC to employ and train young men in different trades in the 1930's during the Great Depression. In all, the CCC crews build 10 miles of trails, 12 bridges, seven buildings (including the ranger station), and numerous roads in Moran State Park.

Count or have someone count with you the number of stone steps up the top of the tower. Number =

Join Rolf Erickson for an Iconic Stone Tower talk (see Park schedule, pg. 25 and stamp your passport

Photo courtesy of WA Archives
Activity #2:

What do you think the stone tower was built for?

The Great Fire of 1910 (a.k.a. the “Big Blow Up”) was known as the largest forest fire in history, burning 3 million acres across Washington, Idaho, and Montana. After this massive fire, fire lookout towers were built across the US to form an early warning system to manage fires. Many fire lookout towers in the West have volunteers/ or paid employees that live in them during fire season. Would you want to live in a lookout tower for the entire summer?

The stone tower was placed on the National Register of Historical Places in 1974. It was initially built as a fire lookout but today is used as an observation tower to take in the 360-degree views.

Be a fire lookout & learn how to locate a fire. What direction would a fire be at if it was spotted at the base of Mount Adams? (clue: use a compass rose at the tower to locate a fire)
Activity #2:

Some plant and animal species have developed adaptations (are more suited to) fires than others. For example, Douglas Fir trees (Pseudostuga menziesii) have thick bark that does not catch on fire as easily as other thinner barked tree species. Can you find a living Douglas Fir tree with a history of fire? What does it look like? Is the tree still alive? If it’s dead, are there other animals using it?

What are ways you can prevent a fire? Think of ways you keep your home/campground safe and write or draw what you do here. (Hint: Matches? Leaving a campfire? How fires start? Where would you go/who would you notify if you saw a fire,...?)

Douglas Fir tree
(photo by Kayla Seaforth)
Activity #3: Amphibian tales at Moran State Park

Did you know: Newts are a type of salamander? Orcas Island and Moran State Park are home to several amphibians that you may see or hear: Rough-skinned Newts, Long-toed Salamanders, Northwestern Salamanders, Pacific Tree Frogs, Red-legged Frogs, and invasive American Bullfrogs. Often, salamander and frog eggs are visible in the shallows of ponds and lakes during the spring and summer.

Amphibians are very unique animals that have a special relationship with water. While the adults of most amphibian species live on land, all amphibians rely on water to lay their eggs. Amphibian eggs don’t have a shell to hold moisture, so laying eggs in water keeps them from drying out.

Some amphibians also get creative with their eggs. Rough-skinned Newts (see photo above), for example, will typically lay eggs one at a time. They will then wrap each individual egg up, like a tiny burrito, with plant material on the bottom of the pond or lake; hiding it from would-be predators!

Join Christian Oldham on Friday July 16th from 9-noon at Mountain Lake Trail Station for Newts, Frogs, and Salamanders, oh My! & have your passport stamped
Some frogs get very creative laying eggs too. There are some tropical species that will lay their eggs in little pools of water in plants. When the tadpoles hatch, the adult frogs will carry them on their backs to pools on the forest floor!

Frogs and toads use calls to find mates just like birds do. Each has its own unique call. Scientists can identify the different types of frogs and toads from their calls, and try to determine how many individuals are calling to learn more about their population size.

During spring and summer evenings, try finding a good place to sit near a pond or a lake. If you stay quiet, you may hear a chorus of frogs - what do their call sound like? (write or have someone help you write your answer here)

How many individuals do you think are calling?
Activity #3:

If you are able to get a good recording of frog calls, you may be able to start a chorus by playing the recording loudly when they aren't calling. The male frogs will try to compete with the recording using their own calls!

You can even practice becoming an expert at identifying the different species that you hear calling! Online recordings ([http://www.californiaherps.com/northwest2.html](http://www.californiaherps.com/northwest2.html)) are a great way to learn the different types of sounds frogs make.


Did you see or hear one of these on your visit to Moran State Park? If so, which one/s?
Activity 4: Be a birder sleuth! In Moran State Park

There are an estimated 10,738 species of birds world-wide. For some people, imagining finding every bird on this earth is a thrilling possibility that can turn into a lifelong adventure.

One example of a birding legend is ‘bird girl’ Mya-Rose Craig who set the world record for being the youngest person to sight 5,000 birds. Mya-Rose started birding at the age of 4 and by 17 had sighted 5369 birds (2019). That’s half the world’s birds species! A ‘life-list’ is a record of all the different birds you have seen and have successfully identified.

Pack a pair of binoculars, a bird guide, and/or download the Merlin phone app from Cornell Lab to help you identify birds.

Join Joe Benke for Bird Sleuth! at the Summit trailhead on August 7th from 1-4:30 p.m. to see how many birds you can identify, then have your passport stamped.

'Bird Girl' Mya-Rose Craig
Photo by Helen Craig & published in the Independent
Activity #4: Be a Bird Sleuth!

Cross out the bird spy bingo boxes you find. Did you get a bingo?

Take a photo of yourself with your card and share it with us!
Activity #4:

Some birds can be identified by their call or behaviors (Brown Creepers "creep" up trees and Barred owl calls sound like "who cooks for you").

Find a quiet place and sit still for five minutes.

If you see a bird, what is it doing?

If you hear a bird, what does it sound like? Use the blank space to write or draw your answer.
Activity #5: Bat tales in Moran State Park (& at home)

Bats are the only mammals that can fly... and they are very skillful, fast flyers! If you are walking outdoors after dark, and you see a small dark shape zip noiselessly across the sky, it was probably a bat on its way to its breakfast!

As they fly, bats chirp like birds, but a lot faster, and at a much higher pitch than humans can hear. Bats use the echoes of their chirps, or "echolocation", to "see" and avoid trees and houses. They can also use the echoes of their chirps to find the insects they like to eat, such as moths. (Bats have eyes like ours that work much better during the day than at night.)

Bats' day begin when our ends: just after dark. Hungry bats, after sleeping all day, eat insects as fast as they can find them for an hour or two after sunset. On a moonlit night, you may be able to see the dark silhouettes of bats against the sky, or skimming over the surface of a lake or pond.

Moran State Park and Orcas Island are home to nine species of bats!

Join Russel Barsh for Bats Night out! On Saturday August 21st from 8-9:30 pm at the Mountain Lake Bulletin Board & ask him to stamp your passport.
Activity #5:

Most bats in the Park are very small and brown. It’s very hard to tell them apart by looking at them. But if you are very lucky you may see one of our very rare and beautiful Townsend’s Big-Eared Bats. They are still pretty small and brown, but they have big long ears like rabbits! They use those long ears to hear the squeaky noises that moths make to find their mates (like frogs), Squeak, squeak... yum!

On a calm, dry, moonlit evening, find a place to sit down at the edge of a lake or pond where you can see the moon reflected on the water. As it grows darker, watch the sky and the water for flying bats. They are small—not much larger than big moths—and they may flutter and swoop and fly in circles, without making a sound that you can hear. How many did you see?

Don’t be afraid! Stay silent, try not to move much, and a bat may fly so close to you that you can feel a little brush of air from its wings! The bat isn’t coming close to scare you, or to land on you. It’s just trying to smell you, the way a dog or cat might sniff your hand to tell you apart from other people. Did one come close to you? Yes/No

Townsend’s Big-Eared bat
Activity #5:

But even when it is completely dark, you can use a special “bat detector” to hear bats chirping as they fly overhead. A bat detector simply slows down bats' chirps so that we can hear them. Like birds, different species of bats make different chirps, so that we can tell them apart just by listening.

Be a Bad Detective!
Check out a bat detector from the Library and identify the bats you found here?
Activity #5:

Here’s something else you can do, in the daytime. Walk all the way around your home and careful look for **guano (bat poops)** on the deck or patio, window sills, and beneath the eaves. They are tiny—not much bigger than grains of rice—black, shiny, and hard when they are fresh. If you find some, look up and there may be a tiny bat sleeping above you! Every bat poops just a few grains of guano each night, so you can figure out the number of bats and how long they stick around from the number of guano grains! Bat guano is made up of shiny hard bits of bugs! Did you find any? How many did you find (count them without touching them)?

It’s possible you may even have a whole family of bats living inside your attic, roof, or chimney! Look for a big pile of guano... a handful or more. Bats’ entryway must be above. Find a place to sit and watch as the sun goes down. About 15-30 minutes after the sun sets, the bats will come out, one at a time, each one fluttering around for a few seconds before flying off. You can count the bats. And if you have a bat detector, you can hear them chirp, and find out what species they are!
Islanders have lots to be proud of. In 2016, San Juan County became the first county in the US to adopt the Leave No Trace (LNT) Principles and Ethics to support stewardship on the islands! Many parks like Moran State Park have adopted similar principles. As you explore the park, you should keep the idea of LNT in mind. But what is LNT? It is a set of **7 principles** that provide guidelines for anyone visiting the outdoors to minimize their impacts on the natural world. The **LNT Principles** are:

1. Plan ahead and prepare.
2. Travel and camp on durable surfaces.
3. Dispose of waste properly.
4. Leave what you find.
5. Minimize campfire impacts (be careful with fire)
6. Respect wildlife.
7. Be considerate of other visitors.

Join Deanna and Rachel on Saturdays 10-11 am and Sundays 2-3 pm at the Cascade Shelter for Junior Ranger and Citizen Science activities. Stamp your passport & pick up a JRPacket!
Imagine you are a guest in someone's home who ate all their food, left trash on the floor, walked on their floor with dirty shoes, etc. When we are outdoors, we are in animal's homes, and we have a responsibility to treat their homes with respect (leave no trace Principle #6; Respect wildlife).

Think of one of your favorite animals in the Park or one you just learned about. Think about how they may feel if you disrespected them in their home, what might they say? (Examples: a bird that had all its berries eaten, an squirrel whose home in the tree was chopped down for firewood, etc.). Draw your animal or write your answer here.
Activity #6:

one of the most important lessons from the Leave No Trace principles is planning ahead and bringing what you need with you (Principle # ? ____). When creating your packing list, it’s important to remember that there are some essentials you should always bring with you like: extra food and water, a trail map, sun protection, extra layers for warmth and rain protection, a flashlight, and a first aid kit. **Draw or write in the backpack what you brought today. Did you forget anything? If so, what and why might you need it?**

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Earn your Junior Ranger badge and be sworn in as an official Moran State Park Junior Ranger! Take what you’ve learned farther by becoming a Junior Ranger. Just joining the Junior Ranger activities on Saturdays from 10-11 am and fill out your Junior Ranger booklet. It’s fun and easy to do!
Come to a scheduled Park program and ask to stamp or sign your passport above! (see list of events on the next page)
Iconic Stone Tower with Rolf Eriksen, Saturdays at 2 - 3 pm June 26, July 24, August 14, 21, 28 at the Top of Mount Constitution.

How to be a citizen scientist with Rachel and Deanna, Sundays 2-3 pm, June 20 - August 8th at the Cascade Shelter (near lake).

Junior Ranger Program with Deanna and Rachel, Saturdays 10-11 am, June 26th - August 14th at the Cascade Shelter.

Think like a trout and make a trout hat! with Jenny De Groot. Thursday 9-noon, July 29th at Cascade Falls Trailhead.

Wildflowers and their pollinators with Madrona Murphy, Wednesday 1-4:30 pm, July 7th at the Overlook (first trail to Summit Trail Station).

Newts, Frogs, and Salamanders, oh My! with Christian Oldham. Friday 9am - noon, July 16th at the Mountain Lake Trail Station.

Bird Sleuth! Birds of the Alpine woods and Meadow with Joe Behnke, Saturday 1-4:30 pm, August 7th at the Little Summit Trail Station.

Bats Night out! Bats over Mountain Lake with Russel Barsh, Saturday 8-9:30 pm, August 21st at the Mountain Lake Bulletin Board.

For a full list of 'Walks and Talks' and 'Music in the Park' activities see: https://friendsofmoran.org/2021-programs-in-the-park/
Partnerships and Thank yous

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May our islands continue to have natural places of wonder and exploration for future generations and our library continue to offer a window into this unique world.

Thank you!