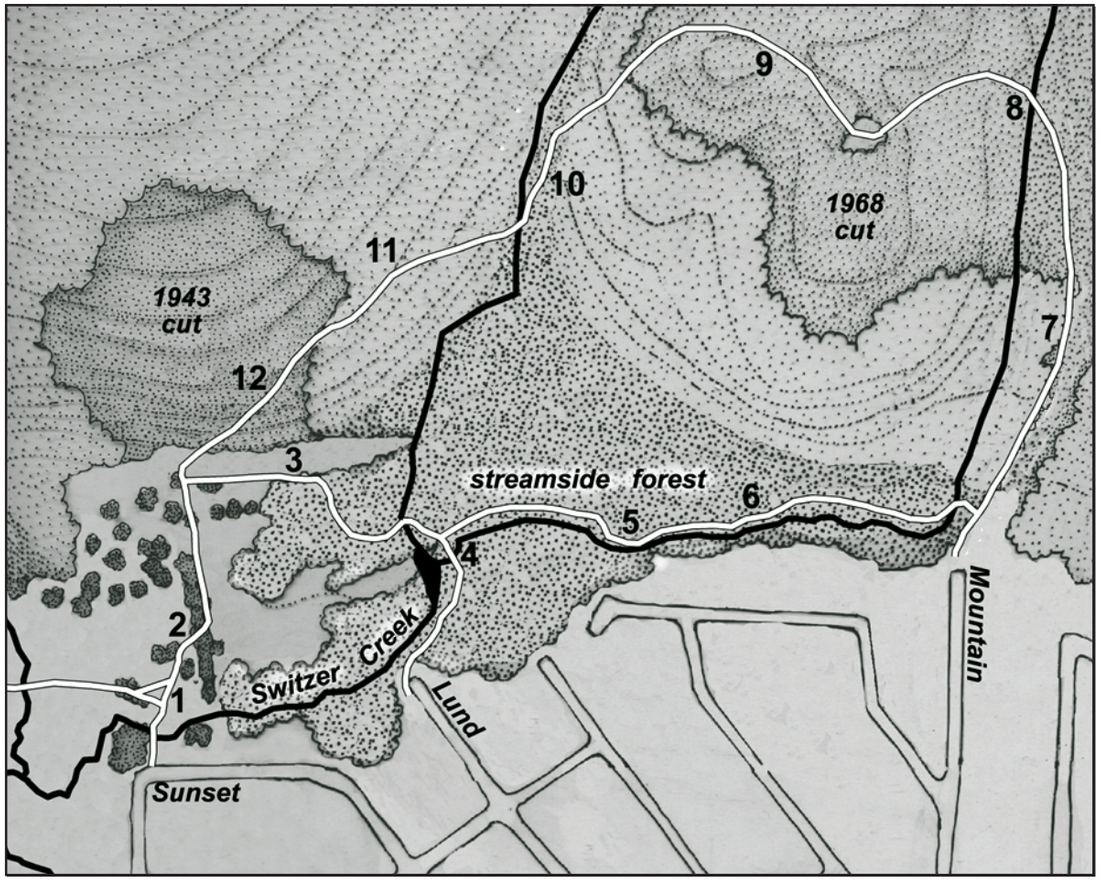
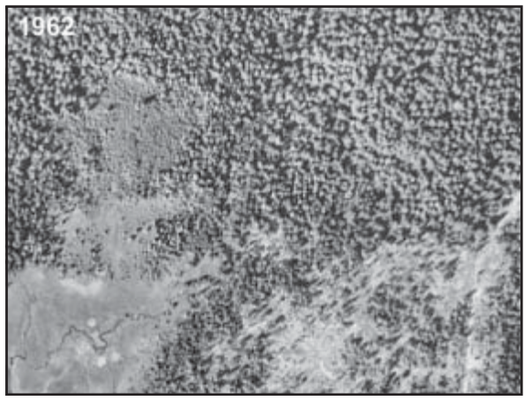
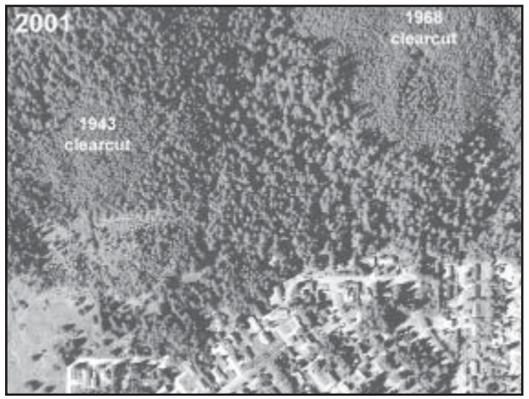
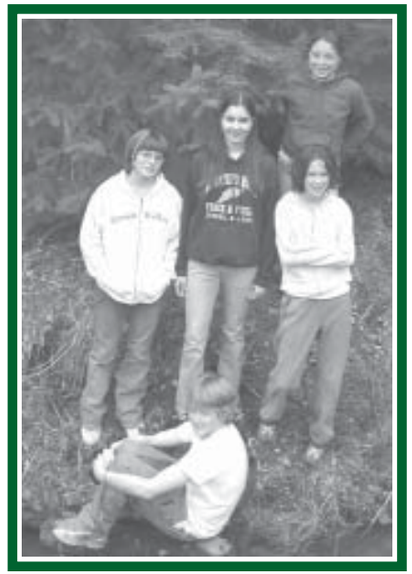


Aerial photos showing changes over 40 years in the Switzer Creek/Dick Marriot Trail area.







Clockwise from top: Koko Urata, Cate Ross, Nathan Ord, Anne Gissel, and Isabel Bush: authors and illustrators

Richard Marriot

Richard worked as a Fisheries Biologist with ADF&G for over 20 years. He enthusiastically shared his knowledge with hundreds of Juneau children who visited Switzer Creek each year as part of the School District's Seaweek Program. The lower portion of the trail and the "pond" has been re-named in his honor.

Alaska Department of Fish and Game

The Division of Wildlife Conservation's mission is to conserve and enhance Alaska's wildlife and habitats and provide for a wide range of public uses and benefits.

www.wildlife.alaska.gov

Discovery Southeast

Founded in 1989 in Juneau and serving communities throughout Southeast Alaska, Discovery Southeast is a nonprofit organization that promotes direct, hands-on learning from nature through natural science and outdoor education programs for youth and adults, students and teachers. Discovery Southeast naturalists aim to deepen the bonds between people and nature.

www.discoverysoutheast.org

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Switzer Creek/ Richard Marriott Trail Habitat Guide

Written and Illustrated by Isabel Bush, Anne Gissel, Nathan Ord, Cate Ross, and Koko Urata

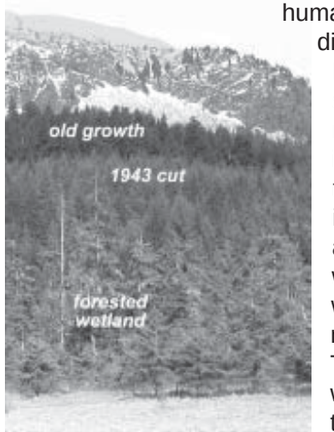
Hemlock House
Dzantik'i Heeni Middle School

with Kristen Romanoff
Alaska Dept. of Fish and Game

and Richard Carstensen
Discovery Southeast

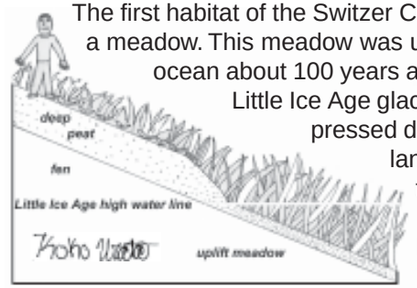
1) Trailhead

The Dick Marriott Trail has some of the best examples in Juneau of forest succession following human and natural disturbances.



Logging, wind, and streams are the major disturbances in this forest. To the observant eye, inter-relationships are evident everywhere. As you walk, you will see numbered posts. These correspond with numbers in this guide. So have fun using our guide to learn more about this fabulous trail!

2) Meadow and fen



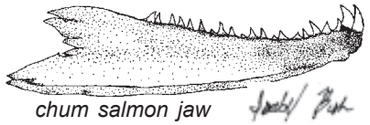
The first habitat of the Switzer Creek trail is a meadow. This meadow was under the ocean about 100 years ago when Little Ice Age glaciers still pressed down the land. Since then, sedge has grown back. There is also a "fen" above the Little Ice Age high water line. A fen is a wetland with a thick layer of peat and plants such as sedge slowly grow on top of it. This fen is at least 4 feet deep and is thousands of years old.

3) Forested wetland


bog tea

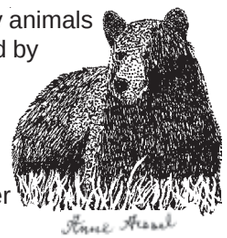
Forested wetlands have poor drainage, often leaving water on the surface. Saturated soil is hard for plants, but a few trees manage to grow. One plant that has adapted well to the wet environment is bog (labrador) tea.

4) Fish habitat

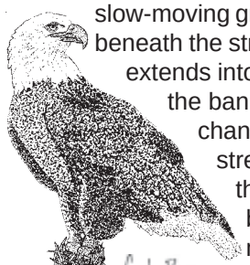

chum salmon jaw

Switzer Creek is home to many native fish, such as Dolly Varden, coho and chum salmon. This pool is a spring. Warm ground water upwells here, keeping the pond from freezing and allowing fish to spend the winter. As you look around, you may notice an old rope swing. This pond may look shallow now, but it has not always been that way. It used to be a popular swimming hole. In fact, until the 1960's, it was over the swimmers' heads. So then why is it so shallow now? What happened? Keep walking (to station 8) to find out!

5) Fish feed the forest

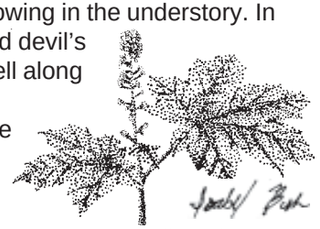


When salmon are running, many animals feed on them. What is left behind by bears and eagles is washed into the soil and serves as plant fertilizer. Here's the cool part: scientists have discovered that slow-moving groundwater beneath the stream extends into the forest on either side of the bank. This groundwater interchanges with the water in the stream. With this in mind, think of the salmon after they die. Their bodies are broken down, the nutrients are added to the groundwater, and in this way distributed to the roots of trees and forest plants.



6) The streamside forest

As you look up the hill, you will see mostly hemlock trees with blueberry growing in the understory. In contrast, the spruce and devil's club grow especially well along the stream. The large spruces benefit from the gravel deposits of Switzer Creek so roots are not in standing water.


devil's club

7) Bird habitat

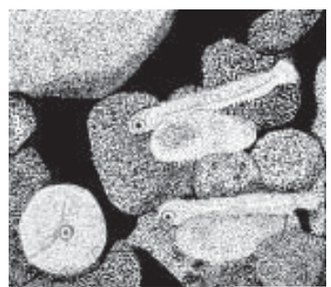

varied thrush

This logging road was built in preparation for the 1968 clearcut. Clearing out the trees to build the road let in more light, which in turn allowed alder to grow on the edges of the road. These alder thickets are good summer habitat for songbirds, providing cover and ample food.

8) Why is the pool shallow?

Look around you now. This forest was clearcut in 1968. This is one of the reasons why the pool that you passed earlier is now shallow. The loggers dragged the trees away, creating pathways for sediment to be deposited into the streams, settling into the pool below.

Also, the loss of tree cover allowed more rain to reach the forest floor, washing sediment into the streams.


salmon egg & alevins

There are lots of branches in the pool. Although they provide good habitat for salmon fry, they also block the silt from being carried downstream. In 1992, a biology class from the high school removed branches from the pool, allowing more silt to be carried away.

9) 1968 clearcut

In about 1968, a large area of forest was clearcut. Spruce are growing back now. Porcupines like to eat these young spruce trees by chewing branches into nip-twigs. Porcupine also like to eat the inner bark of

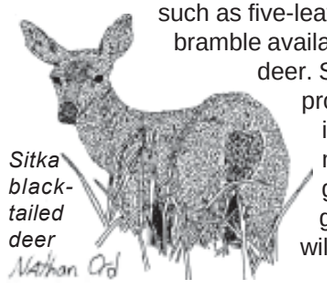

nip-twig

trees, creating odd-looking stripped-away trunks. Although porcupine use this habitat in winter, it has little to offer for other wildlife. A dense canopy makes it hard for sunlight to reach the forest floor, which prevents ground cover plants from growing.

10) Upland old-growth

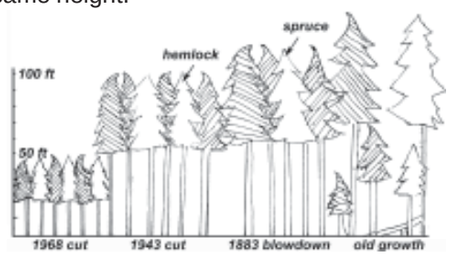
Old-growth forests are "multi-aged," ranging from old trees to saplings. Gaps in the tree canopy created by fallen trees allow light to penetrate to the forest floor creating a lush understory of plants. Fallen logs provide nutrients where saplings, lichen and fungi can grow. The multi-layered canopy intercepts most of winter's snow, making plant foods such as five-leaved bramble available to deer. Standing dead trees provide homes for insects and cavity nesting birds. Old-growth forests are great habitat for many wildlife species.


five-leaved bramble


Sitka black-tailed deer

11) Blowdown

Many Juneauites remember a wind storm in 1984 that blew down many trees. That storm was minor, compared to the gale of 1883, which blew down more than half of the trees on this part of the trail. Over the years small hemlocks from the previous forest started to grow back. Look up to the tops of the trees and you will see that almost all of them are the same height.



forest types on Marriott Trail

12) 1943 clearcut

This clearcut is older than the one at station 9. It was one of the first forests in Juneau to be cut by chainsaw. This forest has started the "self-thinning process", where larger trees shade out the smaller ones. This area still lacks important understory forage plants.