

Habitat Hit: What Happened Here?

Healthy-Unhealthy Images

Photo #	Description for Educators	Description for Students Cut out and match to the correct photo
1	A small lake with clear, clean waters is surrounded by a variety of vegetation including grasses, sedges, and trees. It looks like an inviting place for native species and for recreational opportunities	Imagine the peace and quiet here. The clear, clean waters and surrounding forest look like habitat for many fish and wildlife, and a place for people to enjoy the beauty of nature.
2	The aquatic invasive plant, Parrot's feather (<i>Myriophyllum aquaticum</i>), forms a dense mat in this lake, impacting water flow and quality, native vegetation, and recreational opportunities	Don't swim or boat here or you may get tangled up in the thick, underwater mat! Meet Parrot's feather - an aquatic plant that blocks water flow, sunlight, reduces the oxygen in the water, making it harder for native aquatic life to thrive.
3A	A depiction of an underwater scene in a freshwater habitat. There is a diverse assortment of aquatic animals, including fish, frogs, and salamanders of many shapes, colours and sizes. The water is clear and there is a variety of plants along the margins of the lake and a variety of insect life.	You can see that this lake provides habitat to many different types of aquatic animals and plants! How many different types of organisms do you see?
3B	A depiction of the same underwater scene as in 3A with aquatic invasive species. The vegetation along the margins of the pond is thick and dense. The water is murky and there are numerous mosquitos flying around. The fish population is dominated by one species and the bottom of the lake is covered by an invasive mussel.	Oh no! The lake has been taken over by a fish and mussel, and now the water is murky and is getting filled in by weeds. Most of the animals that used to live here are gone.

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4	A pond in the Okanagan region is teeming with Goldfish. Goldfish are one of the most widespread invasive fish in North America, introduced by people releasing their pets. They eat native aquatic plants and animals and impact habitat by making water murky.	Someone released their pet Goldfish here and now it is completely taking over the pond!
5	A person flyfishing in a clear body of water surrounded by forest. It appears that the water is cold and a healthy habitat for fish. Cool water has more oxygen. There are trees to shade the water. The bottom substrate has rocks of different sizes.	Come on over to go fishing in the cool, clear, and clean water!
6	Similar to image 5, but in this case the water body is choked with Eurasian watermilfoil (<i>Myriophyllum spp.</i>), negatively affecting recreational opportunities such as swimming and fishing. It also displaces native vegetation, affects water quality and fish and wildlife habitat.	Is that water or weeds? (Clue: It's both!) Eurasian watermilfoil is forming such a thick mat under the water that you definitely don't want to go fishing or swim here or you might get tangled up. It's hard for other aquatic plants and animals to live here.
7	Native spring wildflowers in a Garry oak meadow, with Common camas (<i>Camassia quamash</i>), Shooting star (<i>Dodecatheon hendersonii</i>), and Spring gold (<i>Lomatium utriculatum</i>).	In the springtime, there are many types of native wildflowers blooming in the meadow.

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8	Invasive English ivy (<i>Hedera helix</i>) forms a thick carpet that smothers the understory in a Garry oak meadow. A native Fawn lily (white flower) is visible poking out from below the ivy in the centre of the image.	There used to be many types of wildflowers here but now the English ivy is forming a thick, smothering carpet, making it nearly impossible for anything else to grow here.
9	An apple orchard with ripe and delicious-looking fruit.	Wouldn't you love to take a bite out of this delicious looking fruit?
10	Brown marmorated stink bug (BMSB, <i>Halyomorpha halys</i>) on an apple. The apples are misshapen and discoloured due to damage caused by the BMSB, which feeds on the fruit. As it feeds, the BMSB injects enzymes into the fruit, which damage the tissue. BMSBs feed on many types of orchard fruits, vegetables, and ornamental plants.	I wouldn't want to eat this, would you? These fruits are damaged by an insect called the Brown marmorated stink bug.
11	Himalayan blackberry (<i>Rubus armeniacus</i>) infestation in the foreground. Thick and spiny growth crowds out native shrubs and understory vegetation and blocks access to trails for people and wildlife.	This used to be a favourite walking trail in the forest and a path for wildlife, like deer, until it got blocked by a wall of thorny Himalayan blackberry.
12	Forest with old and young trees and shrubs, and a variety of understory plants. The open forest and pathway allow for movement of both people and wildlife.	If you visit this forest and walk on the path you will see many different sizes and types of plants, and all sorts of animals that live here.
13	A mature Sugar maple tree with healthy looking leaves and bark.	This maple tree has healthy bark and leaves.

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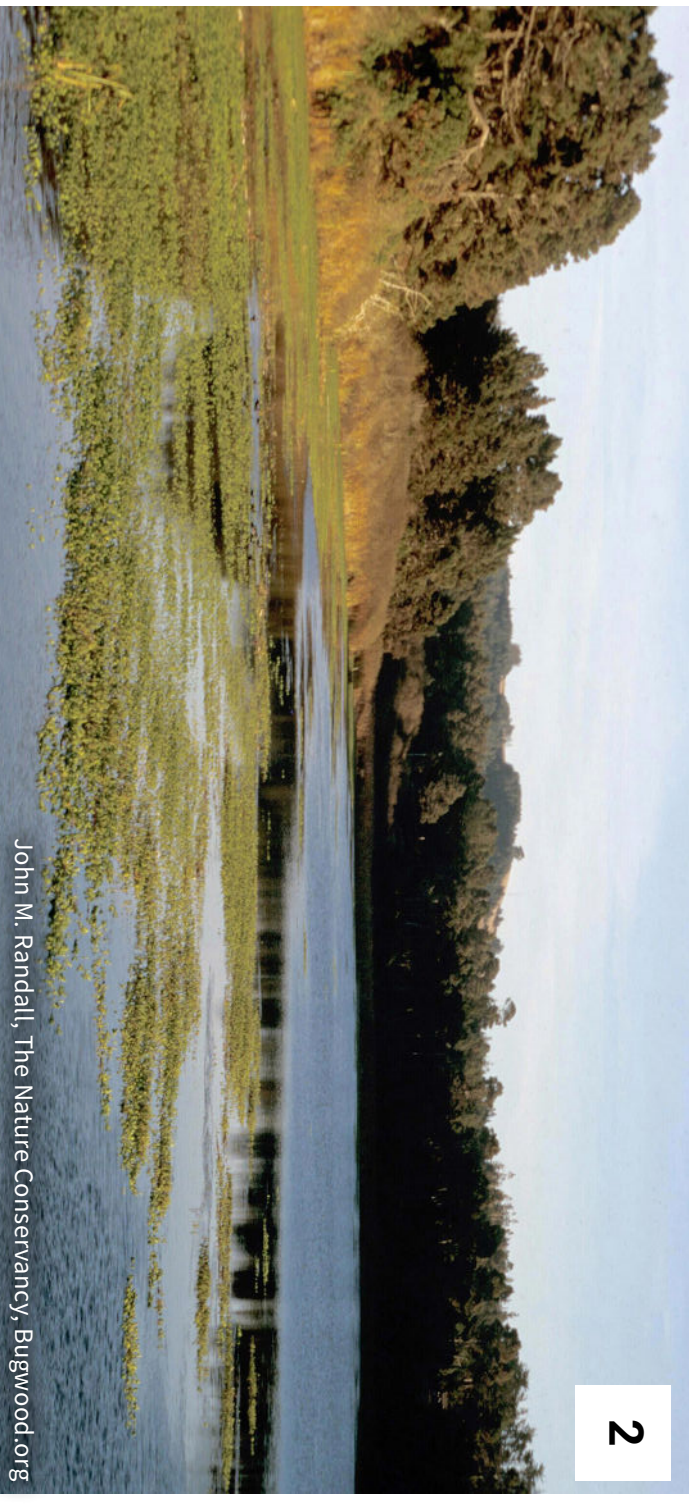
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14	Maple tree infested with Asian longhorned beetle (ALB; <i>Anoplophora glabripennis</i>). Larval ALB create tunnels and galleries in the tree as they feed on the living tissue (cambium) and nutrient layers inside tree trunks and branches. When they metamorphose into adults, ALBs emerge from the tree by chewing dime-sized holes. Adults feed on the leaves and bark of trees.	This maple tree is infested with Asian longhorned beetles, who feed inside the tree when they're larvae. After they bite their way out of the tree and become adults, they feed on the tree's leaves and bark.
15	Orange hawkweed (<i>Hieracium aurantiacum</i>) can form dense mats that crowd out native plants. In addition to producing hundreds of seeds, a single plant can quickly spread by runners and horizontal roots. The plant has milky sap and stiff hairs, making it unpalatable to livestock and grazing wildlife.	Don't be fooled by the beautiful field of wildflowers. Orange hawkweed doesn't taste good to wildlife and it quickly spreads and forms dense mats that crowd out native plants.
16	A meadow in the North Fork John Day Wilderness, Umatilla National Forest, northeastern Oregon. This protected area includes conifer forests, mountains, meadows, and the headwaters of rivers. It provides important habitat for wildlife including elk, deer, mountain goat, black bear, and fish such as steelhead and trout. The habitats here are similar to those found in parts of the BC Interior, east of the Cascade and Kootenay mountains.	Although not bright and colourful, this grassy meadow and surrounding forest are home to large numbers of deer and elk, who come here to graze. The grasses also prevent soil erosion and help to keep waters clean and supporting healthy populations of trout and other fish.

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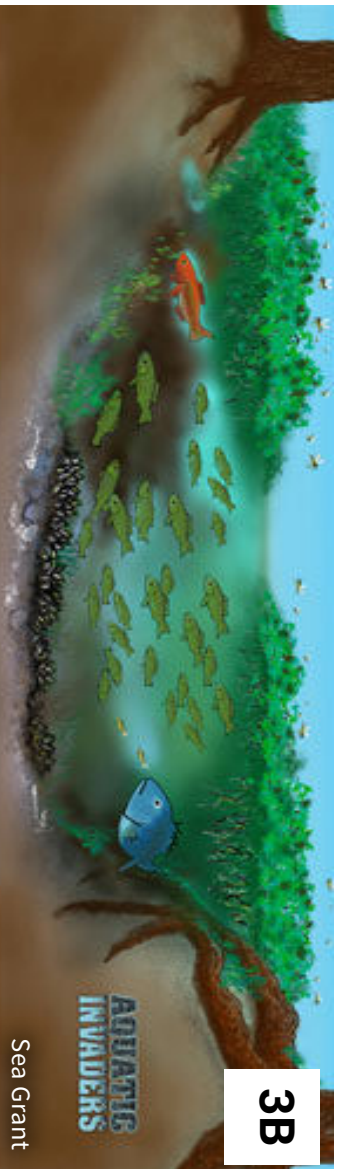
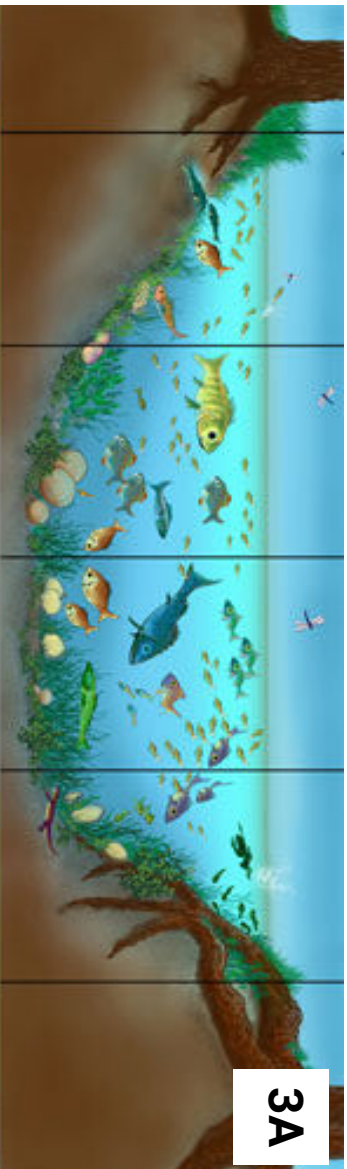
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17	Image of a protected grassland near Merritt, the Laurie Guichon Memorial Grasslands Interpretive Site. There's a diversity of native grasses including Idaho fescue (<i>Festuca idahoensis</i>), Bluebunch wheatgrass (<i>Pseudoroegneria spicata</i>), as well as other plants, shrubs and trees, that provide habitat for native wildlife such as birds, butterflies, and Bighorn sheep. The purple flowers in bloom are native silky lupine, (<i>Lupinus sericeus</i>)	Grasslands include not only grasses, but also beautiful wildflowers and patches of forests and wetlands. The gentle, rolling hills of grasses and herbs are home to many types of birds, butterflies, and grazing animals such as deer and Bighorn sheep.
18	A grassland site near Merritt, dominated by Spotted knapweed (<i>Centaurea stoebe</i>). Spotted knapweed flowers in June to July and produces up to 140,000 seeds per square meter in late summer, displacing native grassland species including bunchgrasses and herbs. It also releases chemicals into the soil that kills surrounding plants. Knapweed reduces wildlife habitat, causes erosion, impacts water quality, and increases fire risks. It can cause skin irritation and is toxic to wildlife and livestock. It is spread by wind, livestock, in hay and on vehicles. Spread can be prevented by inspecting and removing plant parts from vehicles, pets, and gear when going to a new location. There are 13 species of invasive knapweeds in BC.	If you see a large area with one type of plant, you may be looking at an invasive species. This field of purplish-pink flowers may be pretty, but Spotted knapweed can completely take over grasslands. One plant can produce more than 10,000 seeds and release chemicals into the soil that kills other plants nearby, including the grasses and herbs that wildlife and livestock like to eat.

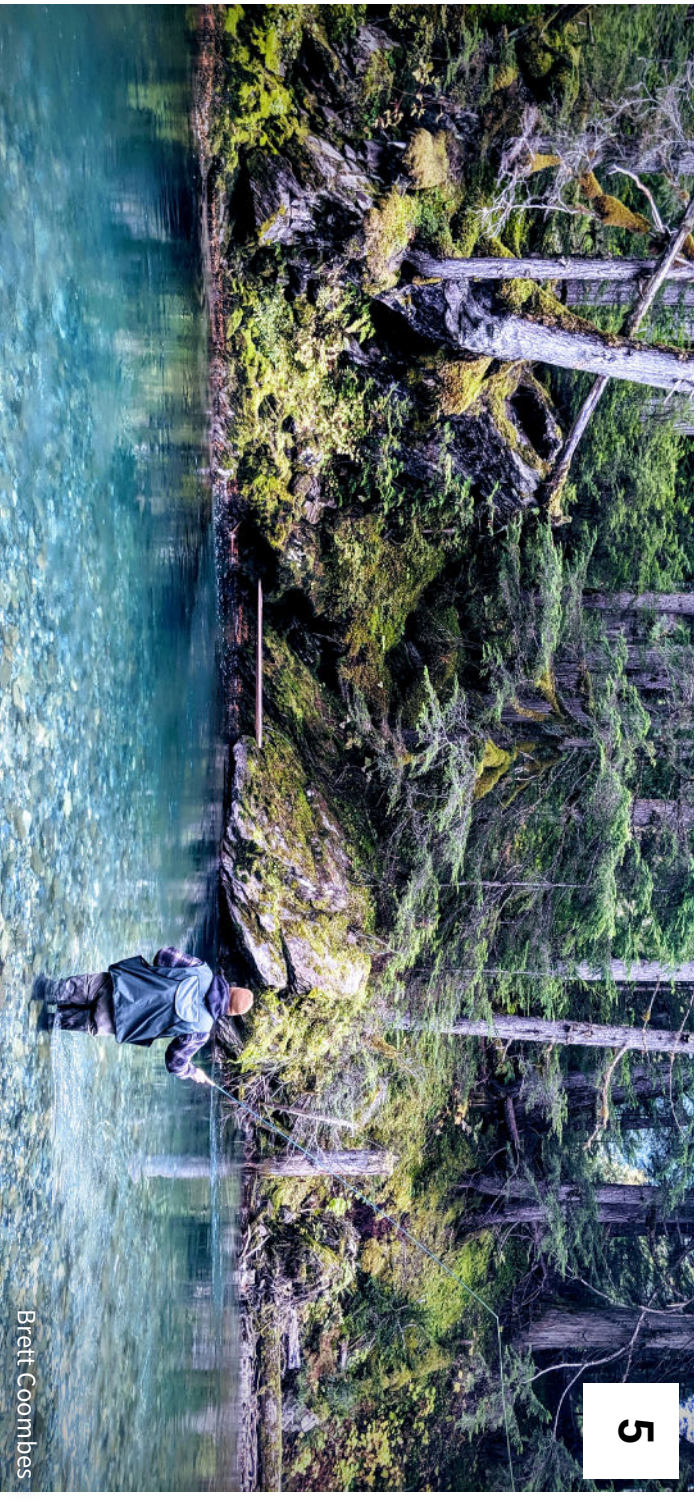
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Lynne Milnes

7



Friends of Uplands Park

8

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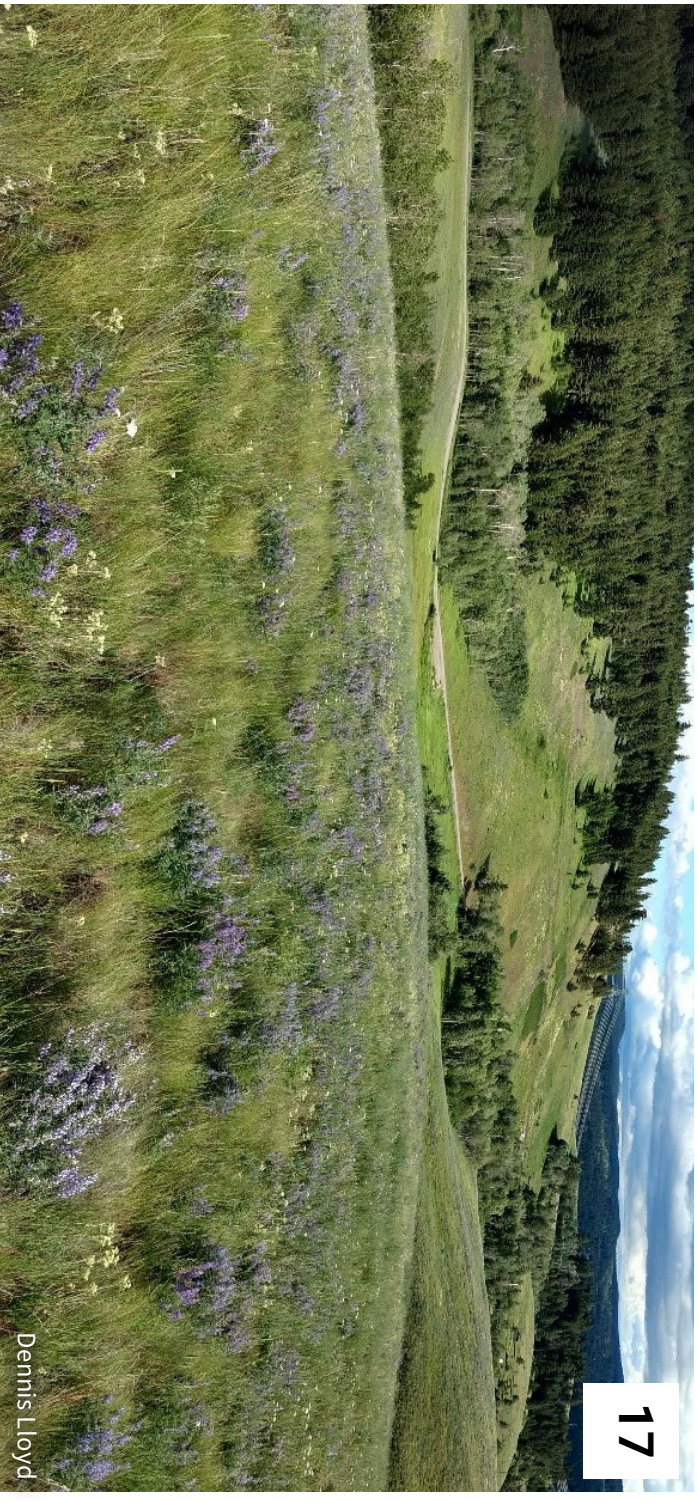
M. Hafke



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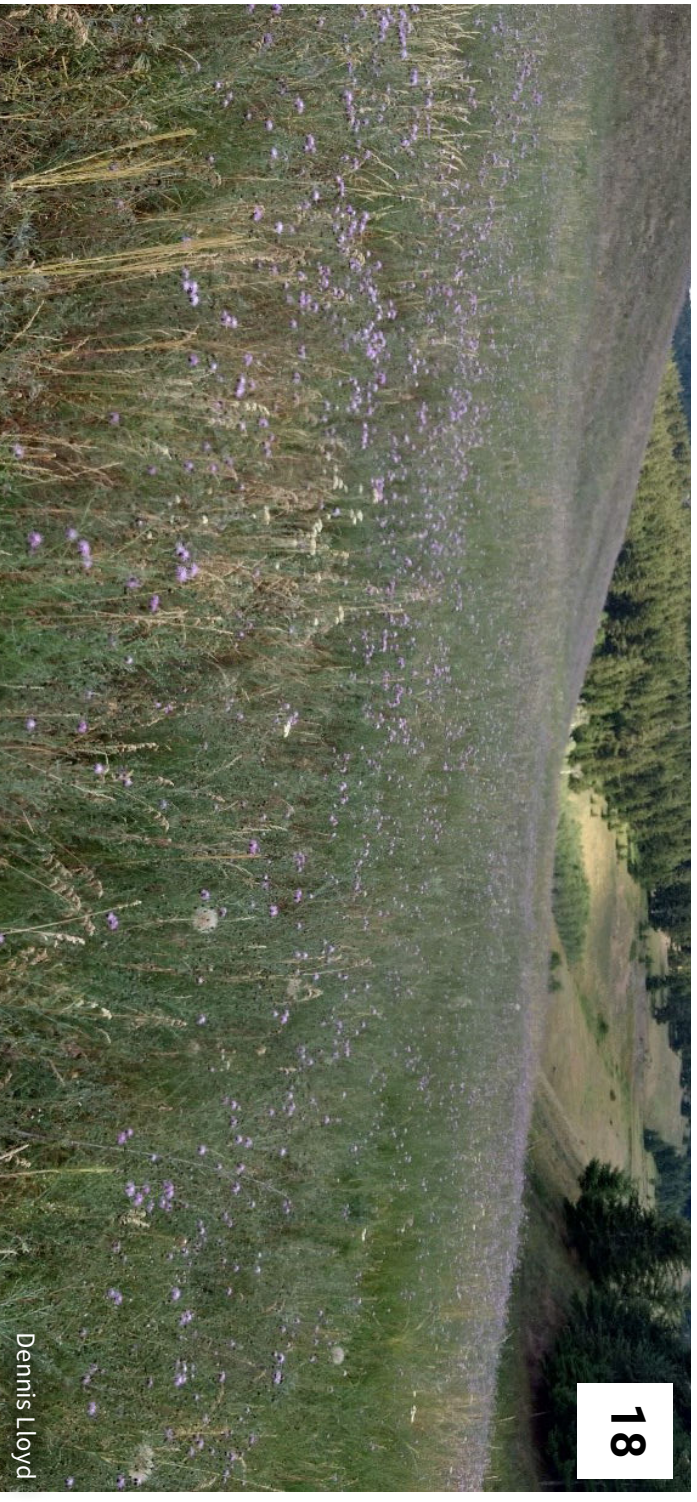
Dave Powell, USDA Forest Service (retired), Bugwood.org

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17

Dennis Lloyd



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Dennis Lloyd