SPRING

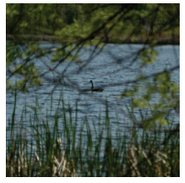
Signs of spring are evident along the paved path of the nature trail, with sprouting buds and animals scurrying about.

This cottonwood tree stands tall and strong throughout the seasons. Cottonwood trees are known for the cotton that is produced and windblown in early summer. It is interesting to note that only the female trees produce the cotton seeds.

Notice the cypress spurge along the lake side of the trail. This invasive plant contains a toxic latex that irritates the eyes and mouth, so be careful.

Along the trail, look for honeysuckle, which blooms heavily in the spring. This plant attracts bees, hummingbirds, and butterflies.

The buds on this box elder tree are a sign of new life. Look for other budding trees around campus during the spring.



The buffer zone around the lake helps with erosion and provides a home for different waterfowl. This Canada goose is back after the long winter.

This green ash tree is a windblown pollonator. Look and listen among these trees for birds like chickadees, nuthatches, wrens, and warblers.

Spring brings new animal life as well as plant life. This baby snapping turtle finds its way through dead leaves to get closer to the water.

In 2008 there was a small fire on the nature trail near Highway 694. These new grass sprouts are a prime example of a succession after a disturbance. Bethel also intentionally sets controlled fires to preserve native prairie by the ball fields.

The Russell W. Johnson

Nature Trail

Visit the Russell W. Johnson Nature Trail online at **bethel.edu/greencouncil/naturetrail.**

Photos courtesy of Kelly Martin '10

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BETHEL UNIVERSITY

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A THREE-SEASONS GUIDE

to the Russell W. Johnson Nature Trail
on the Bethel University Campus

BETHEL UNIVERSITY

FALL

The hillside of the path to the seminary is covered by large oaks, many of which are 125-150 years old. That means these trees were around when Minnesota became a state!

Buckthorn also lines this path. Buckthorn is an invasive species that is prevalent on the Bethel campus.

On the lake side of the path is the littoral zone, which buffers the lake from fertilizers entering from the developed areas of campus.

Look for goldenrod along the lake side of the nature trail, which blooms in rich yellows in the late summer and early fall.

As the trail leaves the asphalt path it angles between some large oak and cottonwood trees. This cottonwood tree is approximately 150 years old. Here you can also read about Russell Johnson, to whom the trail is dedicated.

Wood duck houses can be seen attached to trees and snags along the trail beside the lake. Wood ducks nest in wetland wooded areas and feed on algae, aquatic plants, and insects, as well as fruits and nuts from the woods.

Overstory trees like the Norway pine often define plant communities, but smaller understory plants like the five-leaved Virginia creeper and the vine-like wild grape are also important.

As leaves start to turn colors and drop to the ground in the fall, the conifer woodlands are continuing to flourish.

The open area upslope from the trail is reminiscent of the oak savannahs that were part of the historical Minnesota landscape and consisted of scattered oaks intermingled with tall prairie grasses. The leaves of this oak tree represent yet another fall transition from summer greens to golden fall hues.

Extensive cattail beds make up the most visible component on the lake side of the trail. The lawn-grass merges with grass-like sedges in the wet areas. In the fall, look for burdock seeds, which are scattered around these areas and can even be found attached to your jacket! In fact, burdock seeds were the original inspiration for Velcro.

During the fall you might also notice delicate white fluff coming from milkweed plants. These are the seed pods transported by the wind.

These are the branches of the large red cedar trees that form the entrance to a more natural section of the trail. Russell Johnson and his students planted these trees, as well as many others on campus.

On the top of the hill, an open area is maintained under the power lines, with large Norway pines and goldenrod making a showy contrast on the east side in the fall. Also look for the upland prairie of red sumac and tall-grass prairie species like big bluestem mixed in with shorter prairie grasses.

Along the trail you may also see the purple budding Canada thistle. This creeping perennial has an extensive root system that makes it a hard plant to control.

The largest forested area on campus lies to the west of the trail after you pass behind the Chalberg residence. Oaks, ashes, and maples make up the majority of this remnant patch of old growth forest. This sugar maple is a good representation of the many trees around campus that are stunning during the fall season.

In the fall, be sure to keep an eye out for various birds of prey. Red-tailed hawks like this one can be seen on campus and also around the Twin Cities perching along highways.

WINTER

Minnesota winters can be fierce, but why not take a walk on the trail after a fresh snowfall? Winter provides another fascinating look at the ecosystems on the Bethel campus.

As the trail winds along the lake, look for cattails, which can be seen long after Lake Valentine has frozen over. Cattails provide shelter and food for waterfowl.

Also along the lake you may find a cluster of small berries like this, called bitter nightshade. But beware, the berries are highly toxic and ingesting two could kill you.

Here is the Norway pine, Minnesota's state tree. Look for pairs of needles, which is a distinct characteristic of this pine.

This basswood tree once stood tall, but was recently cut down because it was rotting and was at risk of falling into the nearby fire pit. You can still see the rotten wood inside, but also look for the new roots that are growing from the old stump.

This wide-open area is home to many large trees. It is important to note that this white oak holds its leaves throughout much of the winter.

Approaching seminary housing and the northern side of the lake, you can see many plants similar to this along the shoreline. The Canada thistle stands tall throughout the winter.

Heading into the bottomland forest area of the nature trail, look for different animal tracks in the snow.

Animal tracks are a unique feature of the winter season. These tracks are from a cottontail rabbit, but you may see fox and deer tracks as well.