

# In-Depth: Wetlands

## The importance of wetlands

Wetlands are highly valuable because they perform several useful and necessary functions.

First, they can assist with flood control, acting as a sponge when streams spill over their banks.

Second, they help to clean the water that flows into them, with plants and microbes filtering and breaking-down sediments and pollutants.

Third, they provide a unique habitat for plants and animals that can't live and breed successfully elsewhere. These living things provide aesthetic beauty and become important food sources as well.

Finally, wetlands are living classrooms - places to learn about chemistry, biology, and an area's cultural history involving things like wild-rice, fishing, and canoeing, just to name a few Minnesota traditions.



## Where it began

The story of Cascade Meadow began with the creek that flows through our site and the wetlands that once surrounded it. The North Branch of the North Fork of Cascade Creek, like many creeks in the region, was flanked by low and wide areas that flooded seasonally and supported a variety of plants and animals. Decades ago, these lowlands were claimed for farming and pasturing. Drain tile and ditching were used to confine the creek to a smaller area and prevent wetlands from forming. Years of this use of the land resulted in the degradation of the wetlands and all the life they supported.

## Restoration plans expand

Initially, the Cascade Meadow planning team set out to revive the 40+ acres of wetlands by restoring the creek's seasonal flooding, thus naturally giving rise to several wetlands along its banks. Over the course of several years, however, a broader plan took shape. The team set its sights on restoration and creation of additional wetland areas so that the site now includes seven of the eight wetland types found in the state of Minnesota as well as three upland or dry areas. The result is 80+ acres where visitors can explore all these different habitats and learn the benefits of each. The site also features a short trail out to the lake accessible by rugged wheelchair and other trails with benches for resting along the way while reading interpretive signs. Visit often to find out what's new and to explore the wetlands as they develop.

## Wetland restoration at Cascade Meadow

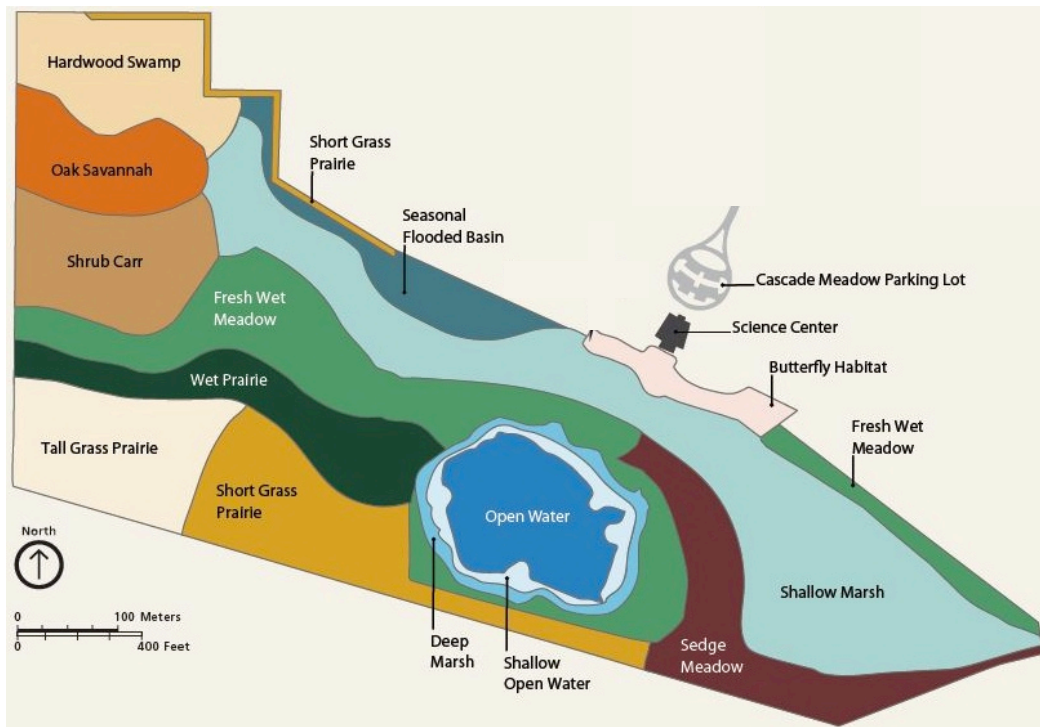
The map on the back provides an overview of the wetlands. The seven Minnesota DNR wetland types present in our site (including three sub-types of Type 2: Wet Meadow) are listed in the chart. Type 8: Bog is the type not present. In 2011, the areas south and west of the science center were restored and some of the planned trails installed. The lake dredging operation is finished, and restoration of the areas east of the lake was completed in 2013.

## A friendly reminder: No dogs at CM

Although we love our furry best friends, we must ask that you leave your dog at home. This will

- Protect the waters of Cascade Creek.
- Protect the growing wildlife population in our wetlands.
- Ensure that all visitors can have close encounters with beautiful and fascinating plants and wildlife.

Thank you for your cooperation.



## Our Wetland Types

1. Seasonally flooded basin	Near creek, floods, but is well drained
2. Fresh meadow, Sedge meadow, Wet mesic prairie	Mix of grasses and forbs, waterlogged below surface
3. Shallow marsh	Usually covered with shallow water, with grasses, rushes
4. Deep marsh	Water stands up to 3 feet deep, with marsh grasses, bulrush, cattails
5. Shallow open water	Up to 10 feet of water, with lilies, rushes
6. Shrub carr	Waterlogged at surface, with shrubs
7. Wooded swamp	Waterlogged at surface, with trees

## Restoration Challenges

Restoring the wetlands at Cascade Meadow requires a long-term commitment to the maintenance of ecological diversity and environmental quality. We already know that invasive plants such as reed canary grass and sandbar willow will present a challenge to the ongoing health of our wetlands and uplands. As such, our long-term maintenance plans will include annual mowing and occasional controlled burning and selective wetland-appropriate herbicides when deemed necessary.

### The lake

One prominent site feature that did not exist before is the lake. Its creation represents a unique partnership between the planning/ownership team and Ready-Mix, a local concrete and aggregates company. As plans began to take shape for restoring the wetlands, the team was approached by Ready Mix, which needed a new and local source of sand while it worked to develop a new gravel pit site. After testing the sand and gravel resources under the over-grown pastures at Cascade Meadow, the restoration team devised a plan that incorporated the sand and gravel mining operation into the broader restoration of the site. The dredging removed 200,000 tons of sand and gravel, leaving the deep-water lake habitat and a shoreline shaped to include two wetland types usually associated with lakes or ponds and not possible without the lake on site.

### Learn More

Cascade Meadow's website provides lots of additional information about various sustainability technologies. Visit [www.cascademeadow.org](http://www.cascademeadow.org) for more details, and watch the website's Events page to learn about upcoming workshops and events that can help answer your sustainability questions.

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