

## 2012 Chanhassen Sustainability Report

The city of Chanhassen prides itself as a leader in protecting our natural resources now and into the future. To ensure that the city continues in these efforts, we must promote the development of sound policies, take advantage of new technologies, and use educational programs that engage the community on the topic of the environment. The goal is sustainability through protection, conservation and best management practices in dealing with our natural resources.

The Chanhassen Environmental Commission was interested in knowing if our city is growing and functioning in a sustainable fashion. This report is the result of this curiosity. The 2010-11 City Council assigned the commission four key focus areas: Stormwater, Surface Water Quality, Urban Forestry and Water Conservation. In each of these areas we investigated the current goals established by the city's comprehensive plan. We selected the three most important goals from each area. We then determined through interviews with city employees or publicly available information, the current status of those goals along with trends and improvements or not so improvements and any recent activities. Ultimately, we have described a baseline inventory for each of the topic areas.

The report also achieves the goal of educating Chanhassen residents in these target areas.

Below is the 2012 Chanhassen Sustainability Report.

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# STORMWATER

## Control stormwater’s effects on city landscape, lakes, streams, and ponds

**Stormwater** is rain and snow melt that runs off surfaces such as rooftops, paved streets, highways, and parking lots. Controlling this unchecked water flow is crucial to preserving Chanhassen’s natural environment and protecting the surface water resources. Stormwater carries with it pollutants, such as oil, fertilizers, herbicides, and pet waste as well as trash and soil. Implementing flow control features such as raingardens and limiting hard surface coverage that impedes infiltration are part of an ongoing stormwater management plan developed by the city.



*Raingarden on Laredo Drive*  
Source: City of Chanhassen

### Chanhassen Raingardens

Private	Public
14	7

Source: City of Chanhassen

## Goals

- Minimize soil erosion, sedimentation, and stormwater runoff.
- Maintain primary responsibility for managing water resources at the local level but continue coordination with other agencies and organizations.
- Provide information and educational resources to improve knowledge and promote an active public role in managing water resources.

## Progress Toward Goals

Reduced amounts of impervious surfaces increase infiltration, reduce the volume of water runoff, improve property aesthetics and value, as well as protect and improve water quality. The city evaluates development projects to minimize the amount of impervious surfaces.

Plans to improve Bluff Creek impairments were identified and special considerations are applied when improvements are made within this watershed.

Lake Ann hillside was stabilized. Lake Susan has a shoreline stabilization project planned for 2012.

City staff educated neighborhood groups about Low-Impact-Development opportunities, such as rain gardens and their benefits.

City staff is tracking the number of hits to its web pages to help focus what information would be most beneficial for the community.

Nearly 20 residents in Minnewashta Heights neighborhood have requested raingardens as part of 2012 road project.

## Other City & Community Activities

- A new city Water Resources web page is under development.
- The Environmental Commission published articles in the *Chanhassen Villager* on managing yard waste to prevent it from entering the stormwater system on October 27, 2011.
- Carver Beach raingarden—developed in union with the Riley Purgatory Bluff Creek Watershed District.
- Community volunteers annually install storm drain markers on neighborhood storm drains.
- Memorandum of Understanding with Carver County to provide local training.
- Rain gardens installed as part of Laredo Drive street improvements.

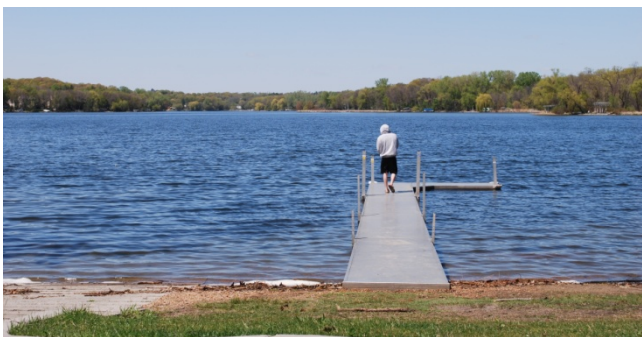
# SURFACE WATER QUALITY

## Preserving surface water quality for the future

Chanhasen is dominated by surface water features—lakes, streams and wetlands. In 2006, the City adopted its Second Generation Surface Water Management Plan (SWMP2) as a tool to protect, preserve and enhance its water resources in order to allow future development while minimizing impacts to downstream water bodies. Major threats to surface water quality include non-point source pollution, excessive stormwater influx, soil erosion, sedimentation, nutrient loading as well as invasive species.

### Goals

- Maintain and improve the water quality in city lakes, streams, and wetlands.
- Prevent or control aquatic invasive species.
- Provide information and educational resources to improve knowledge and promote an active public role in management of water resources.



Dock at South Lotus Lake boat access

Source: K.Mahannah

### Progress Toward Goals

While the water quality data in most of Chanhasen's lakes show improving trends, several waterbodies are listed as "impaired" under EPA standards, mainly because of mercury--like the majority of surface waters in the state--and excess nutrients, primarily phosphorus from runoff. The Bluff Creek Overlay District and other ordinances protect waterbodies using guided development by preserving natural condition, establishing a primary protection zone, requiring structure setbacks and buffers, connecting open areas, and providing public access and education. Additionally, to reduce the impacts of

stormwater runoff, the City requires all new developments to provide treatment that manages both water quality and runoff rates.

Aquatic invasive species that are present or are a current threat to Chanhasen waters include Eurasian water milfoil, zebra mussels, and carp (common and Asian silver). The recent detection of zebra mussels in nearby Lake Minnetonka has spurred concern and action among many Chanhasen lakeshore owners in an effort to keep them out of city lakes. In January the City Council agreed to undertake an AIS policy review to prevent/control its spread in area waters. The city assembled a plan to complete boat inspections and post signage regarding aquatic invasive species during the 2012 summer boating season.

The City utilizes county training resources and a private nonprofit company, Metro Blooms, to provide community educational seminars. The City also disseminates information on surface water to its citizens through several means: brochures, the Natural Resources page on the City website, and the quarterly publication *Chanhasen Connections*. Additionally, the Environmental Commission has the directive of educating citizens on the environmental priorities set forth by the City.

### Other City & Community Activities

- The City monitors the conditions of its lakes and participates in the Citizen Assisted Monitoring Program (CAMP) through the Metropolitan Council. Lake management plans have been developed for the major lakes within the City and a no-wake ordinance is in place on Lotus Lake to protect lake shores from wave action during extreme high water periods.
- In a joint project with the Minnehaha Creek Watershed District, Carver County will begin inspecting boats entering Lake Minnewashta this spring for aquatic invasive species.
- The Lotus Lake Conservation Alliance has been conducting boat inspections for zebra mussels and has proposed prevention ideas to the City Council.
- Researchers from the University of Minnesota harvested carp from Lake Lucy in January 2011 to a level that will not be damaging for at least a decade. Studies are taking place on other city lakes to proceed the same way.
- The Environmental Commission published an article in the *Chanhasen Villager* on water quality on May 25, 2011.

# URBAN FORESTRY

## Trees enhance our city and improve the environment

Chanhassen is a Dakota word meaning “the tree with sweet sap” or sugar maple tree. In addition to giving the city its identity, trees provide many tangible and intangible benefits. A typical urban forest of 10,000 trees will retain 10 million gallons of rainwater per year, thus reducing the amount of runoff and pollutants into creeks. Strategically planted urban trees reduce energy use by shading buildings in summer and blocking cold winter winds, while removing carbon dioxide and other green house gasses from the atmosphere and sequestering them in their leaves, branches, trunks and roots. Urban trees increase property values by 10 to 20 % and attract more homebuyers. Tree lined streets have been shown to calm traffic through neighborhoods and at the same time buffer noise pollution. Urban forests give people places to recreate, connect with nature and experience a sense of well being. Research has shown that shopping areas with trees increase spending habits and encourage people to shop.



*Tree Inventory Sample*  
Source: City of Chanhassen

## Goals

- Increase tree cover throughout the city using diverse tree species.
- Preserve contiguous forests and facilitate greenways
- Develop urban forestry management plan

## Progress Toward Goals

A tree cover analysis has been completed using aerial photos from 2005. At that time, city-wide tree cover was approximately 30%. Tree cover will be analyzed again in 2012 with updated city aerials. Species diversity is an ongoing concern due to Oak Wilt, Dutch Elm Disease and the inevitable introduction of Emerald Ash Borer.

Proposed development is evaluated for tree cover and other natural features. Development is encouraged in a manner that preserves natural corridors. The Bluff Creek Overlay District and related ordinances will enforce setbacks in riparian areas along the creek.

Chanhassen City Code requires new residences to have at least one deciduous tree in the front yard.

## Other City & Community Activities

- In 2011, community volunteers planted 19 trees at Lake Ann Park during the Chanhassen Arbor Day event. These trees will serve as replacement trees for ash in order to increase species diversity. Another Arbor Day event is planned for 2012.
- The City holds an annual Spring Tree Sale to promote species diversity on private property. The trees are sold at below wholesale costs to residents.
- Chanhassen continues to be designated as a Tree City USA by the National Arbor Day Foundation. The program is important because it increases public awareness about the benefits of trees, adds to community pride and can give preference over other communities when state grant money is distributed for tree related projects.

# WATER CONSERVATION

## Preserving groundwater sources for the future

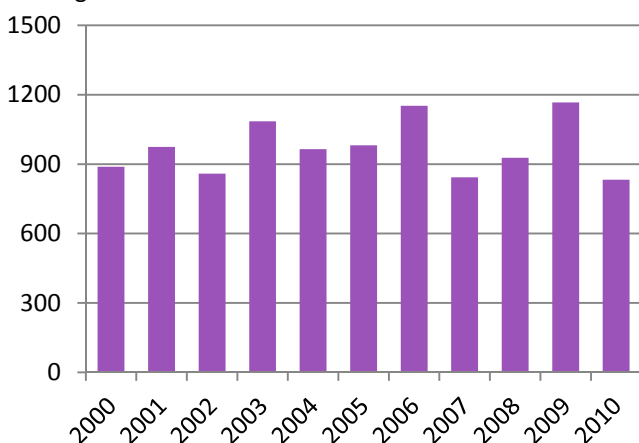
Chanhassen accesses its municipal water supply from the Prairie du Chien-Jordan Aquifer. This aquifer is shared by many other developing metro suburbs. As a growing suburb the city must balance increased water use and population growth with conservation measures that meet the needs of our community now and into the future. Each year there is a significant increase in water use during the summer months in Chanhassen. The average number of gallons pumped per person in the winter is 80.7 per person per day. In the summer, water use jumps to an average of 225.6 gallons per person per day. Lawn irrigation and other outdoor watering is the primary reason for this increase. In an effort to engage the community in water conservation measures, the City of Chanhassen offers WaterWise, a community education program.

## Goals

- Encourage conservation through structured water rates and watering restriction hours.
- Promote residential water conservation programs such as the Waterwise program and [Water Learn](#) campaign.
- Partner with commercial entities to conserve water.

## Annual Water Usage

in MegaGallons



Source: Minnesota DNR

## Progress Toward Goals

The city has a tiered billing system in place to incent water conservation. A city code limits the use of the city water supply system for lawn and garden sprinkling, irrigation, car washing or other non-potable uses to odd-even days. Additionally the city has occasionally instituted a time of day watering restriction when aquifer levels are low.

The city provides education and promotes water conservation and stewardship with the Water Wise program and various newspaper articles.

The city enforces ordinances regarding treescaping for new developments. Trees shade turfgrass and reduce evapotranspiration and therefore prevent or reduce the need for irrigation.

## Other City & Community Activities

- The WaterWise educational program is in its 5<sup>th</sup> year. In 2010 it served 132 residences.
- In 2011, a city utility employee completed training to become EPA WaterSense Certified for irrigation system auditing.
- In 2012, WaterWise will focus on water conservation for homeowner associations and businesses. The city is offering free irrigation system audits to measure effectiveness and increase efficiency.



# Web Resources

## Stormwater

Metro Blooms promotes and celebrates gardening, to beautify communities and help protect the environment.

[www.metroblooms.org/workshops.php](http://www.metroblooms.org/workshops.php)

Carver County Watershed Management Organization [www.co.carver.mn.us/departments/LWS/wqmp.asp](http://www.co.carver.mn.us/departments/LWS/wqmp.asp)

Riley Purgatory Bluff Creek Watershed District home page [www.rileywd.org](http://www.rileywd.org)

Minnehaha Creek Watershed District [www.minnehahacreek.org/](http://www.minnehahacreek.org/)

Chanhassen CAMP Lake Water Quality Data [www.ci.chanhassen.mn.us/serv/nresourc/camp.htm](http://www.ci.chanhassen.mn.us/serv/nresourc/camp.htm)

MS4 Annual Report 2010 [www.ci.chanhassen.mn.us/serv/ms4annualreport2010.pdf](http://www.ci.chanhassen.mn.us/serv/ms4annualreport2010.pdf)

## Surface Water Quality

City of Chanhassen “2030 Comprehensive Plan,” Chapter 5: Natural Resources

[www.ci.chanhassen.mn.us/serv/compplan1/Natural%20Resources.pdf](http://www.ci.chanhassen.mn.us/serv/compplan1/Natural%20Resources.pdf)

City of Chanhassen “Second Generation Surface Water Management Plan”

[www.ci.chanhassen.mn.us/serv/cip/swmp/summary.htm](http://www.ci.chanhassen.mn.us/serv/cip/swmp/summary.htm)

Bluff Creek TMDL Project

[www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/tmdl-projects/minnesota-river-basin-tmdl-projects/project-bluff-creek-turbidity-and-fish-biota.html](http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/tmdl-projects/minnesota-river-basin-tmdl-projects/project-bluff-creek-turbidity-and-fish-biota.html)

Minnesota DNR “Watershed Assessment Tool – Water Quality Concepts”

[http://www.dnr.state.mn.us/watershed\\_tool/wq\\_concepts.html](http://www.dnr.state.mn.us/watershed_tool/wq_concepts.html)

Sorensen Lab [www.fwcb.cfans.umn.edu/sorensen/index.html](http://www.fwcb.cfans.umn.edu/sorensen/index.html)

Lotus Lake Citizen Group [www.lotuslakehoa.org/index.html](http://www.lotuslakehoa.org/index.html)

## Urban Forestry

Chanhassen Forestry

<http://www.ci.chanhassen.mn.us/serv/nresourc/forestry.html>

Chanhassen Arbor Day Event Information

<http://www.ci.chanhassen.mn.us/serv/nresourc/arbor.html>

1Tree City, USA Program <http://www.arborday.org/programs/treeCityUSA/index.cfm>

USDA: Urban and Community Forestry <http://www.fs.fed.us/ucf/>

Urban Forestry Institute <http://www.urbanforestryinstitute.com/urban/>

2030 Comprehensive Plan, Chapter 5: Natural Resources (5.2.2 – Urban Forestry)

<http://www.ci.chanhassen.mn.us/serv/compplan1/Natural%20Resources.pdf>

## Water Conservation

City of Chanhassen “2030 Comprehensive Plan,” Chapter 9: Water

[www.ci.chanhassen.mn.us/serv/compplan1/Water.pdf](http://www.ci.chanhassen.mn.us/serv/compplan1/Water.pdf)

MN DNR water use data 1988-2010

[www.dnr.state.mn.us/waters/watermgmt\\_section/appropriations/wateruse.html](http://www.dnr.state.mn.us/waters/watermgmt_section/appropriations/wateruse.html)

## Other Resources

City of Minneapolis Greenprint

[www.ci.minneapolis.mn.us/sustainability/reports/sustainability\\_minneapolisgreenprint](http://www.ci.minneapolis.mn.us/sustainability/reports/sustainability_minneapolisgreenprint)

