

# Eau Claire Comprehensive Plan 2015

## Natural Resources Assessment



City of Eau Claire Wisconsin

## Natural Resources Assessment

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## Natural Resources Assessment

This chapter of the plan describes the primary natural resources in and around Eau Claire that should be considered when planning for development, protection and public improvements. It summarizes the key opportunities and constraints presented by this pattern of resources, and includes a list of issues to be addressed in the plan.

Eau Claire occupies a very attractive and supportive location in the western Wisconsin landscape, and the natural attributes conferred by this position provide a sense of well-being and harmony that contribute greatly to the local quality of life. Used properly, the rivers and wooded hills can also be used to attract employers and well-paying jobs, tourists, artists and retirees.

### Major Natural Resources Issues

Issues are questions to be discussed, debated and resolved during the planning process in light of the other issues. Here are the major natural resources issues listed in the 2005 *Comprehensive Plan* with responses or new issues.

- 1. River and Creek Shoreline Land Use:** What is the most appropriate pattern of land use along the rivers and creeks?

*The Waterways Plan (2012) provided ample direction on this question.*

- 2. Public Access to Rivers and Creeks:** Where, if anywhere, should additional public access to the rivers and creeks be created?

*The Waterways Plan recommended locations for new riverfront parks, trails and boat landings. The challenge now will be to follow-through on land acquisition and capital improvements.*

- 3. River Flooding:** Should the City acquire additional houses from the floodplain in the North Riverfronts Neighborhood and other floodplain areas?

*This has been accomplished since the 2005 Comprehensive Plan in the North Riverfront.*

- 4. Riverbank Stabilization:** Should there be greater emphasis placed on natural means of riverbank stabilization as opposed to rip-rap or concrete?

*The Waterways Plan established a policy favoring natural methods of bank stabilization. It is now incumbent on the City to continue to work with the Wisconsin DNR to follow this practice.*

- 5. River and Creek Water Quality:** What actions should the City take to maintain or improve the quality of water entering the Chippewa and Eau Claire Rivers?

*This is an ongoing process of regulating development sites and other sources of water pollution. Lowes Creek, currently in the Towns of Pleasant Valley, Washington and Brunswick, is a location of state concern because of its trout habitat, and should, therefore, be protected now and as urbanization occurs.*

- 6. Half Moon Lake:** To what degree should the water quality be improved in Half Moon Lake?

*The water quality of Half Moon Lake has been improved in the past few years as the City has cooperated with the DNR on several measures.*

- 7. Grading Control:** Should the City prepare an ordinance that requires comprehensive grading plans to be prepared for plats and site plans and that regulates all other site grading beyond a stated quantity?

*This has been accomplished through Section 16.36 of the City Code, which was strengthened since the prior Comprehensive Plan.*

- 8. Steep Slopes:** Should the City adopt its own development regulations for steep slopes that supersede the slope controls that are mandated by the *Urban Sewer Service Area Plan*?

*City controls could be more explicit on this subject.*

- 9. Tree Preservation:** Should the City adopt an ordinance requiring builders to replace lost trees at a certain ratio?

*Improvement is still needed on this subject.*

- 10. Highly Productive Farmlands:** How important is it to restrain the outward growth of the urban area in order to protect productive farmlands? Can the City gain the cooperation of the nearby Towns, especially Union and Wheaton, in restraining semi-rural large-lot housing?

*The Intergovernmental Agreements signed in 2010 between the City and each of the five adjacent Towns, along with the development plans for the Sewer Service Area in each of those Towns, will help allow compact city growth, which is a major way to retain productive farm land. It remains up to the Towns and the two Counties to control the proliferation of semi-rural housing beyond the Sewer Service Area boundary.*

- 11. Habitat Restoration:** Where should wildlife habitat and stream restoration be conducted?

*There is potential along both the Chippewa and Eau Claire Rivers for stream bank restoration and more sensitive site development. Similarly, portions of the flood plain in the Town of Brunswick have been degraded by mining and gravel processing operations. If these areas ever become part of Eau Claire and the land use transitions from heavy industry, some restoration could occur.*

## **Pre-Settlement Vegetation**

Eau Claire is located at the intersection of several types of pre-settlement vegetation, according to the field notes compiled by the initial land surveyors and mapped by the Geological and Natural History Survey of the University of Wisconsin. These included

- Oak savanna in Chippewa County and south of I-94
- Prairie to the southwest along the Chippewa River downriver of Eau Claire and to the north in part of the Town of Wheaton
- Southern Oak Forest where most of the city stands today
- Oak Savanna in the Town Seymour, extending to the Chippewa River
- River bottom forest and sedge meadow in the lowlands.

The original vegetation was determined by the distribution of climate and by soil modified by fire.

Oak savanna is an orchard-like community with a few large bur or white oaks growing in fields of grass. As fires were suppressed during settlement, the oak savannas grew up into forests of oak.

Most of the evidence of the original vegetation, including most of the wetlands and some of the floodplains, has been erased by urban development along the rivers. The major creeks remain but the smaller tributaries have filled or been supplanted by urban drainage. The forest in the city is now largely composed of a variety of hardy trees planted in yards, boulevards and parks. Nonetheless, some large tracts of modified pre-settlement forest can still be found. Even more rare are undisturbed wetlands or native prairie.

## Prior Plans and Reports

### *Eau Claire Waterways Plan, 2012*

The *Eau Claire Waterways Plan* focused on recreation, redevelopment, natural resources and economic development while addressing the *Comprehensive Plan* elements of parks, trails, land use, urban design and historic resources. Also included was a program for land acquisition, funding, partnerships and regulatory adjustments plus a list of public and private actions according to priority. Of special interest to the City were recommendations on how to stabilize, replant and remediate steep and rip-rapped riverbanks.

This document was a major update to the landmark 1988 *Waterways Plan*, which was the community's first comprehensive look at the rivers as a place for recreation, housing and non-industrial economic development. Many public and private improvements were accomplished based on that plan, and the update aimed to continue that progress. Specific public or private improvements were recommended for each reach of the rivers. The plan has been adopted by reference into the *Eau Claire Comprehensive Plan*.

The goals of the *Waterways Plan* were:

1. **The Greenway:** Continue to improve waterfront access and enjoyment through growth of linear parks and connections from the neighborhoods in coordination with land development.
2. **Land Use and Urban Design:** Guide land use and design in the waterway corridors in ways that enhance both the development and the Greenway.
3. **Ecology:** Protect and improve the natural functions of the waterways and their riparian environment.
4. **Economic Development:** Boost jobs and economic investment in Eau Claire through the amenity of the Greenway in conjunction with other public facilities, services and infrastructure.
5. **Achievement:** Implement this plan through sustained and continuous municipal investments aided by other public and private resources.



Careful river corridor planning will promote economic development, recreation and ecological stewardship. Shown here is a proposal for redevelopment and a new park in Downtown.



**Park and Trail Locations between Hastings Way and Highway 53**



Looking downriver from the Hastings Way bridge.



Looking upriver from the River Prairie Drive bridge.



Access to the Eau Claire River via the utility corridor that runs down the slope from Birch Street.

## Rivers, Creeks and Lake

Eau Claire is rich in water resources, being located at the confluence of the Chippewa and Eau Claire Rivers and served by six watersheds (See Figure 3-1 ):

- Sherman Creek
- Upper Chippewa River
- Lower Chippewa River
- Eau Claire River
- Otter Creek
- Lowes Creek

Nearly all of the river edges are lined with steep banks covered with deciduous trees and shrubs. Several of these banks tower over the water; such as the south edge of Dells Pond, the top of the arboretum in Putnam Park, and the upper reaches of the Chippewa River. These and other features are illustrated by Figure 3-1, Major Natural Features.

In contrast, a few locations have broad floodplains and easy water access along the shore. These once housed sawmills and boat landings; they now typically are parks including Riverview, Mt. Simon, Owen, Putnam and Newell. Below the city, where Sherman, Lowes and Taylor Creeks outflow to the Chippewa, there is also a broad floodplain where sand and gravel have accumulated over the centuries.

The Eau Claire River is quite different in character – its waters have cut a deep “V” valley through the limestone bedrock, creating steep banks in excess of 40 feet with a narrow valley floor. The waters are relatively shallow except in seasonably high water periods. Bedrock is exposed through the corridor on the banks in the river bed. Severe topography has been the controlling factor in the ability of this area to remain in a near-natural state. Surprisingly, of the two rivers, the Eau Claire is the more polluted.

A more detailed description of these streams and Half Moon Lake is presented in the *Waterways Plan (2013)*.

### Chippewa River

The Chippewa River made Eau Claire and it sustains it. For several decades, the Chippewa transported logs from the northern forests to sawmills along its banks and also provided water power for those mills below Dells Pond, where logs were gathered.

The upper and lower reaches of the Chippewa are highly scenic, lined with hills and trees. The stretch below downtown and near the University offers dramatic views from the bluffs. Dells Pond and the reach to the north is popular with boaters who enjoy the sandy banks, many islands and broad expanse of water. The Xcel Power dam above downtown regulates water flow and sustains the water level in Dells Pond. Near downtown, the rocks and concrete placed on the bank for erosion control detract from the natural appearance of the river.

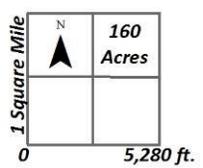
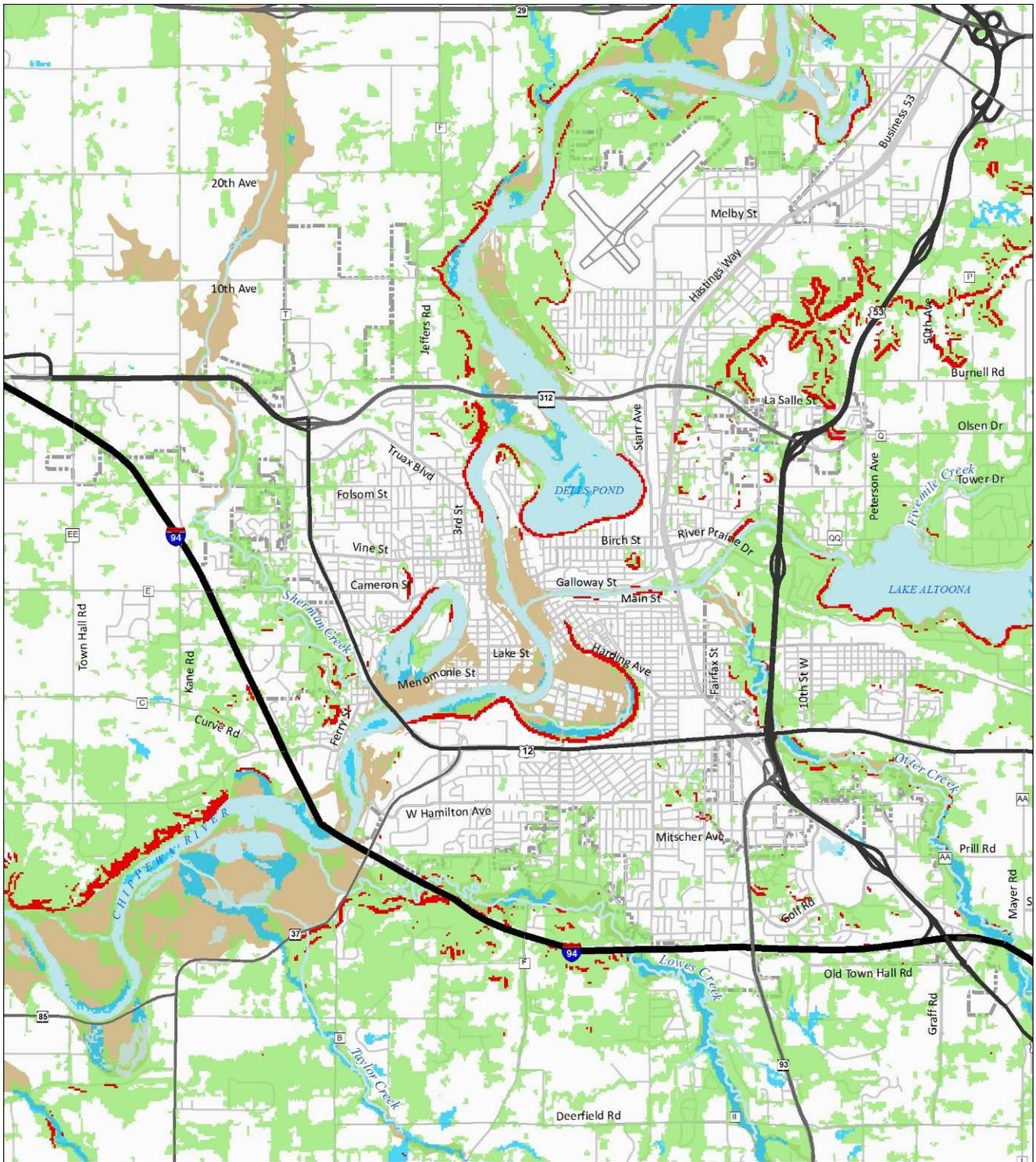
Large portions of the Chippewa are lined with public open space, and there are several places where people can launch a boat. However, along the river there is also industry, businesses and open storage.

In the downtown, most buildings turn their back on the water and fail to take advantage of the amenity. Pedestrians can stroll along the river in only a few places on the east side, and the environment is foreboding. On the western bank, the river is mostly lined with parkland, and the Chippewa River State Trail follows this bank from Phoenix Park downriver toward the Cedar River and Menomonie.

Because there are approximately 25 miles of Chippewa riverfront in the City of Eau Claire, how the river edge is used is highly important. Thus, one of the major questions confronting the community is what should be the pattern of riverfront land use and, especially, how much public parkland should there be along the river?

The 2012 *Waterways Plan* and the 2005 *Comprehensive Plan* call for increased Chippewa Riverfront parkland and a continuous public trail along:

- The western shore from Clairemont Avenue to the Xcel Energy substation near Dells Pond
- Trails on the southern or eastern banks through the University
- From Downtown, through Mount Simon Park, around Dell's Pond and up to Riverview Park.



- Steep Slopes
- Forest
- Wetland
- Streams and Lakes
- Flood Plain

**Figure 3-1**  
**Major**  
**Natural Resources**

### **Eau Claire River**

The Eau Claire River is a minor stream compared to the Chippewa. Its flow is regulated by a dam below Altoona Lake, and it runs in a gorge past heavy industry, business, parkland and downtown, barely noticed by those who drive over it on the three bridges.

The southern bank of the Eau Claire in the City of Altoona is undeveloped and, thus, presents an opportunity to extend riverfront parkland from Archery Park in the City of Eau Claire. Altoona has planned its shoreline for park space and is acquiring that land during the current development process.

Eau Claire has acquired through dedication a large stretch of steep, wooded river bank upstream of River Prairie Drive. That gives the City ownership of nearly all of the northern shoreline of the Eau Claire River from the confluence to the eastern City limit.

A public trail is planned along both sides of the river from the S-Bridge near Banbury Place out to Hastings Way. That path is planned to continue along the north side of the river beyond River Prairie Drive to the right-of-way of the new US 53, where there would be a north-south bicycling path.

It is at the confluence of the two rivers that magic occurs. Standing on the point in Phoenix Park, one can look in three directions and watch the water flow and eddy, and the width and power of the rivers is evident.

### **Lowes Creek**

Lowes Creek runs out of Washington Township and through the southernmost portion of Eau Claire. (Actually, it only appears to be in the City, as the adjacent neighborhoods are still in the Town.) This beautiful stream winds beneath wooded hills and through marshy floodplains toward the Chippewa River downstream of the I-94 bridge. Most of the creek edges are lined with large residential lots, although a local conservancy group has acquired some easements to protect the natural integrity of the stream bank.

Lowes Creek County Park straddles the creek south of I-94 and provides wonderful spots for picnicking, walking and other passive recreation.

### **Otter Creek**

Urbanization is just approaching Otter Creek, which basically marks the dividing line between the City of Eau Claire and the City of Altoona. The creek floodplain is broad, marshy and wooded, as the stream meanders madly across the flat plain. A land developer donated a large tract of undevelopable lowland to the City for open space purposes, and it is hoped that other, similar properties can be obtained and linked into a creek greenway.

### **Sherman Creek**

Sherman Creek represents another possibility for creating a linear park or greenway through a future residential area. Such public parklands have been shown in other cities to be a major force in both raising the quality of nearby neighborhoods and sustaining them over time. If the nearby neighborhoods are allowed visual and physical access to the greenway via public

streets, the positive effects of the greenway can extend far back into the neighborhood. Milwaukee, Minneapolis and St. Paul are cities where that phenomenon has been measured.

Sherman Creek rises as a minor stream in the farmlands of Wheaton Township and winds its way lazily across the plain. Near Sherman School, it enters a gorge it carved, and gains intensity as it moves toward the Chippewa River near Clairemont Avenue, nearly connecting with Half Moon Lake. The creek valley south of Cameron Street is broad and steep, and houses line the bluff about half the way down the creek valley from there.

### **Half Moon Lake**

The City of Eau Claire prepared a set of recommendations in 2002 aimed at improving the water quality in Half Moon Lake. The City was assisted by the Wisconsin DNR and numerous local groups and individuals. The study had seven goals: Improve water quality, become a self-sustaining fishery, create a clean and protected shoreline, minimize motor boat impacts, harvest aquatic plants, prepare a plan to improve watershed management, improve recreation. and educate and involve citizens.

### **River Bank Treatments**

Some of the river banks and bluffs are in fair to good natural condition through benign neglect. Original vegetation has been degraded and affected by invasive species (e.g., buckthorn), but the vegetative cover is mostly intact and erosion is not excessive.

Along the downtown river edge, there are concrete walls that provide a vertical edge. Although they provide no natural habitat and are unattractive, they allow intensive shoreline use.

In other locations, the forest and underbrush has formed a visual barrier to the water. An issue is whether some of that vegetation should be cleared to create views.

Another river bank issue is the use and design of flood levees. For example, the levee along the Chippewa River north of Madison Street is a temporary, un-engineered structure that might not withstand a major flood. When it is eventually rebuilt, it will be much wider. Trees are not normally allowed on such levees because they compromise its integrity, contrary to common belief.

## **Floodplains and Wetlands**

### **Floodplains**

For the most part, the floodwaters of the Chippewa and Eau Claire Rivers are confined to the floodways below the steep stream banks. However, there are several significant locations that are subject to the so-called 100-year and 500-year floods. The 100-year floodplains of note include:

- Several blocks along the east side of Forest Street; houses west of Forest Street were recently acquired and cleared to create parkland along the Chippewa River
- Portions of the Central Business District west of Graham Street
- Several block east of Second Avenue in the Courthouse District and east of Luther Hospital; some of this land is public open space but it also contains a number of houses
- Large portions of Putnam Park
- Property inland of Riverview Park, including the park and a residential neighborhood.

The recent acquisition of several houses west of Forest Street is a model example of alleviating a longstanding community problem and turning it into an asset to the neighborhood. While that may not be the ideal solution for every instance of urban development in the floodplain, it is increasingly seen as preferable to levees, floodwalls and repeated flooding and cleanup.

Land use and development in the floodplains are regulated by Chapter 18.11 of the Zoning Ordinance, Floodplain Overlay District. The floodplains and floodways are shown on the Official Floodplain Zoning Map, which is based on maps prepared by the Federal Emergency Management Agency.

### **Wetlands**

There are a relatively few wetlands in and around Eau Claire because of its Hills, sandy soils and glacial history. Many of the wetlands that originally existed where the city now stands were drained and filled. Protective regulations have been instituted during the past 25 years to reduce or prevent the filling, or encroachment upon wetlands, whether they have standing water or have chronically wet soils, as they are all important to aquifer recharge, flood reduction, water cleansing and wildlife habitat.

Wetlands are protected in Eau Claire through the site plan and subdivision review powers of the City. The specific chapters of the Zoning Ordinance that protect wetlands are:

#### **Chapter 18.12, Shoreland-Wetlands Overlay District**

Defines the location of wetlands through the final wetland inventory map that was adopted as part of this chapter. Describes the permitted and non-permitted uses of wetlands, the use of non-conforming structures that presently exist in wetlands and the submittal requirements for review and approval of a site development plan. This zoning district does not appear on the City's official zoning map as do other zoning districts. This district supplements the base zoning district by first identifying wetlands with the adopted wetlands inventory map and next by field investigation by a natural resources professional. The Shoreland-Wetlands Overlay District is mandated by the State of Wisconsin.

### **Chapter 18.08, Conservancy District**

Allows protection of wetlands (and other natural features) that are located in these mapped districts. The Conservancy District appears on the official zoning map like any other mapped district, such as the R-1 residential district.

### **Shorelands**

Wetlands within 300 feet of the high water mark of designated streams or 1,000 feet of the high water mark of a designated lake are protected by the City's Shoreland-Wetland Overlay District. That district is designed to protect the natural features of the shorelands, including flood storage, water quality protection, wildlife protection and natural beauty. Land development is permitted consistent with the base or underlying zoning but is limited by the imperatives of natural resource protection.

### **Water Quality**

Water quality has improved in the rivers, creeks and lakes in recent decades. The best quality is now in Half Moon Lake, thanks to the combined efforts of the City and the DNR, followed by the Chippewa then the Eau Claire Rivers.

The creeks all suffer from sediment and fertilizer runoff. Trout have been extirpated in all of the creeks except Lowes because of pollution and also because of warm water caused by urban development. A recent study showed ways that surface water runoff temperatures could be reduced in Lowes Creek but it is a difficult problem because of the substantial nearby development. Otter Creek receives much pollution from farm fields and urban development in its watershed. The green color of the water in the Eau Claire River is caused by algae growth in Lake Altoona, which is promoted by fertilizer runoff.

### **Management Plan**

The City adopted a comprehensive surface water management plan in 1993 and received a stringent Municipal Separate Storm Sewer System (MS-4) Permit under Wisconsin Rules NR 216. Two Wisconsin Priority Streams are within the City's jurisdiction: Duncan Creek (located in Chippewa Falls) and Lowes Creek.

Through the actions prescribed in its plan, Eau Claire exceeded the level of water quality improvement mandated by 2008 and even by 2013.

A primary element of the City's plan calls for intercepting and treating surface runoff near its source, which is the most effective and economical approach. Thus, the City and private land developers have built catchment ponds and swales near locations that generate large amounts of runoff, such as major commercial or industrial areas. Suspended solids and harmful chemicals are removed through these features, which also reduce the cost of expensive pipe systems.

**Lowes Creek**, a trout stream, has benefited from City improvements that catch warm urban runoff then filter it into the ground water where it cools before seeping back to the creek, much to the benefit of the sensitive fish.

**Redevelopment districts** have also been the source of water protection measures. In the intensively utilized North Barstow / Phoenix Park area, runoff from parking lots is captured and cleansed in underground tanks before being released to the river.

On the **University campus**, vegetated swales catch and treat runoff before it enters Little Niagara Creek.

Water quality in **Half Moon Lake** improved markedly after invasive plant species were reduced through the application of herbicides beginning in 2008; in 2011, harmful phosphorus levels were reduced using alum. Beneficial native plants are now making a resurgence.

As noted previously, the water quality in **Sherman Creek** is good as a result of City treatment ponds. Otter Creek, on the other hand, suffers from agricultural runoff and thermal pollution.

Although a few locations are mapped as floodplains (including the downtown), there has not been a river-related flood in recent memory. A few urban drainage deficiencies are known and will be rectified. To mitigate flood hazards, houses have been removed in several locations such as along Forest Street, along Second Street near Owen Park, in the present Phoenix Park and near Riverview Drive.

## **Wildlife and Fishing**

Wildlife uses the valleys of the rivers and creeks for shelter, food and movement. However, urban development has greatly reduced this potential. Only fragmented habitat remains. The best (although degraded) habitat is around Half Moon Lake, Putnam Park and Dells Pond.

Wildlife habitat along the river banks has been degraded not only by development but also by invasive species. Prominent among these is Buckthorn, a shrub brought to this country from Europe in the 19th Century, which out-competes most native species in forested areas. It is found abundantly along the rivers and creeks of Eau Claire. Consequently, habitat for animals, birds and other species is harmed.

On the northern side of Dells Pond, wildlife habitat is very good on the Xcel Energy property. There is also an eagle nest on one of the islands in Dells Pond. Ice fishing is said to be popular there. Another boat launch, perhaps at Domer Park, would be useful.

### **Fishing**

Water quality in both rivers is good and improving. Consequently, the fisheries are also healthy. Species include walleye, muskie, sturgeon and suckers. The best fishing spot is right below Dells Dam. There is a foot path down the steep slope at that point but it is deteriorated and in need of improvement.

Shore fishing is possible in many locations but there are few fishing piers. Additional fishing piers would be helpful at Riverside Park, Dells Pond below McDonough Park and Owen Park; on the Eau Claire River; downtown; and on Half Moon Lake (much fishing from the causeway).

### **Bird Watching**

Because the Chippewa River is part of the Mississippi Flyway, many species pass through the valley in the Spring and Fall of each year. Good bird habitat exists at Putnam Park and Half Moon Lake.

Bird watching is a remarkably popular activity and has the potential to generate economic development from visitors.

## **Surface Water Management**

### **Water Quality Management**

Eau Claire has begun a program of actions to implement Wisconsin Rules NR 151 (Runoff Management) and NR 216 (the Wisconsin Pollution Discharge Elimination System). That plan was the basis for a permit from the Wisconsin Department of Natural Resources, which specified the practices that the City will follow to protect water quality. Some runoff control is presently exercised by the City through Section 16.36.040 of the City Code, but that section does not apply to one- and two-family dwellings and may soon be broadened to address all land development and disturbance.

The City of Eau Claire has received a permit from the Wisconsin Department of Natural Resources to manage its surface water runoff. A Water Pollution Discharge Elimination System (WPDES) Municipal Separate Storm Sewer System permit (MS4) issued to the City by the Wisconsin Department of Natural Resources under NR 216 of the Wisconsin Administrative Code. The elements of that permit address:

- Public education and outreach
- Public participation
- Illicit connections and discharges - detection and elimination
  - Industrial and high risk runoff
  - Toxic spills
- Construction site pollutant control
- Post-construction storm water management
- Pollution Prevention
- Stormwater management as required by NR 151
  - Reduce total suspended solids
  - Catch basins
  - Leaf collection
  - Street sweeping
  - Structural control maintenance
  - Roadway maintenance
  - Nutrient management on City properties
  - Flood control devices
- Assessment and monitoring
- A storm sewer system map that identifies location of water management facilities
- An annual report to the Department of Natural Resources

Each city must adopt measurable goals or design objectives to quantify how well it is doing in achieving its minimum control measures.

In 2004, the City of Eau Claire expanded its requirements for erosion control from private construction sites (Chapter 16.36.040, Standards for Public and Private Development, Storm Drainage) using the DNR model ordinance. That section was amended to include:

- That a **construction control plan** be prepared for each development or redevelopment site of one acre or greater in size as required under Wisconsin Administrative Code NR 151, Construction Site Performance Standard for New Development and Redevelopment. That regulation requires the use of Best Management Practices to reduce by 80 percent the sediment load carried in water runoff.
- **Flexibility for City staff** to modify release rates based on downstream conditions such as limited conveyance system capacity, erosion potential and/or regional storm water facilities.
- **Requirements for grading plans** to regulate runoff during and after individual lot construction and landscaping.
- Any **Best Management Practices** that are required under the NR 216 water quality permit.

However, Chapter 16.36.040 does not apply to the construction of one- and two-family housing.

### **Flood Control**

Surface Water management consists of flood or runoff control and water quality management. Flood control in Eau Claire is now well engineered and regulated for the most part as a result of improvements recommended by studies prepared in 1991 and 2000. The entire city has been studied on a sub-basin basis, and the City has detailed topographic maps superimposed over aerial photographs.

### **Stormwater Utility**

The City has established a stormwater utility through Chapter 19 of the City Code. That ordinance allows the city to levy a fee on all properties to cover the cost of constructing and maintaining improvements needed to handle surface water ponding and drainage plus administrative costs.

### **Forest**

As noted above, urban development and logging have destroyed most of the original forests, but large tracts of woods remain all around the perimeter of the city as well as on the steep banks of the rivers. Figure 3-1, Major Natural Resources, shows a ring of natural woods around Eau Claire, particularly in the hilly tracts but also in the flat, sandy areas to the north. That map does not do justice to the urban forest that thrives on almost every block of the community and helps make it livable.

Eau Claire has 28,815 publicly-managed street trees and an additional 6,500 park trees. The condition of the urban forest is rated as “good” thanks to the local tradition of tree care.

The residential streets in the older neighborhoods generally have publicly-owned trees in the right-of-way behind the curb. In the newer neighborhood, this practice is uneven.

**Table 3-1  
Trees by Species**

Species	Percent
Maples	39
Ash	32
Linden	8
Oak	3
Elm	2
Apple	2

**Table 3-2  
Tree Condition**

Condition	Percent
Good	75
Fair	17
Poor	8
Dead	<1

**Table 3-3  
Tree Diameter**

Diameter	Percent
< 6 inches	30
6 to 12 inches	38
12 to 24 inches	30
> 24 inches	2

Source for Tables 3-1 through 3-3: *Urban Forest Management Plan*, Davey Resource Group, 2010.

**Slopes**

Steep slopes are a significant component of the natural environment in Eau Claire and help guide land development, roads, parks and utilities. These wooded hillsides add significantly to the natural beauty, character and sense of place that Eau Claire enjoys.

Figure 4-1, illustrates the major locations of steep slopes, most of which are associated with the Chippewa River and its tributaries:

- Around Dells Pond and to the north along the historic floodway of the upper portion of the Chippewa River
- Along the Chippewa River as it flows past the University of Wisconsin campus
- Along lower Sherman Creek and in the Washington Heights neighborhood
- Across northern Washington Township, including the Lowes Creek valley
- Along the Otter Creek valley.
- Isolated hills such as Mount Tom.

Grading, removing vegetation or building on steep slopes is regulated by the City through its zoning and subdivision ordinances consistent with the Best Management Practices of its Municipal Separate Storm Sewer System Permit.

### **Special Natural Areas**

Putnam Park is a steep, wooded gorge and an ancient oxbow of the Chippewa River located in the heart of the city. It is beautiful, quiet and secluded and used for walking, enjoying nature and teaching ecology. The land was donated to the City with the provision that it be kept in a natural state. Its only development, then, is Putnam Drive, which links through the university campus along with the greenway to the Chippewa River.

### **Agricultural Lands**

In the Towns of Union, Wheaton and Seymour there are some soils rated as prime for agriculture. Figure 3-1, Major Natural Resources, indicates their approximate location. While these soils are not considered as sensitive as some other natural resources, they are still an irreplaceable and finite natural resource of importance for food production. Large-lot, semi-rural housing on private wells and sewage systems consume as much if not more valuable farmland than does urban housing.

### **Environmental Corridors Mapped in the Sewer Service Plan**

Major natural features will be referenced when preparing plans and policies for land use, roads, parks and resource protection.

Sensitive environmental areas were mapped by the West Central Wisconsin Regional Planning Commission when that agency prepared the *Eau Claire-Chippewa Falls Urban Sewer Service Plan for 2025*. The purpose of considering environmental features when determining a sewer service area is to help preserve and protect valuable areas from urban development. To do that, environmental corridors were determined and urban growth is regulated and limited consistent with the standards in the plan. Included were:

- Wetlands
- Shoreland
- Floodplains
- Steep slopes
- Prime farmlands
- Historic areas

Those features are shown in general fashion on Figure 3-1, Major Natural Features, and described elsewhere in this section.

Any subdivision or certified survey maps in the Sewer Service Area must indicate the location of any Environmental Corridors and the pertinent natural resources. The City can then apply the regulations appropriate to each protected natural resource.