

Introduction

This chapter provides an inventory of existing agricultural, natural, and cultural resources in the Town of Clearfield. Issues associated with these resources are discussed and a vision, with supporting goals and objectives, is presented.

Wisconsin's Smart Growth Law includes 14 goals for local comprehensive planning. The goals listed below specifically relate to planning for agricultural and natural resources:

- Protection of natural areas, including wetlands, wildlife habitats, lakes, woodlands, open spaces and environmental corridors.
- Protection of economically productive agricultural areas.
- Protection of agricultural lands for agricultural purposes.

Agricultural, Natural, and Cultural Resources Vision

In 2030, the protection of natural and cultural resources play a central role in growth and development decisions so that Clearfield's rural character and quality of life is maintained. Primary agricultural areas, woodlands, wetlands, the Lemonweir and Little Yellow Rivers, and other natural features are protected from development pressure to the greatest extent feasible. These landscape features define Clearfield's rural character, offer recreational opportunities, and provide vital habitat for wildlife.

Clearfield's family farming operations have adapted to the changing market. Farmers have turned to organic farming, niche farming, and value-added operations (e.g. pick-your own produce, farmers markets / roadside stands, bed-and-breakfasts, horse stables, etc.) to improve their profitability and successfully sustain Clearfield's small, family farms.

Visions, Objectives, Policies, and Goals

Wisconsin's Comprehensive Planning Law requires that the Agricultural, Natural, and Cultural Resources Element contain a compilation of objectives, policies, goals, maps and programs for the conservation, and promotion of the effective management, of natural resources such as groundwater, forests, productive agricultural areas, environmentally sensitive areas, threatened and endangered species, stream corridors, surface water, floodplains, wetlands, wildlife habitat, metallic and nonmetallic mineral resources consistent with zoning limitations under s. 295.20 (2), parks, open spaces, historical and cultural resources, community design, recreational resources and other natural resources.

Agricultural Resources

Agriculture represents the second largest land use in Clearfield following woodlands/open space (please refer to *Chapter 7: Existing Land Use* for a complete inventory of land uses). Protecting

farmland is critical to the future of the community. It is a valuable and nonrenewable resource; once land is built over with homes and commercial development, it is permanently taken out of production. Additionally, agricultural lands provide a significant amount of revenue to the area, while requiring very few services (please refer to *Cost of Community Services* section in *Chapter 6: Economic Development*). As development pressures grow in the Town, so does the potential for negative impacts on agriculture:

- Non-farm residents can increase the chance of nuisance complaints.
- Commuters must share roads with slow moving farm equipment.
- Neighbors of farming operations may be subjected to manure spreading, night operations, and pesticide applications.

Should the recent trend of rural residential development continue, steps need to be taken to ensure that it does not continue to consume prime farmland. The development needs to be directed toward areas where its impact on agriculture is minimized. One way of addressing that is to map prime agricultural soils in Juneau County. The relationship between soils and agriculture is critical. Development should be directed to areas of the Town with soils not well suited for agriculture.

Productive farm soils are illustrated on the Prime Farmland map located on page 5-3. Prime farmlands (productive agricultural areas) are determined by soil types that are capable of producing high yields of crops under a high level of management. Productive soils are considered to be those that are capable of producing an average of 4 tons per acre per year of grass-legume hay, or 100 bushels per acre of corn. The United States Department of Agriculture Soil Conservation Service considers a “high level of management” to include provisions for adequate drainage, appropriate tillage, planting and seeding with high yielding varieties, control of weeds, diseases, insects, optimum fertilizer application and timely, efficient harvesting techniques. Productive agricultural soils are found across Clearfield with the exception of the wetland areas adjoining the Little Yellow River corridor. While farming is encouraged across the Town, a variety of factors combine to make Clearfield a likely target for future non-farm development. These factors include:

- The attractiveness of Juneau County.
- The desire and demand for rural residential development.
- The increasing average age of local farm operators combined with fewer young people interested in farming leading to sale of farmland for development.

A variety of tools are available to local governments and farmers to preserve prime agricultural lands. These include Wisconsin’s Farmland Preservation Program, various Natural Resource Conservation Service programs, and the purchase or transfer of development rights through groups like local Land Trusts, among others. Successful farmland preservation efforts are dependant upon the support of local farmers and their ability to pursue new markets to sustain operations over time. More information about various strategies and programs to sustain farming in Clearfield are provided later in this chapter.

**PRODUCTIVE AGRICULTURAL MAP WILL BE
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Concentrated Animal Feeding Operations

Concentrated Animal Feeding Operations, also known as CAFOs, mega-farms, or factory farms, is an issue of concern for many rural Wisconsin communities. In 2006, the State of Wisconsin enacted ATCP-51, the livestock siting law. Additional information regarding CAFOs and ATCP-51 can be found later in this chapter under the Agricultural, Natural, and Cultural Resources Issues and Concerns section.

Natural Resources

The natural environment is a critical ingredient in Clearfield’s “quality of life” and provides a strong sense of place and community pride. A direct correlation exists between the presence and amount of open space and the positive feelings people have about their community. Natural features such as woodlands, wetlands, grasslands, and surface waters provide important wildlife habitat and recreational opportunities for residents. They improve the visual appeal of the Town and function as development buffers, both within Clearfield and between the Town and neighboring communities.

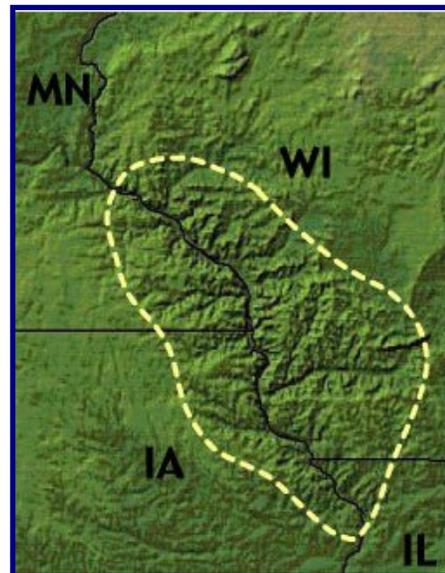
In many respects, the natural landscape also determines where development can and cannot happen. For example, topography limits the type and density of development that can occur. Zoning, of course, directly controls the permitted density. Certain soils types have limitations that restrict development opportunities while shallow soils limit agricultural production. Construction activities within wetlands and floodplains are regulated by local, State, and Federal agencies.

Woodlands and grasslands, however, are afforded little State or Federal protection. They, along with agricultural lands, tend to experience the greatest amount of development pressure and, therefore, require a greater level of local protection...at least for those communities intent upon preserving them. Local residents value the benefits provided by a healthy and diverse natural environment.

This section of the chapter provides an assessment of the different natural resources in Clearfield. The information is graphically represented on the Natural Features Map which appears on page 5-8. This information serves as the basis for a land suitability analysis used to determine appropriate (i.e. environmentally sustainable) areas for development on Future Land Use map.

Geology and Topography

The upper Midwest has undergone multiple periods of glaciation. Thick continental ice sheets have moved from



The Driftless Area.

Canada southward in various lobes at various times, leveling high areas of the landscape. The “Driftless Area” of southwestern Wisconsin survived these glacial episodes, even though areas completely surrounding it for hundreds of miles were at one time covered with glaciers.

Much of Juneau County is located on the eastern fringe of the Driftless Area, in the former “Glacial Lake Wisconsin” area (see box on following page). Glacial Lake Wisconsin was a huge lake formed from glacial melt waters, which were backed up against the higher Driftless Area, by ice blocking the outlet of the Wisconsin River. The lake rose to approximately 1000 feet above mean sea level, the height of the adjacent highlands of the Driftless Area.



As the climate warmed in the area, the ice blockage catastrophically broke away, causing a rapid dewatering of the lake. The force of the water carved the gorge of the Wisconsin Dells to the south of the area. The topography of the Town of Clearfield reflects the former lake bed. The ground surface is flat, and is underlain by a thick sequence of sand.

The Town of Clearfield lies within the physiographic province known as the Central Plain. It was once part of a broad glacial lake basin and generally has flat or gently undulating topography except for an occasional sandstone butte. Capped by resistant rock, these buttes rise above the basin to a height of 100 to 300 feet and are the remnant outliers of the retreating uplands to the southwest of the county. Generally, the lake basin slopes gradually to the southeast. The surface drainage is toward the Wisconsin River.

The Town (and the lake basin as a whole) has extensive areas of wetlands which result from relatively flat topography, a high water table and slowly permeable layers of silt or clay within the lake deposits. The underlying bedrock material is primarily Cambrian Sandstone. The water table can be found 20 to 30 feet below the surface with typical well depths of 30 to 50 feet. Deeper wells are reported in areas of dense rock.¹

Rivers and Surface waters

The Lemonweir and Little Yellow Rivers and the Juneau County Ditch are the primary drainages within the community. Surface water resources are extremely valuable assets to a community because of their potential environmental and economic benefits. Water-based recreational activities and appropriately designed residential development that capitalizes on surface water amenities can have lasting impact on the local economy. Appropriate location and management of residential uses near surface water features is extremely important because of potential threats to water quality.

¹ This paragraph and the previous paragraph were excerpted from the 1998 *Town of Clearfield Land Use Plan* prepared by North Central Wisconsin Regional Planning Commission.

Residential development's threats to surface water resources include lawn-applied chemicals, petroleum-based substances and salts from local road runoff.

The Lemonweir River is a shallow, slow-moving, meandering river. Its floodplain is wooded and contains a myriad of sloughs and oxbows providing rich habitat for wildlife. The entire length is open for canoeing and kayaking but has limited capabilities for motorized boating. The Lemonweir drains to the Wisconsin River approximately ten miles southeast of Clearfield. The Little Yellow River is a small perennial stream flowing through the northeast portion of Clearfield. It drains directly to Castle Rock Lake just east of Clearfield in the Town of Germantown. The Juneau County Ditch is a man-made surface conveyance draining the central portion of Clearfield and discharging to the Wisconsin River southeast of the Town.

There are no lakes in the Town of Clearfield, however, New Lisbon Lake lies just south of the community within the stream course of the Lemonweir River in the Town of New Lisbon. Castle Rock Lake, a drainage basin of the Wisconsin River, is located about two miles east of Clearfield.

Juneau County has floodplain regulations in place through its Shoreland Zoning Ordinance which applies to the Town of Clearfield. Surface waters cover about 0.83% (189 acres) of the Town with floodplains that expand to cover about 2,250 acres.²

Wetlands and Floodplains

Wetlands and floodplains act as a natural filtering system for sediment and nutrients such as phosphorus and nitrates. They also serve as a natural buffer, protecting shorelines and stream banks from erosion. They are essential in providing wildlife habitat, flood control, and groundwater recharge. In the portion of the Town of Clearfield adjacent to the Little Yellow and Lemonweir Rivers, significant wetland and floodplain areas are found. Clearfield has significant acreage available for flood control. It is important that development be restricted in this area to assure protection of lives and property.

Wetlands are scattered throughout the Town with some of significant size. There are approximately 4,122 acres of wetland comprising 18% of the land area of the Town. These wetlands exhibit great diversity in hydrologic and vegetative characteristics. The majority of the wetlands are forested areas with wet soils. These lowland areas support mixed hardwood and needle-leaved coniferous/deciduous plant communities. Wetter areas support scrub/shrub and emergent vegetation types.³

Wisconsin counties regulate development activities within shoreland areas. Shorelines are often thought of as a boundary between the land and water, but shorelines are also a transition area within which the health of land and water ecosystems can be positively or negatively affected. Shoreland

² This paragraph was excerpted from the 1998 *Town of Clearfield Land Use Plan* prepared by North Central Wisconsin Regional Planning Commission.

³ This paragraph was excerpted from the 1998 *Town of Clearfield Land Use Plan* prepared by North Central Wisconsin Regional Planning Commission.

vegetation traps and filters sediment and debris from rainfall and snow melt, buffering surface waters.

Shoreland zoning regulations are designed for efficient use, conservation, development, and protection of water resources. They are intended to:

- Prevent and control water pollution.
- Protect spawning ground for fish and aquatic life.
- Control building sites, placement of structures, and land use.
- Preserve shore cover and natural beauty.

A complex set of local, state, and federal regulations place limitations on the development and use of wetlands. The Shoreland Zoning Ordinance adopted by Juneau County regulates shoreland use and development within 300 feet of navigable streams and 1,000 feet of lakes. The Department of Natural Resources regulates the placement of structures and other alterations below the ordinary high water mark of navigable streams and lakes. The Corps of Engineers has authority over the placement of fill materials in virtually all wetlands. The USDA incorporates wetland preservation criteria into its crop price support programs. Prior to placing fill or altering wetland resources, the appropriate agencies should be contacted to receive authorization.⁴

Groundwater⁵

In Juneau County, the major source of water supply is from groundwater aquifers and is available in adequate quantities for most domestic, agricultural, and industrial needs. The quality of the groundwater throughout Juneau County is generally good for most uses, but treatment may be needed for specific purposes. The water is relatively soft, but local differences in quality are caused by a variety of factors. Calcium, magnesium, and bicarbonate ions derived from dolomite are present. Minor water use problems occur locally by high concentrations of iron produced mainly by reducing conditions in marshes and swamps, although some iron does come from the bedrock.

Woodlands

The first recording of vegetation in the Town of Clearfield occurred in the winter of 1851, when the U.S. General Land Office performed a land survey of the area. The native vegetation was composed primarily of oak and pine forest, with prairie openings. Bottomlands along the Lemonweir River contained oak, elm, and ash.

In 1860, John T. Kingston, a Necedah lumberman, wrote: "starting from the mouth of that river [Lemonweir] and running up on the north side a distance of some twenty miles, is a strip of open swamp and meadow lands, from two to three miles in width, interspersed with here and there ridges

⁴ This paragraph was excerpted from the 1998 *Town of Clearfield Land Use Plan* prepared by North Central Wisconsin Regional Planning Commission.

⁵ The entirety of this section was excerpted from the 1998 *Town of Clearfield Land Use Plan* prepared by North Central Wisconsin Regional Planning Commission.

and islands of dry land, covered mostly with a thick growth of small sized timber, chiefly birch, poplar, pin oak, and gray [jack] pine.”

”The marsh lands are mostly without timber; near the streams producing an abundance of wild grass suitable for hay, but farther back valuable only for the production of cranberries. Following along the west bank of the Wisconsin, above the Lemonweir and up to the county line is a strip of dry sandy land, from three to four miles in width, covered, excepting a few small prairies, with a thick growth of small gray pines.” During the late nineteenth century much of the pre-settlement forestland was cut and cleared for agriculture.

The Bordner Survey was a vegetative assessment of the entire State of Wisconsin, conducted by the University of Wisconsin between 1933 and 1945. The Town of Clearfield was surveyed in 1933. That survey found that the majority of land within the township was cropped. Bottomland areas contained swamp hardwoods. Non-cropped areas in the southern half of the township generally contained poor stands of oak or pine. Low-lying areas in the northwestern portion of the township were either grass marshes, or were wooded with tag alder, willow, dogwood, or tamarack.

The Natural Features Map (on the following page) and the Existing Land Use Map (in *Chapter 7: Existing Land Use*) delineate the location of existing woodland areas. To protect woodlands, the WDNR Managed Forest Program is available to landowners who own more than 10 acres of contiguous forestland. Through the program, landowners agree to manage their forestland for hunting, fishing, wildlife, and recreation purposes and not permit development in exchange for tax credits. Additional information about this program is available on the Internet at www.dnr.state.wi.us/org/land/forestry.

Wildlife Habitat

The majority of the Town of Clearfield provides ideal habitat for deer and turkey, among other species. The combination of farmland, woodland, and wetland areas offers year-round food sources and cover for these species. Aquatic habitats in Clearfield consist primarily of the Wisconsin and Lemonweir Rivers. The quality of these water resources as aquatic habitats was discussed in earlier sections of this chapter.

Threatened and Endangered Species

There are a number of threatened and endangered plant and animal species in Juneau County. Unfortunately, there is not a list or map available specific to Clearfield. The WDNR has county-level maps of threatened and endangered species. These maps do not precisely identify habitat areas within each county. The WDNR does not want people to visit or otherwise intrude on the habitats of endangered and threatened species. The WDNR is attempting to identify and catalog endangered plant and animal species across the state. For a complete, up-to-date list, refer to: www.dnr.state.wi.us. The state and federal government have programs and laws in effect to protect threatened and endangered plant and animal species in the Town of Clearfield and beyond.

**NATURAL FEATURES MAP WILL BE
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Exotic and Invasive Species

Non-native invasive plant and animal species have been recognized in recent years as a major threat to the integrity of native habitats and species, as well as a potential economic threat (damage to crops, tourist economy, etc.). The WDNR requires that any person seeking to bring a non-native fish or wild animal for introduction in Wisconsin obtain a permit. The Town of Clearfield can help combat invasive species by educating residents about non-native species (using the Internet or a Town newsletter as primary tools in this effort) and by encouraging residents to use native plants in landscaping. For a complete listing of invasive plants and animals, visit: www.dnr.state.wi.us/invasives/.



Purple loosestrife.

Metallic and Non-Metallic Mining Resources

As part of NR 135, Wisconsin Administrative Code, adopted in December 2000, any community in Wisconsin may adopt an ordinance to establish requirements for reclamation of non-metallic mines, such as gravel pits and rock quarries. If a community decides not to develop its own ordinance, a county may develop an ordinance for the area instead. Likewise, a regional planning agency may develop ordinances for the counties within its region. The ordinance must establish reclamation requirements to prevent owners and operators of quarries and gravel pits from abandoning their operations without proper reclamation of the mine or quarry.

The process of siting a mine continues to be a local matter governed under existing zoning procedures by local authorities. The reclamation requirements through NR 135 add to the status quo, but do not replace or remove any other means of regulation. The requirements neither regulate active mining processes nor have any effect upon local zoning decisions, like those related to the approval of new mine sites.

Under NR135, any landowner of a demonstrated “marketable non-metallic deposit” may register the site for mining. The local zoning authority may object to the application if the zone does not permit non-metallic mining as a use. Registration expires after a 10-year period and may be extended for a single 10-year period if it is demonstrated that commercially feasible quantities continue to exist at the property. Towns rezoning property in a manner consistent with their Comprehensive Plan are not required to permit non-metallic mining operations that are inconsistent with their adopted plan.

Air Quality

Air pollutants can impair human health, harm the environment and cause property damage. The United States Environmental Protection Agency (USEPA) evaluates air quality using health-based criteria (science-based guidelines) as the basis for setting permissible air quality levels. One set of limits (primary standards) protects health; another set of limits (secondary standards) is intended to prevent environmental and property damage. A geographic area that meets or exceeds the primary standard is called an attainment area; areas that don't meet the primary standard are called non-attainment areas. Juneau County is classified as an attainment area.

Soils

Soils are the physical base for development and agriculture. Knowledge of their limitations and potential difficulties is important in evaluating crop production capabilities and other land use alternatives, such as residential development.

For additional information about specific soil characteristics and limitations, refer to the Juneau County Soil Survey.

The Town of Clearfield is in the Central Sand Plain area of Wisconsin. The predominant soil types in the Town of Clearfield are sands belonging to the Friendship, Alganssee-Glendora, Plainfield, Plainbo, and Meehan-Newson series of soils. These are thick sequences of sandy soils, which are highly porous, and susceptible to groundwater contamination from agricultural herbicide/pesticide/nutrient applications. The Town of Clearfield Soils map appears on the following page.

Cultural and Historical Resources

Cultural and historical resources, like natural resources, are valuable community assets warranting preservation.

Cultural Resources

What is now the Town of Clearfield was long occupied by native people. Reminders of the pre-settler cultures can still be found today in the arrowheads, spear points, and campsites that turn up on occasion. Modern cultural assets may include historic farm structures, original homesteads, and other features important to the history of Clearfield. These places create a sense of identity and offer spiritual enrichment, education, and gathering spaces that contribute to the local culture.

Historical Resources

Town governments, like other governments in Wisconsin, have the authority to preserve their historical heritage (Wisconsin Statutes §60.64). One of the most effective ways to do so is through a local historic preservation ordinance. The historic preservation ordinance can establish procedures to designate historically and culturally sensitive properties and places and to review projects that have the potential to negatively affect these important places. The Wisconsin Historical Society has created the Architecture and History Inventory (AHI), an internet-based search engine that provides architectural and historical information on approximately 120,000 properties in Wisconsin. The AHI contains information on buildings, structures, and objects that illustrate Wisconsin's unique history. The AHI documents a wide range of historic properties such as round barns, log houses, cast iron bridges, small town commercial buildings, and Queen Anne houses, among others.

**SOILS MAP WILL BE INSERTED
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**SANITARY SUITABILITY MAP WILL
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Agricultural, Natural & Cultural Resources Issues and Opportunities

This section describes the major concerns expressed during the planning process and those revealed in the inventory portion of this chapter. Strategies to address these concerns are included in the Policies, Goals, and Objectives in *Chapter 10: Implementation*.

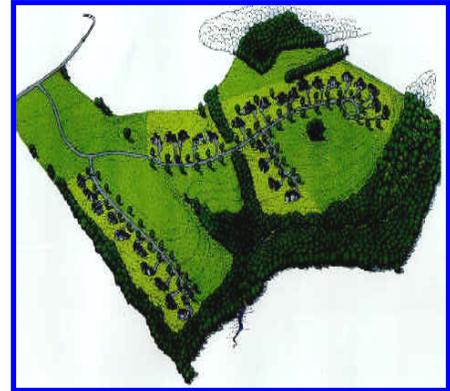
Conservation-Based Development

Conservation-based development techniques may involve the establishment of a conservation easement (see box at right). In a conservation subdivision, homes are “clustered” together so that a greater proportion of the land is protected from development.

- A typical conservation subdivision will require that 40% of a site be set aside and preserved as undevelopable open space.
- Protection and maintenance of the conserved area can be accomplished through a conservation easement with an appropriate conservation organization, land trust, homeowners association, government body, or through deed covenants.
- The areas to be conserved must be protected indefinitely.
- The land designated for protection will be preserved as natural habitat, open space, or farmland. If it is farmland, special consideration should be given to where residential development is located (e.g. prevailing winds, buffers, etc) to allow farm uses to coexist harmoniously with residential uses.
- In conservation subdivisions, the development of walking and bicycle trails is encouraged, particularly to provide limited access to protected natural areas.

Land Trusts and Conservation Easements

Land trusts provide another option to landowners seeking to protect natural areas and farmland. They offer landowners advice on protection strategies that best meet the landowner’s conservation and financial needs. Land trusts accept lands donated by landowners for conservation purposes. Land trusts can also work with landowners to establish conservation easements (see box on following page).



How is a Conservation Subdivision Created?

1. **Develop a Yield Plan.** This plan essentially shows how many homes could be developed if a traditional subdivision layout were used.
2. **Identify Primary and Secondary Conservation Areas.** Primary conservation areas include: poor soils, steep slopes, wetlands, waterways and floodplains that are not conducive to development. Secondary conservation areas include other areas of local importance targeted for protection (i.e. farmland, woodlands, scenic views, etc.).
3. **Locate the Home Sites.**
4. **Include Roads, Sidewalks and Trails.**
5. **Draw the Lot Lines.** This is usually the first step in a traditional approach.

Specialty Farming

Thus far, this chapter has focused on traditional agricultural operations (e.g. crop and family farming). Specialty or niche farming provides an alternative to conventional agricultural production, particularly for smaller farms attempting to compete with large agricultural operations. The Town of Clearfield's location and ready highway access provides an opportunity to market directly to the larger population centers of central Wisconsin. Marketable agricultural products may include:

- Milk and cheese from local dairy operations
- Vegetables and produce (sold locally at a collective farmers' market in the Town of Clearfield or in nearby cities)
- Aquaculture products
- Pumpkin patches, berry farms, and orchards that allow visitors to pick their own produce.
- Walnuts, maple syrup, and pine trees (for landscaping or holidays) from local tree farms
- Horse farms (offering boarding and potential future trail access)

What is a Conservation Easement?

A conservation easement is a **voluntary legal agreement** between a landowner and a land trust or government agency that limits present and future development of a parcel.

Under a conservation easement, the **landowner retains ownership** of the land (within the terms of the easement – i.e. only for farmland or natural space, not for development) and the land trust takes the responsibility for protecting the land's conservation values.

Donated conservation easements that meet federal tax code requirements can provide significant **tax advantages** to landowners because their land will be taxed as undevelopable land, which is a much lower rate than developable land. Qualified easements may also generate charitable contribution deductions for income and transfer tax purposes.

Organic food is a fast-growing industry in the United States. Products that once occupied a boutique marketplace niche are becoming main-stream, as consumers seek healthier alternatives to conventional farm produce. Organic and specialty farming counter the notion that farms must become very big or be lost to development. They provide a profitable choice for small, local farmers. Additional information about strategies to sustain agriculture through specialty farming is included in *Chapter 6: Economic Development* and *Chapter 8: Future Land Use*.

Sustaining Farmlands and Natural Areas

In addition to the Conservation Subdivisions discussed earlier in this section, another means of preserving important landscapes, natural and agricultural, is to establish a purchase and/or transfer of development rights (PDR/TDR) program. A PDR or TDR program would allow the Town to “send” development from farmland and natural resource areas to designated “receiving” areas. Advantages of these approaches include the fact that landowners are compensated and farmland and natural resource preservation is permanent. PDR is a voluntary program, where a land trust, local government, or some other agency usually linked to local government makes an offer to a

landowner to buy the development rights on the parcel. The landowner is free to turn down the offer, or to try to negotiate a higher price.

When the development rights to a farm are sold, the farmer receives payment equal to the difference between the fair market value of the land a developer would pay if it could be developed and the price the land would command for agricultural use. In return for this payment, a conservation easement is recorded on the deed to the property. The easement stays with the land in perpetuity. The private landowner still retains the right to occupy and make economic use of the land for agricultural purposes. The landowner gives up the right to develop the property for some other use in the future. Farmers are not compelled to sell their development rights. Participation in PDR programs is entirely voluntary.

The main disadvantage of PDR is cost. Development rights can be expensive to purchase, so funding for PDR needs to be selectively targeted to preserve and protect agricultural land that is most worthy of preservation. As a result, not every farmer who wants to sell his or her development rights will be able to do so.

TDR involves transferring development rights from one piece of property to another. In this approach, a landowner is compensated for selling his/her development rights. However, rather than simply eliminating these rights, they are transferred to another property in the Town that is planned for development. That landowner has the right to develop his/her property and also use the transferred rights they purchased from the other landowner to develop at a greater density or intensity (e.g. smaller lot sizes to locate more homes in a single area). This approach results in the preservation of farmland and natural areas in designated “sending” zones and more intensive development in the designated “receiving” zones.

Since the Town anticipates limited development pressure during the next twenty years, it is unlikely that PDR/TDR programs will become a necessity during the lifetime of this plan.

ATCP 51 – Livestock Siting Rule

On September 16, 2005, the Wisconsin Department of Agriculture's Board gave final approval of ATCP 51, which establishes standards for the siting of livestock operations. In its approval, the Board added an amendment to have the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) annually review ATCP 51 to see if any modifications are needed.

ATCP 51 implements Wisconsin's Livestock Facility Siting Law (s. 93.90, Stats.). The law does not require local approval of new and expanding livestock operations, but if local approval is required by the community, the local government must grant or deny approval according to this rule. A local government may not consider other siting criteria, or apply standards that differ from this rule, except as specifically authorized in the law. This rule applies to new or expanded facilities that keep cattle, swine, poultry, sheep or goats.

Under the law, a local government may not deny or prohibit the siting or expansion of a livestock facility of any size unless one of the following applies:

- The site is located in a non-agricultural zoning district.
- The site is located in an agricultural zoning district where the livestock facility is prohibited. The zoning prohibition, if any, must be clearly justified on the basis of public health or safety. The law limits exclusionary local zoning based solely on livestock facility size.
- The proposed livestock facility violates a valid local ordinance adopted under certain state laws related to shoreland zoning, floodplain zoning, and construction site erosion control or stormwater management.
- The proposed livestock facility violates a state building, electrical or plumbing code for that type of facility.
- The proposed livestock facility will have 500 or more “animal units” (or will exceed a lower threshold incorporated in a local zoning ordinance prior to July 19, 2003), and the proposed livestock facility violates either 1) the standards in the rule or, 2) a stricter local standard by ordinance. Those standards must be based on scientifically defensible findings of fact that clearly show the standards are necessary to protect public health or safety.

Loss of Habitat for Unique Species

The Town of Clearfield has an abundance of important natural resources. As discussed earlier in this chapter, the Town’s natural areas provide important wildlife habitat for a number of rare, threatened, and endangered species. Responses during the public meetings held at the beginning of this plan process demonstrated the importance of the natural environment in the eyes of the residents of the community. Habitat loss and fragmentation are often the results of poorly planned development. In a community that values its natural environment as much as the Town of Clearfield does, it will be important for the Town to guide development away from the most sensitive habitat areas to insure the long-term viability of a healthy local ecosystem.

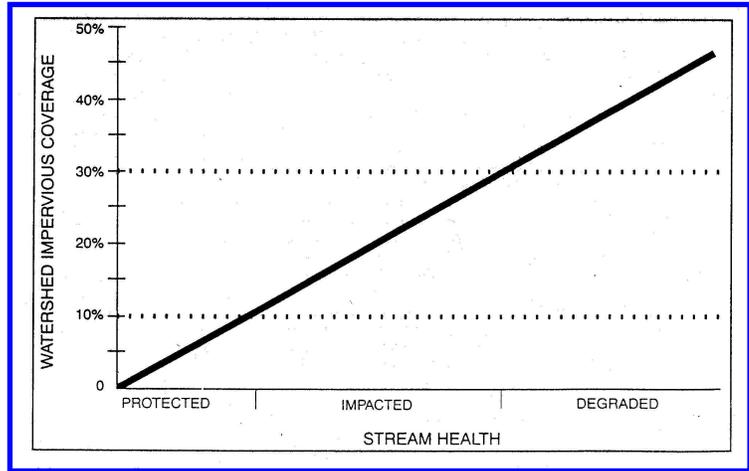
Preservation of Surface Water Quality

Historically, water quality was degraded by point sources, or direct discharges to lakes and rivers from industry, municipal sewerage districts, and the like. Since the passage of the Federal Water Pollution Control Act of 1972 (the Clean Water Act), the United States had taken dramatic steps to improve the quality of our water resources. No longer are industries allowed to discharge untreated waste directly to surface waters.

Today, the greatest threat from a cumulative standpoint to our streams and lakes comes through nonpoint source water pollution. Nonpoint source water pollution, or runoff, cannot easily be traced to a single point of origin. It occurs when rainwater or snowmelt flows across the land and picks up soil particles, organic wastes, fertilizers, and other contaminants that become pollution when carried to surface and/or groundwater. Nonpoint pollution, in the form of nitrogen, phosphorus, and total suspended solids (soil particles), contaminates streams and lakes, increases the growth of algae and harmful aquatic weeds, covers spawning beds and feeding areas, and turns clear rivers into conveyances of stormwater. The sources of nonpoint pollution include:

■ **Impervious Surface**

A positive correlation exists between the percentage of impervious surface in a watershed and surface water quality (see graph above). Stormwater runoff from impervious surfaces such as roads and roofs has an adverse effect on surface waters. As the percentage of impervious surfaces increases in a watershed, lakes and streams experience greater degradation from stormwater runoff.



Source: Center for Watershed Protection, 1995.

According to the Center for Watershed Protection (CWP) in Ellicott City, Maryland, “More than 30 different scientific studies have documented that stream, lake, and wetland quality declines sharply when impervious cover in upstream watersheds exceeds 10%.” In 1999, CWP developed criteria that allowed local governments and watershed organizations to predict the effects upon surface water quality resulting from increases in impervious surfaces within a watershed. CWP classified watersheds into three groups, each defined by the percentage of impervious surface within the watershed.

■ **Agricultural Fields**

Plowed fields, row crops, winter manure spreading, lack of riparian buffers, wetland conversion, and the overuse of commercial pesticides and fertilizers all intensify nonpoint source pollution loading to surface waters. By utilizing techniques such as conservation tillage, nutrient management planning, wetland restoration, grazing management, cover crops, manure confinement, and agricultural buffers, farmers can dramatically reduce nonpoint source pollution as well as the cost of farming.

■ **Lawn Fertilizers, Herbicides, and Pesticides**

Wisconsin and Minnesota residents use more fertilizers and pesticides on their lawns per capita than those of any other state. Upwards of 95% of the chemicals applied to residential lawns are washed into storm drains and then into nearby creeks and streams following rain events. In northern climates, turf grass is only capable of ingesting fertilizer during the fall. Fertilizers applied during spring and summer months contribute to algae blooms and eutrophication of lakes and streams. Most herbicides, even those that claim to be focused on specific “weeds” or “pests”, kill healthy aquatic and terrestrial organisms and are suspected causal factors in many autoimmune and endocrine illnesses in humans and pets.

Chapter 10: Implementation will describe a variety of tools, best management practices, and funding courses to aid in the reduction of nonpoint source water pollution in the Town of Clearfield.

Protection of Groundwater

With all of the Town of Clearfield's supply of potable water provided by private wells, susceptibility to contamination remains a concern. As discussed in *Chapter 4: Utilities and Community Facilities*, sources of groundwater contamination include leaking fuel tanks, surface discharges, and natural substances present in the subsurface geology.

Homeowners can protect groundwater by properly sealing abandoned wells. Always use "best management practices" on lawns and farm fields. These practices include properly treating sewage, improving roadway and property drainage, minimizing pesticide and fertilizer use, and following application guidelines when pesticides or fertilizers are necessary. Recycling programs that reduce the solid waste stream and proper disposal of hazardous household waste will also reduce the risks of contamination to nearby residential wells.

Certified Local Government Program⁶

Local units of government that have enacted historic preservation ordinances may consider being certified to participate in the state and federal Certified Local Government (CLG) program. The CLG program provides special grants to fund planning and educational activities. The Division of Historic Preservation at the Wisconsin Historical Society administers the CLG program. Wisconsin has 44 Certified Local Governments.

Local governments strengthen their local historic preservation efforts by achieving Certified Local Government (CLG) status from the National Park Service (NPS). NPS and State governments, through their State Historic Preservation Offices (SHPOs), provide valuable technical assistance and small matching grants to hundreds of diverse communities whose local governments are striving to keep for future generations what is significant from their community's past. In turn, NPS and States gain the benefit of local government partnership in the national historic preservation program. Another incentive for participating in the CLG program is the pool of matching grant funds SHPOs set aside to fund CLG historic preservation subgrant projects--at least 10% of the State's annual Historic Preservation Fund (HPF) grant allocation. Grant funds are distributed through the HPF grant program, administered by NPS and SHPOs.

Jointly administered by NPS in partnership with SHPOs, the CLG Program is a cost-effective local, State, and federal partnership that promotes historic preservation at the grassroots level across the nation. Working closely with such national organizations as the National Association of Preservation Commissions, the CLG program seeks:

⁶ Excerpted from *A Guide to Smart Growth and Cultural Resource Planning*, Wisconsin Historical Society; and, *Certified Local Government Program* from the National Park Service website, 2006.

- To develop and maintain local historic preservation programs that will influence the zoning and permitting decisions critical to preserving historic properties, and
- To ensure the broadest possible participation of local governments in the national historic preservation program while maintaining preservation standards established by the Secretary of the Interior.

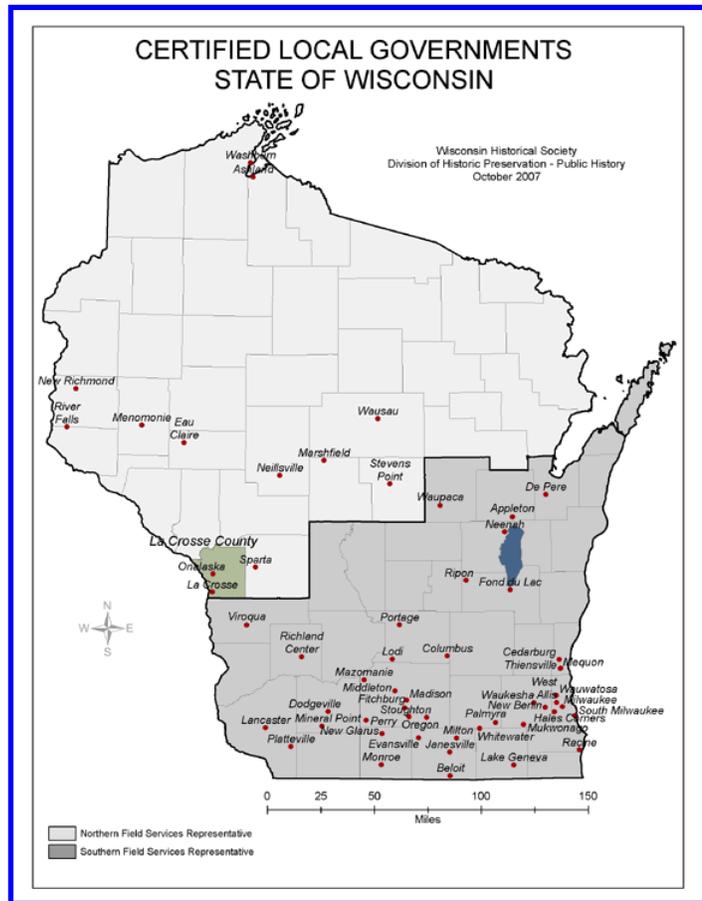
Since 1985, more than \$40 million in HPF grants has been allocated to the Certified Local Government program; and 1,228 local governments currently participate in the program nationwide.

Preservation Tax Incentives

The Federal government encourages the preservation of historic buildings through various means. One of these is the program of Federal tax incentives to support the rehabilitation of historic and older buildings. The Federal Historic Preservation Tax Incentives program is one of the Federal government's most successful and cost-effective community revitalization programs. The Preservation Tax Incentives reward private investment in rehabilitating historic properties such as offices, rental housing, and retail stores. Current tax incentives for preservation, established by the Tax Reform Act of 1986 (PL 99-514: Internal Revenue Code section 47 [formerly Section 48(g)]) include:

- A 20% tax credit for the certified rehabilitation of certified historic structures; and,
- A 10% tax credit for the rehabilitation of non-historic, non-residential buildings constructed before 1936.

For more information on this and other programs to protect and restore historic structures, contact the Wisconsin State Historical Preservation Officer.



SOURCE: A Guide to Smart Growth and Cultural Resource Planning, Wisconsin Historical Society, 2009.

Coordination with Other Comprehensive Plan Elements

The development of the Agricultural, Natural and Cultural Resources Element required coordination with all of the required plan elements. For example, when considering economic development strategies, the limitations presented by natural resources are important to consider as were the benefits natural areas provide to the local quality of living. Below is a description of the critical issues addressed with respect to the Land Use and Housing Elements. These elements are profiled because their coordination with the Agricultural, Natural and Cultural Resources Element is critical to the success of the plan.

Land Use

Residents of the Town have clearly indicated that the preservation of natural resources is a priority. As a result, when the Future Land Use Maps were developed, special consideration was given to this desire. The goals, objectives, and policies in this chapter include provisions to protect the natural environment of Clearfield.

Housing

Housing, if not carefully located and planned for, can result in negative effects upon farming and the natural environment. Housing development can fragment farming operations and wildlife habitat areas. The additional traffic, people, and services associated with residential development can quickly impact rural character. Directing development in the Town will help to protect natural resources and farmlands in surrounding communities. This strategy for housing development is reflected in the Future Land Use Map.

Agricultural, Natural, and Cultural Resources Policies, Goals, and Objectives

The policies, goals, and objectives related to Agricultural, Natural, and Cultural Resources in the Town of Clearfield can be found in *Chapter 10: Implementation*.