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Planning Report

# Phelps Year 2020 Comprehensive Master Plan

Town of Phelps  
Vilas County, Wisconsin

February 2000



**Foth & Van Dyke**  
consultants · engineers · scientists

# Town of Phelps Comprehensive Master Plan

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## Vision Statement

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A place of abundant natural beauty. The quiet serenity of clear, wind swept lakes. The peace of a fire-red sunset casting shadow between expansive rolling, wooded hills. A hint of pine in the air. A quaint, revitalized downtown invites the friends who visit...this is Phelps in the 21st century.

The town of Phelps will have developed a new spirit of cooperation focused on the preservation and enhancement of its unique northwoods character and small town charm. Northwoods treasures including vast, unfragmented forests of pine, maple, and white birch that burst with vibrant fall color; wilderness areas tending the whitetail, black bear, and occasional wolf; clean, clear fishable lakes haunted by trophy walleye and musky; rivers and streams populated by native brook trout; and peace and quiet accented by stars so bright they cast shadow into the blackness of night. These things will offer both residents and visitors an environment which is desired....a desire managed to continue the opportunity to be aesthetically pleasing, economically viable, safe, environmentally sound, and personable.

A system of planned, controlled and orderly development, guided by the town, will respond to the needs of the people and protect the integrity of the environment. Using the master plan as a guide, the town will successfully manage future development by establishing location, density and lot sizes for development. Uncluttered shoreline areas and shoreline vegetation will be managed to preserve the quality of water resources and visual attractiveness for generations to come. New commercial and light industrial business will reflect the northwoods values and small town feel designated by design review standards. The town will boast a vibrant tourist and local economy anchored by a rustic, revitalized downtown consisting of small shops and stores of northwoods character where the roots of historical buildings still hold strong, and memory of the old lumber camps dance on the cool breeze off North Twin Lake. The towns commitment to provide quality services such as education, medical, and year around recreational opportunity will stimulate the friends who visit...those seeking a glimpse of a monster musky smashing the water with ferocious intent...cyclists exploring the original military road traveled by settlers who's farmsteads still carve the rolling, wooded landscape...hikers exploring trails in the Blackjack Wilderness Area and the Nicolet National Forest...canoeists navigating the Wisconsin River headwaters in Lac Vieux Desert...snowmobiles traversing the vast expanses of forest through old logging trails engraved through majestic snow-covered pine, and the family looking for a safe, friendly environment of opportunity. Implemented land use policies will guide the location of compatible developments. The high-quality small town atmosphere and extensive natural resources will be preserved so tomorrow's grandchildren have the same or better opportunity to experience the great out-of-doors.

Implementation of the town's Comprehensive Master Plan has ensured the protection of the town's natural features by directing growth and development, and promoting proper land use management practices. The town's appealing developments, in conjunction with the surrounding abundant natural beauty, will provide residents and visitors alike an exceptional quality of life which is second to none.



## 1 Forward

Located in northeastern Vilas County, the town of Phelps defines the term 'northwoods'. Phelps is a large, rural, town that covers 109 square miles of land area and is home to 38 lakes comprising 10,997.1 acres of surface water, which is 11.4% of the county's total surface water. Phelps is primarily a recreational community with approximately 71% of land in forest. The Nicolet National Forest accounts for 52% (36,477.5 ac) of the town's land area, with privately-owned forest land comprising another 19% (13,337.4 ac).

The purpose of the *Phelps Year 2020 Comprehensive Master Plan* is to encourage orderly use and development of land in the town of Phelps. At the same time, the preparation of the plan is also intended to promote and stimulate public participation in the planning process by bringing local issues to the forefront. The plan is based on an analysis of existing conditions, market trends, public input, and determination of future needs.

The town of Phelps faces significant challenges to its environment as town officials prepare for managing growth and change into the next century. Blessed with an abundance of lakes and public land, town officials face the inherent responsibility of balancing the demand for the town's natural amenities with the need to provide basic economic opportunity and services to a growing population in an area which experienced tough economic times decades before.

Due to the relatively low population and concentration of people, it would be a stretch to say Phelps is facing a sprawl crisis as witnessed in the populated southeast area of the state. However, growth and population pressures are impacting the landscape in a dramatic fashion. A permanent population of 1,295 persons (1998 estimated population) swells to nearly 5,500 persons in the peak of seasonal activity. Pressure to develop lake and river front property and the fragmentation of larger forest tracts are forces driven by a market demand that has facilitated steady growth. Between 1991 and 1999, a total of 270 residential permits were granted for new houses in the town, an average of 30 permits per year. Another indicator of development pressure is the increase of the town's equalized value which saw the 1991 values of \$66.2 million increase to more than \$134 million in 1998.

The forested, lake and river front properties are valuable and limited resources. The driving market demand, combined with the fact that 68.0 % of the town (forest and water) is under public ownership, forces development to a smaller geographic area. The balance of growth, economic opportunity, and individual property rights within the greater Phelps community, without sacrificing environmental quality and sense of community, becomes the challenge. In response to public demand, the town commissioned the services of Vilas County University of Wisconsin-Extension Community Resource Development Agent Bryan Pierce in May, 1998 to facilitate a planning and development survey to address several issues and concerns related to the physical development, character, and long-term direction of growth. The issues were identified as follows:

1. The quality and character of the town was being affected by development. Residential and commercial uses were occurring throughout the town, without relation to a coordinated plan or uses that were inappropriate relative to size, location, or type of use.
2. Demand for lakefront property and lake access had caused increased development pressure on lakes throughout the town (and Vilas County), threatening many of the smaller lakes with overcrowding and the problems associated with overuse: pollution, health hazard, property damage, adverse affects on public recreational experiences, and adverse affects on riparian rights and property values.
3. The general aesthetic character, attractiveness, and appeal of the community was a concern. The type and location of commercial development, northwoods character issues including signs, building materials, site design regulations for new commercial uses, and downtown area planning and development needed to be addressed.
4. The lack of land use controls and guidance had allowed a development pattern to occur that was threatening many of the reasons people chose to live and own property in the town. Zoning was the predominant land use control, but was not coordinated with the development pattern resulting from high growth rates brought on by the increasing demand for northwoods real estate.

There were other motivational factors the town of Phelps was aware of as well which pointed to the need for local government involvement. At the state level, the State Interagency Land Use Council assembled under the direction of Governor Tommy Thompson published the report *Planning Wisconsin* on July 1, 1996. The report had numerous recommendations but primarily focused on giving each level of government, including towns, greater responsibility and interlocking role in land use planning. Likewise, the Wisconsin Towns Association (WTA) advocated for town government to become more active in the development of local land use plans. In fact, during the WTA's 1996 and 1997 district tours, the association strongly encouraged that towns develop land use plans as a tool to manage growth and change.

The WDNR also published *Northern Initiatives: A Strategic Guide for DNR Management in Northern Wisconsin in the Next Decade- 1996-2006*. The report was based on the guiding principle: Keeping the North the North. As a follow-up to the *Northern Initiatives* report the WDNR published *Northern Wisconsin's Lakes and Shorelands: a report examining a resource under pressure* in January 1996. The report was conducted to address public response stemming from the need to better understand the development pressures on northern Wisconsin lakes. The report revealed the following interesting facts:

- ◆ Since the 1960s, about two-thirds of previously undeveloped lakes 10 acres and larger have been developed (had one or more dwellings built on their shores);
- ◆ The average number of dwellings on shorelands not in public ownership has more than doubled over the same time period; and .....

- ♦ all undeveloped lakes not in public ownership could be developed within the next 20 years--at the latest-- if the present development rates persist.

The report stated those serene, idyllic lakes where people seek to "get away from it all" are rapidly disappearing as cabins, piers, boat shelters and other developments increasingly line their shores. Vilas County responded with Lakes Classification and revised shoreland zoning. However, there was little direction at that time for general land use planning from the county or the state.

With the extent and knowledge of the local, regional and state issues well in hand, the town of Phelps sought to "do their part" to help address local land use issues and set their course into the next millennium. The town, in attempting to put the necessary tools in place to guide its growth and development in an orderly and efficient manner, took action on local land use planning by executing an agreement with the consulting firm of Foth and Van Dyke in October, 1997 to assist in the development the town's first land use plan.

Town officials took five major steps to launch the development of the plan:

1. The town submitted and was successful in obtaining two WDNR lake planning grants to off-set the cost of developing the plan and ordinances necessary for plan implementation.
2. The town established the town Master Plan Steering Committee, an 11 member advisory committee, to guide the development of the plan.
3. The town proceeded in conjunction with the Phelps Community Development Commission to address improvements in the Phelps downtown area.
4. The town held an Issues Identification Workshop on November 1997 before the plan commenced to encourage local input into the planning process.
5. The town commissioned a community planning survey to every town property owner to solicit input on a variety of town issues and policies related to planning for the future of the community.

As a result of 12 meetings with Foth and Van Dyke, three public informational meetings, and many Phelps Steering Committee meetings, the *Phelps Year 2020 Master Plan* evolved. The plan was developed per the dedication and hard work of the Master Plan Steering Committee, town officials and residents who contributed unselfishly to developing a plan per which they would be proud.

At the time of this report printing, the Phelps community could not achieve consensus relative to preferred town growth. Specific questions on the preferred use, location, and density of lands in the town remain yet unanswered. The Town Board, in responding to continued public pressure,

voted to withdraw town funding of planning at the November, 1999 town budget meetings, thereby suspending planning activity indefinitely. This report packages the planning effort put forth by the town of Phelps and Foth and Van Dyke. This report is not official nor adopted, but can serve as the basis for future planning work if it be the will of the town to do so.

Cooperation certainly must follow understanding. Indeed, there are tough choices ahead and no easy answers. The landowners must be free to develop their property, but the development should fit within the guidelines written and understood to be in the best interests and overall good of the larger community. Reasonable growth guidelines create sensible land use choices; the opposite will be harsh in the long-term effect of character, coordination, and potentially to the cost of providing services.

## 2 Public Participation Process

Development of the 1999 Phelps Comprehensive Master Plan was driven by the opinions expressed by town residents and landowners. Numerous techniques were utilized to gather public input in the plan development process. Public input tools and their representative results are summarized below.

It must be noted the meetings listed in the following section were facilitated by Foth & Van Dyke. The Phelps Master Plan Steering Committee and the Phelps Community Development Committee met on numerous occasions to work on elements included in this document, and by no means is the entire plan development process effort encapsulated by the following summary description. A special note of appreciation to those folks who met often and worked hard to get the plan done, and for those who chose to attend the meetings and be a part of the process. Thank you.

### 2.1 Meeting No. 1 (November 11, 1997) Issue Identification Workshop

The Town Issue Identification Workshop was the first phase of a public participation process for development of the Phelps Comprehensive Master Plan. The workshop was preceded by an aggressive public outreach effort to announce the workshop and encourage community participation. The workshop was conducted at 7:00 p.m. on Tuesday, November 11, 1997, at the Phelps Community High School commons. The purpose of the meeting was to obtain from the participants their perceptions on the following question: *In your opinion, what do you feel are the most important land use management issues facing the Town of Phelps over the next two decades?* a total of 74 workshop participants registered for the session. For specific results of the Issue Identification Workshop, please reference the report, Town of Phelps Comprehensive Land Use Planning Issue Identification Workshop, Vilas County, Wisconsin, November 11, 1997. The report was prepared by Vilas County UW-Extension agent Bryan Pierce, with assistance from Janet Christianson. The report is available at the Phelps Town Hall and the Vilas County UW-Extension office.

Following an introductory slide presentation describing the components of a comprehensive land use plan, the participants were divided into five groups. Each group followed the same sequence of activities using a nominal group process. First, each person was asked to write down on note cards their own reaction to the primary question. Next, group members share their issues in a round-robin fashion, while the facilitators from Foth & Van Dyke and Vilas County recorded the responses on flip chart paper.

After all of the issues were recorded, there was discussion within the small group to clarify statements and consolidate duplicate issues. Then, members were asked to select their top five issues. The ten issues with the most votes in the small group were then listed on a summary sheet (plus or minus one or two depending on how the voting totaled). Complete lists of the issues generated by each of the five groups, as well as their individual top priorities, are included in the report.

The top issues from each of the five groups were then presented to the full group. Obvious duplications were consolidated. All participants were then asked to vote a second time among the final list of priority issues. This was a secret vote as each person wrote their top five issues on note paper. The final results of priority issues were tabulated by the facilitators. Table 2-1 identifies the top ten issues.

The lists of issues and rankings generated by the workshop participants were used by the Phelps Master Plan Steering Committee throughout the planning process to help formulate the plan. The results were also used by the Town Plan Steering Committee and UW-Extension to prepare questions for a Community Planning Survey. The mail-out survey will be used as the second phase of public input for the Comprehensive Master Plan planning process, discussed further in this section.

**Table 2-1**  
**Final Top 10 Priority Land Use Management Issues for the**  
**Town of Phelps, Vilas County, Wisconsin**  
**November 11, 1997**

*In your opinion, what do you feel are the most important land use management issues facing the town of Phelps over the next two decades?*

Rank	No. of Group Votes	Issue
1	27	Develop a stronger economic base for the area, provide more good jobs for the community and youth by encouraging development such as business and light industrial.
2	26	More business is needed along with modernization within the downtown area.
3	19	Develop and beautify the downtown lakefront to become a centerpiece of the town, including an area for community functions.
4	18	Control spending by the town and school district (government units) to keep property taxes down.
5	17	Preserve the quality of all natural resources - lakes, forests, streams, air and lack of noise - that attract people to the area and utilize these resources for the well-being of the community.
6	15	More patrol and control of motorized lake vehicles and snowmobiles on trails (water and jet ski use hours).
7	(14)	Develop a variety of trail systems (hiking/biking/skiing/snowmobiling/motorized) which could possible be linked with other communities. Some trails could be multi-purpose, while other may be for segregated uses.
8	13	Approach change with caution. "We like some things about the town as is."
8	13	Keep the school a high priority.
10	11	Need for sanitary sewer systems around lakes to preserve water quality. Reorganize the sanitary district to include lakes and storm sewers and develop a 10-year growth plan for the district.

## **2.2 Meeting No. 2 (January 29, 1998)**

The Phelps Master Plan Steering Committee was organized and was familiarized with the Comprehensive Master Plan process and timetable. The committee worked with Foth & Van Dyke to review and apply for (with success) Wisconsin Department of Natural Resources Lake Planning Grant Assistance for state matching planning grant funds. The committee reviewed and discussed the November 11, 1997 Issue Identification Workshop with UW-Extension Agent Bryan Pierce, and discussed the development and administration of a community survey. The Committee decided to develop a town-wide survey to be sent to all taxpayers in the town, including both permanent and seasonal residents.

## **2.3 Phelps Town Survey**

As an integral component of the planning process, the town of Phelps worked with Vilas County UW-Extension Agent Bryan Pierce to develop and distribute a community planning opinion survey.

The Town of Phelps Comprehensive Master Plan Steering Committee distributed the Phelps Community Planning Survey to all property taxpayers in May 1998. The survey solicited input on a variety of town policies related to planning for the future of the community.

A total of 1,610 surveys were mailed first class with a self-addressed stamped return envelope. an additional 9 surveys were hand distributed to renters through the town clerk's office. A total of 714 surveys were received (44.6% response rate). In some households, both husbands and wives completed the survey form, so a total of 785 completed surveys were compiled.

The Executive Summary and survey results can be reviewed in Appendix 2-1.

## **2.4 Meeting No. 3 (May 14, 1998) Downtown Focus**

The Phelps Community Development Corporation met with Foth & Van Dyke staff and Dean Proctor (Dean Proctor Design, a Foth and Van Dyke Landscape and Urban Design subconsultant) to conduct a downtown/waterfront vision process for the unincorporated town center of Phelps. Foth & Van Dyke facilitated discussion relative to the downtown district's opportunities (and town desires) and limitations, the results of which can be found in Section 12.3, Downtown and Waterfront Directives. Dean Proctor led discussion relative to Downtown and waterfront aesthetics, design standards, existing and proposed developments and overall desired future condition. The group reviewed facade improvements as developed through the University of Wisconsin Extension (Chuck Law, Bryan Pierce). Finally, the meeting participants toured the downtown and waterfront areas while discussing visual improvement ideas and development design concepts with Dean Proctor.

## **2.5 Meeting No. 4 (September 23, 1998)**

A public informational meeting was held at the Phelps Community High School to discuss the Phelps Community Planning Survey (see Appendix 2-1). Seventeen people attended. Bryan Pierce of UW-Extension facilitated discussion and displayed results of the 785 (44.6% response rate) town residents who answered the survey. Foth & Van Dyke then explained how the Phelps Community Planning Survey was to be used in plan development, and how the results would impact decision making throughout the land use planning process.

## **2.6 Meeting No. 5 (September 30, 1998) Downtown Focus**

The Phelps Community Development Corporation (PCDC) met with Foth & Van Dyke to review draft visual perspectives developed by Dean Proctor Design of the downtown and waterfront areas. The draft design plans included a bird's eye aerial perspective (future perspective) of the downtown and waterfront, lakefront redevelopment opportunities (two concepts) and an activity center conceptual design plan to aid the focus of redevelopment efforts. The Phelps Community Development Committee (PCDC) worked through several design changes and enhancements on the concepts. The effort can be viewed in Maps 12-1 through 12-3, in Section 12. The downtown and waterfront visioning process is discussed in greater detail in Section 12.

## **2.7 Meeting No. 6 (September 30, 1998)**

The Phelps Master Plan Steering Committee met subsequent to the PCDC as noted above to review, discuss and finalize draft plan goals and objectives, vision statement, Phase I inventory data (demographics, socio-economic information, and trends that impact the land use) and review the downtown and waterfront conceptual design plans. The Committee also reviewed and discussed draft land use, zoning, resource protection, water features and transportation maps.

## **2.8 Meeting No. 7 (October 22, 1998)**

The second public informational meeting was held at the Phelps Community High School. Seventy-five people attended. John Williams of Foth & Van Dyke presented inventory and research data that pertained to Phelps' demographics, housing, socio-economic factors, population and housing unit forecasts, transportation-related conditions, trend information, and the corresponding and anticipated land use impacts over the planning period.

John Williams of Foth & Van Dyke also presented the Phelps vision statement, goals and objectives, project timeline, downtown conceptual design plans, building facade improvements in the downtown and presented all GIS maps that were built to facilitate the planning process.



## **2.9 Meeting No. 8 (December 17, 1998)**

The Phelps Master Plan Steering Committee met to take development of "Phase 2", the actual building of the preferred land use plan. The Master Plan Steering Committee reviewed town maps via GIS acetate overlays to see how layers of information impact land use in the town.

The committee also discussed the development and selection of preliminary land use categories that define land use into "classes" of preferred use by the type of use preferred in an area, location of the preferred land use, and density of development that may occur in the planned area. The committee also discussed and mapped preliminary preferred land use class locations on a draft future land use map.

## **2.10 Meeting No. 9 (January 28, 1999)**

The Master Plan Steering Committee met and refined the preferred land use classification definitions. The Committee decided to build the preferred land use map with thirteen use classifications detailing preferred use area throughout the town (see Section 11). The Committee also revised the preliminary draft of the preferred land use map (see Map 11-1) that was displayed and discussed at the June 24, 1999 public informational meeting discussed below.

## **2.11 Meeting No. 10 (March 12, 1999)**

The Master Plan Steering Committee met to define the preferred land use map and preferred land use classifications (the committee also met on February 17, 1999 to review and discuss the draft preferred land use map). The committee also reviewed and discussed the plan's proposed implementation strategy. The Steering Committee noted additional time for review and discussion was necessary prior to public presentation. The committee noted it would meet as many times as necessary to refine the plan and preferred land use classifications prior to the next public informational meeting. A tentative date for a public information meeting was rescheduled to June, 1999.

## **2.12 Meeting No. 11 (June 8, 1999)**

The Master Plan Steering Committee met to finalize the Year 2020 Preferred Land Use Map and preferred land use classifications. The committee discussed the map and classifications in detail and prepared for the June 24, 1999 public informational meeting held at the Phelps High School. The committee also discussed plan implementation at length.

### **2.13 Meeting No. 12 (June 24, 1999) Public Informational Meeting**

The Phelps Master Plan Steering Committee hosted a community public informational meeting at the Phelps High School from 7:00-9:30 p.m. Eighty-five people attended. A brief overview of the planning process and progress to date was summarized, and the Year 2020 Preferred Land Use Map was presented in detail. Each meeting participant was handed a Year 2020 Preferred Land Use Map, preferred land use classifications and a survey asking for their input. The presentation lasted for one hour, followed by an open question and answer session. All maps were on display, including the downtown development and design concept plans.

### 3 Goals and Objectives

The following goals and objectives were developed based on the results of the Issues Identification Workshop, Community Survey, and direction from the Town of Phelps Comprehensive Master Plan Steering Committee and the Phelps Community Development Corporation. Goals are broad statements that express public priorities about how the town of Phelps should develop and redevelop over the next twenty years. Objectives are more specific than goals and are attainable through strategic planning and adoption of the plan's recommendations and implementation strategies. Land use policies provide even more direction to the town board to guide future growth and development. The goals, objectives, and policies should always be consulted to evaluate growth opportunities in the town.

#### **Mission Statement**

Approach change with caution in an effort to maintain and enhance the town of Phelps wooded rural character and "small town northwoods charm" by balancing housing demands and economic growth opportunity which is safe, aesthetically pleasing, and environmentally sensitive.

**Goal:        Preserve the environmental quality of all the natural resources (lakes, forests, streams, air, and lack of noise) for the well being of the community.**

#### **Supporting Objectives:**

1.     Prohibit development within environmentally sensitive areas.
2.     Review and evaluate forestry density standards for housing.
3.     Evaluate the feasibility of "cluster development" which reduces further forest fragmentation.
4.     Adopt forestry density standards consistent with appropriate forestry management practices.
5.     Pursue increasing the minimum lot size on waterfront property.
6.     Explore opportunities to develop a purchase of development rights and/or a conservation easement program to protect properties of natural or scenic significance.
7.     Develop a POWTS (privately owned wastewater treatment system) inspection, compliance, and enforcement program for all septic systems.
8.     Prohibit the use of holding tanks as a private on-site treatment system option for new construction unless for existing lots of record prior to the adoption date of this plan.

9. Support the enforcement of wetland protection and erosion control in shoreland areas.
10. Maintain existing natural vegetative buffers between wetlands, surface waters and intensive land uses.
11. Utilize a waterway classification system (to classify waterways by sensitivity to development) to manage waterway development.
12. Encourage and provide assistance in the development and the maintenance of lake and waterway associations and districts.

**Goal: Control the type and location of residential, commercial, and industrial development.**

**Supporting Objectives:**

1. Designate suitable land for future residential, commercial, light industrial, and recreational uses in accordance to the Phelps Comprehensive Master Plan recommendations.
2. Encourage development in areas currently served by public utilities, roads, parks, schools, and other key services.
3. Guide future development within or adjacent to existing compatible development.
4. Cluster commercial and light industrial development along STH 17 (east and west) and CTH E.
5. Explore establishment of town land division ordinance tailored to Phelps's land use vision.
6. Develop an ordinance to regulate nuisances and aesthetic standards as identified by the town.
7. Review, and if appropriate, pursue change of the Vilas County Comprehensive Zoning Ordinance which will promote Phelps's land use vision.
8. Adopt village powers to pursue ordinance adoption which promote the Phelps vision and protects the public health, safety, and general welfare.
9. Coordinate town planning efforts with the Vilas County Land Use Plan.

**Goal:        Develop and beautify the downtown and lakefront to become a centerpiece of the town, including an area for community functions.**

**Supporting Objectives:**

1.    Develop a conceptual downtown revitalization plan which addresses theme, street scape, building improvements, and design review criteria.
2.    Develop a downtown landscaping plan that specifically addresses location, style, and amount of street lighting, landscape plantings, flower boxes, sidewalks and trails.
3.    Promote community activities and events which benefit local and downtown business and merchants.
4.    Preserve and utilize old buildings and historic sites to anchor the downtown and areas small town theme.
5.    Retain and acquire public common areas or park sites to accommodate special events and community activities in the downtown area.
6.    Provide pedestrian linkages (sidewalks, trails) connecting the downtown and activity areas.

**Goal:        Develop a stronger economic base in the town.**

**Supporting Objectives:**

1.    Focus economic development marketing on tourism orientated business, service, retail, and light industrial businesses.
2.    Retain and support existing business and industry.
3.    Accommodate and attract "clean" light industry and business.
4.    Pursue opportunities for financial and other incentives to attract and locate business.

**Goal:        Maintain and create an aesthetically pleasing community consistent with a "small town" theme.**

**Supporting Objectives:**

1.    Pursue development and redevelopment efforts which serve to enhance the rural feel and small town character of Phelps.

2. Develop and implement design review standards which enhance the visual appeal of existing and future developments which are consistent with small town character such as architecture, landscaping, exterior materials, color, and signage.
3. Develop a town sign ordinance.
4. Develop "Phelps Identity" signage and other methods of promotion to increase town and downtown aesthetics, vitality and appeal.

**Goal: Enhance and develop year round recreational opportunities in the town while minimizing user conflicts.**

**Supporting Objectives:**

1. Establish common sense regulations to coordinate the proper use, access, and opportunity of motorized watercraft on lakes and rivers, based on a waterway classification system.
2. Enhance the town's existing parks and provide for recreation facilities that provide multi-use recreation opportunity.
3. Maintain existing and improve public access to waterways.
4. Maintain existing and provide additional snowmobile, hiking, skiing and biking trails.
5. Explore opportunities to develop a town multi-use trail system.
6. Connect Phelps multi-use trails to other Vilas County communities.
7. Pursue state and federal funding programs which can aid in the development and acquisition of parks, trails, scenic and environmentally significant areas.
8. Recognize need to accommodate all age groups in recreational pursuits.
9. Consider the development of an impact fee on new or expanded developments to support the acquisition, development, and service costs of recreational facilities.
10. Implement the town of Phelps Comprehensive Outdoor Recreation Plan.

**Goal: Balance the need for town growth with the cost of providing public services.**

**Supporting Objectives:**

1. Balance community improvements with available funding sources to ensure equitable taxation.
2. Investigate expansion of the Phelps Sanitary District for provision of public water and sewer.
3. Provide and maintain a safe and reliable town roadway network, including curbs, gutters, and sidewalks.
4. Maintain and improve the high quality of existing town services.
5. Consider the development of a parkland dedication ordinance.
6. Monitor and periodically review current service agreements.

**Goal: Create, promote, and maintain a pro-active planning process in the town.**

**Supporting Objectives:**

1. Periodically review the adopted Phelps Comprehensive Master Plan and associated ordinances relative to effectiveness in achieving town goals.
2. Develop and provide educational materials and conduct local workshops on topics *pertinent to planning goals.*
3. Pursue development of a town newsletter (or other means of public communication) to ensure year around and seasonal residents and property owners are informed regarding town issues, business, and development projects.
4. Establish relationships and communication between local governments and agencies to encourage discussion and action on land use, transportation and service issues.
5. Consider the development of an official map to reserve adequate right-of-way for future road linkage.
6. Continue the planning committee functions after plan approval to monitor plan effectiveness, review development proposals and required updates.
7. Explore the development of a town Plan Commission.

## 4 Community Profile

### 4.1 Population

Population change is the primary component in tracking a community's past growth as well as predicting future population trends. Population characteristics relate directly to the town's housing, educational, community and recreational facility needs, and to its future economic development. It should be noted that over time, there are fluctuations in the local and regional economy which generally cannot be predicted. These fluctuations and changes may greatly influence the community's population growth and characteristics. (Additional population characteristics are included in Appendix 4-1.)

#### Comparative Population Growth

Table 4-1 depicts the past census figures for the town of Phelps and selected areas, including the city of Eagle River, Vilas County and the state of Wisconsin. Similarly, Figure 4-1 illustrates the overall growth in population from 1970 to 1999 for the town of Phelps and the selected areas.

**Table 4-1**  
**Comparative Population Growth**  
**Town of Phelps and Selected Areas**  
**1970-1999**

	1970	1980	1990	1999	% Change 1970-80	% Change 1980-90	% Change 1990-99	% Change 1970-99
Town of Phelps	876	1,129	1,187	1,321	28.9%	5.1%	11.3%	50.8%
City of Eagle River	1,326	1,326	1,374	1,415	0%	3.6%	3.0%	6.7%
Vilas County	10,958	16,535	17,707	19,594	50.9%	7.1%	10.7%	78.8%
State of Wisconsin	4,417,731	4,705,767	4,891,769	5,274,307	6.5%	4.0%	7.8%	19.4%

Source: Wisconsin Department of Administration, Official Municipal Population Projections 1990-2015, June 1993; Wisconsin Department of Administration, Official Population Estimates, 1999.

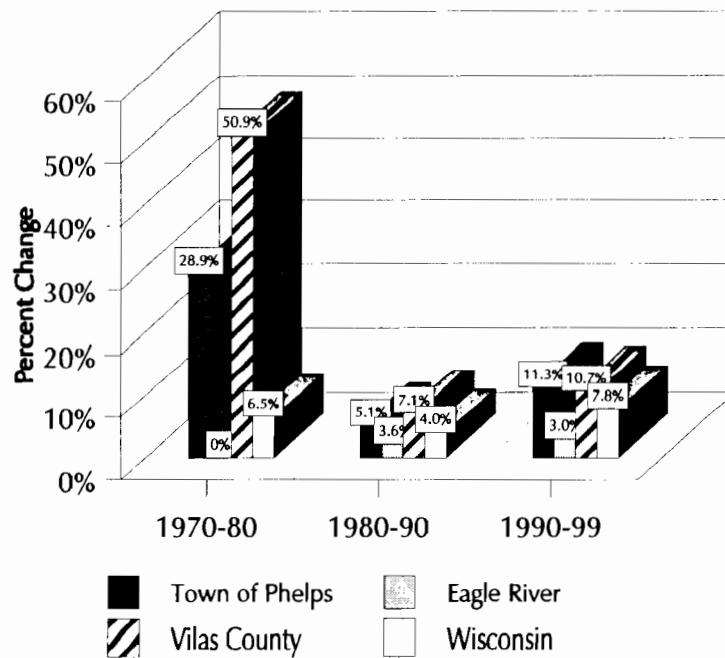
The town of Phelps has experienced significant population growth between 1970 and 1999, with an average population increase of 17% per decade. The largest population increase occurred between 1970 (population 876) and 1980 (population 1,129), during which there was an increase of 253 persons or 28.9 percent. The population continued to increase slightly from 1,129 in 1980 to 1,187 in 1990 (a 5.1% increase). The 1999 population estimate shows the trend continuing, indicated by an increase of 134 persons, or a growth of 11.3 percent from 1990. Overall, the town of Phelps has experienced a 50.8% increase in population between 1970 and 1999, increasing by 445 persons.



The city of Eagle River experienced very slow but steady population growth, increasing 2.2% per decade between 1970 and 1999. Overall, Eagle River saw an increase in population from 1,326 persons in 1970 to 1,415 persons in 1999, a total increase of 89 persons or 6.7%, compared to the 50.8% increase experienced by the town of Phelps.

Vilas County experienced the greatest population growth between 1970 and 1999 when compared to all other areas identified in Table 4-1, increasing 78.8 percent. Therefore, the high increase in population experienced by the town of Phelps is reflective throughout the county. Overall, the state of Wisconsin experienced a 19.4 percent increase in population between 1970 and 1999. The town of Phelps and Vilas County both experienced significantly higher increases in population during this time period than the state overall.

**Figure 4-1  
Comparative Population Growth  
Town of Phelps and Selected Areas  
1970-1999**



Source: Wisconsin Department of Administration, Official Municipal Population Projections 1990-2015, June 1993; Wisconsin Department of Administration, Official Population Estimates, 1999.

**Population Density**

With a 1990 population of 1,187 persons and a land area of 94.2 square miles, the town of Phelps’ population density was 12.6 persons per square mile (Table 4-2). The town’s population density is lower than that of all selected areas. Vilas County’s population density is somewhat

higher at 20.4 persons per square mile, while the City of Eagle River is densely populated with 570.3 persons per square mile. The town has a very low population density in comparison to the state of Wisconsin which recorded a population density of 90.1 persons per square mile in 1990.

**Table 4-2  
Population Density  
Town of Phelps and Selected Areas  
1990**

Geographic Area	Land Area (Square Miles)	Total Population	Persons Per Square Mile
Town of Phelps	94.2	1,187	12.6
City of Eagle River	2.4	1,324	570.3
Vilas County	866.6	17,707	20.4
State of Wisconsin	54,313.7	4,891,769	90.1

Source: 1990 U.S. Census Bureau, "Land Area, Population, and Density for States and Counties,"; Vilas County Resource and Conservation Needs.

## 4.2 Housing

The housing characteristics section of the plan is an important element of the comprehensive plan. The physical location of housing determines the location and cost of many public services and facilities. Also, housing characteristics are related to the social and economic conditions of the community's residents.

The information to be presented in this Section will provide town officials with information about the current housing stock, as well as identify significant changes which have occurred in the area of housing over the past years, and provide an analysis of housing needs.

### Housing Supply

Table 4-3 provides information about the housing supply for the town of Phelps from 1980 to 1990, including the total number of housing units, year round housing units, seasonal/recreational units, occupancy status, and number of persons per household. In relation, Figure 4-2 provides a comparison of the growth of year-round housing units versus seasonal/recreational housing units from 1980 to 1990. Year round housing units include those units which are occupied and vacant year round (which includes those units either for sale or for rent). Seasonal/recreational units are defined as those housing units which are used for seasonal, recreational, occasional or other use.

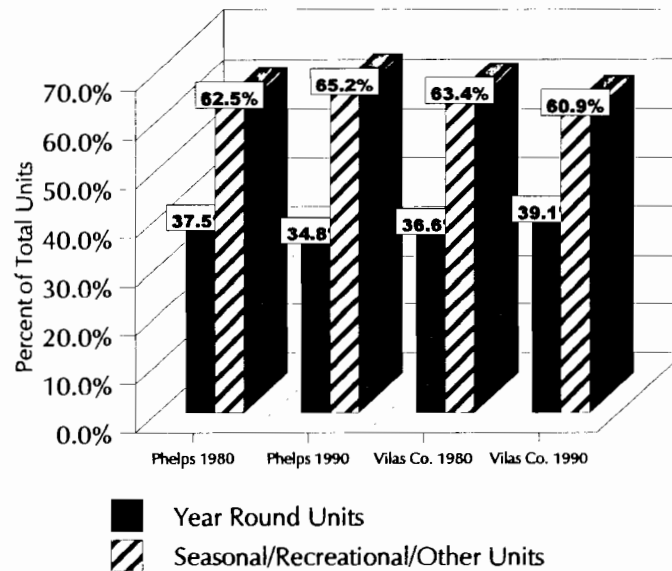
**Table 4-3  
Housing Supply  
Town of Phelps  
1980-1990**

Housing	1980	1990	% Change 1980-1990
Total Units	1,278	1,436	12.4
Year Round Units	479	500	4.4
Occupied Units	425	457	7.5
Owner Occupied	332	375	13.0
Renter Occupied	93	82	-11.8
Vacant Year Round Units	54	43	-20.4
Seasonal/Recreational Units	799	936	17.1
Persons per Household	2.52	2.43	-3.6

Source: 1980 and 1990 U.S. Bureau of Census, STF3 and STF 1A.

The number of total housing units in the town increased from 1,278 units in 1980 to 1,436 units in 1990, an increase of 158 units or 12.4%. Year round housing units increased slightly from 479 units in 1980 to 500 units in 1990, or 4.4% (21 units), relative to the 12.4% increase in total units. Growth in seasonal and recreational units was the leading factor in the growth of the total number of housing units in the town of Phelps. There was an increase of 137 seasonal and recreational units, or 17.1%, from 799 units in 1980 to 936 units in 1990. Seasonal/recreational housing units accounted for 65.2% of Phelps' total housing supply in 1990. Decreases were experienced in the number of vacant year round units, which dropped 20.4%, and in renter occupied units which dropped 11.8%. The number of persons per occupied housing units has decreased slightly between 1980 and 1990, from 2.52 to 2.43, respectively.

**Figure 4-2**  
**Comparative Growth of Year-Round and Seasonal/Recreational Housing Units**  
**Town of Phelps and Vilas County**  
**1980-1990**



Source: 1980 and 1990 U.S. Bureau of Census, STF3 and STF 1A.

### Comparative Housing Value

A comparison of housing stock values in the town of Phelps and Vilas County for both 1980 and 1990 is presented in Table 4-4. The housing values are based on specified owner-occupied units only.

The majority of specified owner-occupied housing units in the town of Phelps were valued between \$25,000 and \$49,999 in 1980, and in 1990 the majority of housing units were valued between \$50,000 and \$99,999, indicating the town's housing stock has become better. The same scenario occurred in Vilas County, where by 1990, over 50% of the county's housing stock was valued between \$50,000 and \$99,999. Overall, both the town and county experienced an increase in the number of housing units at higher values, and a decrease in the number of housing units at lower values.

**Table 4-4**  
**Comparison of Value of Housing**  
**Town of Phelps and Vilas County**  
**1980-1990**

Specified Owner-Occupied Units	Town of Phelps				Vilas County			
	1980		1990		1980		1990	
	Number	Percent	Number	Percent	Number	Percent	Number	Percent
Less than 25,000	61	28.9	27	11.2	449	13.5	168	4.2
25,000 - 49,999	88	41.7	90	37.2	1,460	43.8	1,253	31.1
50,000 - 99,999	57	27.0	103	42.6	1,271	38.1	2,040	50.7
100,000 - 149,999	5	2.4	14	5.8	119	3.6	386	9.6
150,000 - 199,999	0	0.0	5	2.1	25	0.7	121	3.0
200,000 or more	0	0.0	3	1.2	12	0.4	56	1.4
<b>Total</b>	<b>211</b>	<b>100.0</b>	<b>242</b>	<b>100.0</b>	<b>3,336</b>	<b>100.0</b>	<b>4,024</b>	<b>100.0</b>
<b>Median Value</b>	N/A		\$51,100		N/A		\$58,900	

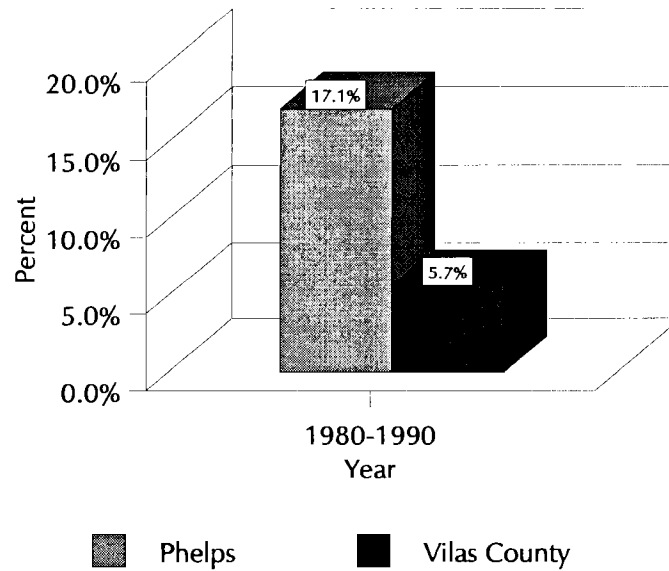
Source: 1980 and 1990 U.S. Bureau of Census, STF 1 and STF 1A.

### Seasonal/Recreational Housing

The town of Phelps offers both residents and visitors recreational opportunities throughout the year with its abundance of natural resources, including vast amounts of lakes, rivers, forests, etc. Seasonal housing opportunities are among the amenities sought by the seasonal traveler. Figure 4-3 illustrates the growth experienced in seasonal/recreational housing from 1980 to 1990 in both the town of Phelps and Vilas County.

The town of Phelps saw an increase in seasonal/recreational housing units, from 799 units in 1980 to 936 units in 1990, a total of 137 additional units or 17.1%. This signifies an annual growth rate in seasonal housing of 1.71% between 1980 and 1990. Vilas County also experienced an increase in seasonal units, from 11,651 units in 1980 to 12,316 units in 1990. The number of seasonal housing units in the county's increased at a rate of 0.57% per year between 1980 and 1990. This was a lower rate than that experienced by the town of Phelps.

**Figure 4-3**  
**Comparative Growth of Seasonal/Recreational Housing Units**  
**Town of Phelps & Vilas County**  
**1980-1990**



Source: 1980 and 1990 U.S. Bureau of Census, STF3 and STF 1A.

**Building Permit Data**

An additional measure used to assist in illustrating the growth in residential housing within the town of Phelps is the building permit activity. Table 4-5 displays the amount of building permit activity experienced by the town between 1991 and 1999, including the average building permit activity over this nine year period.

**Table 4-5  
Building Permit Activity  
Town of Phelps  
1991-1999**

Year	New Homes	Remodel/ Additions	Mobile Homes	Garages & Accessory Bldgs.	Boat Houdses	Septic Permits	Commercial	Other	Total Permits
1991	23	18	4	33	5	37	1	8	129
1992	23	23	3	39	2	36	2	17	145
1993	24	26	2	46	2	39	0	13	152
1994	24	47	7	47	0	42	1	20	188
1995	23	38	7	54	0	47	0	27	196
1996	32	45	10	46	1	56	1	27	218
1997	30	46	1	39	1	36	2	17	172
1998	34	66	3	68	4	49	1	10	235
1999	20	N/A	--	N/A	N/A	N/A	N/A	N/A	N/A
Total	233	309	37	372	15	342	8	139	1435
Yearly Average*	25.9	38.6	4.6	46.5	1.9	42.8	1.0	17.4	179.4

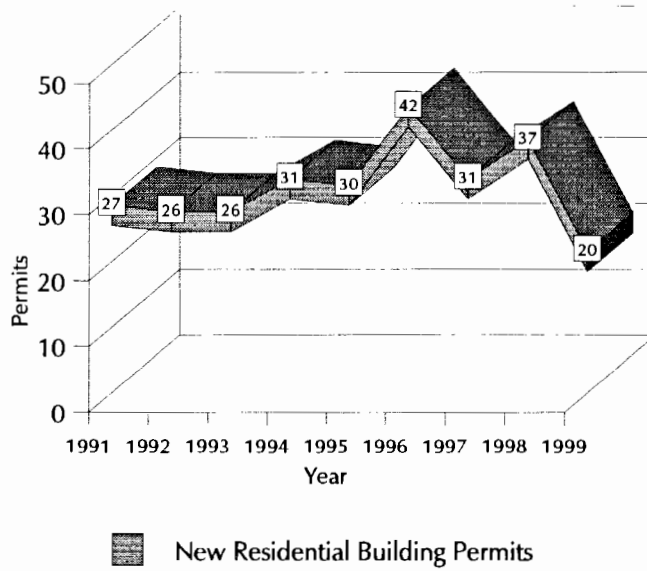
\* Yearly average for new homes based on nine years, 1991-1999; yearly average for all other categories based on eight years, 1991-1998, as 1999 data was unavailable at the time of this writing.

Source: Vilas County Zoning Department

Overall, the town of Phelps has experienced steady growth in new residential development and other property improvements, increasing from a total of 129 building permits granted in 1991 to 235 permits granted in 1998, an increase of 82.1%. There was a slight decline in building permit activity from 1996 to 1997, decreasing from 218 permits to 172 permits, respectively. On the average, approximately 179 building permits were granted per year during this period.

An average of 31 new homes (including mobile homes) per year were added during the 9-year period from 1991 to 1999, with a high of 42 new homes and mobile homes added in 1996. In all, 270 housing units were added in the town of Phelps between 1991 and 1999, including 233 new homes and 37 mobile homes (see Figure 4-4).

**Figure 4-4**  
**Trend in New Residential Building Permits**  
**Town of Phelps**  
**1991-1999**



Source: Vilas County Zoning Department

**Equalized Value**

The equalized valuation of real property for municipalities is a vital component to the provision of public facilities and services. The increase in real property for the town of Phelps provides additional tax revenues necessary to fund the public facilities and service programs for the community. Table 4-6 presents the growth in equalized valuation for the town of Phelps from 1991 to 1999 as recorded by the Wisconsin Department of Revenue.



**Table 4-6  
Equalized Valuation  
Town of Phelps  
1991-1999**

Year	Residential		Commercial		Manufacturing		Agricultural		Forest		Other		Total \$	\$ Change/ Year	% Change/ Year
	\$	%	\$	%	\$	%	\$	%	\$	%	\$	%			
1991	58,478,900	82.7%	7,575,800	10.7%	207,700	0.3%	421,300	0.6%	2,972,600	4.2%	1,088,400	1.5%	70,744,700	--	--
1992	65,549,400	83.3%	8,503,100	10.8%	207,700	0.3%	435,600	0.6%	2,808,900	3.6%	1,211,800	1.5%	78,716,500	7,971,800	11.3%
1993	70,295,600	83.7%	8,526,800	10.2%	214,800	0.3%	433,200	0.5%	3,254,300	3.9%	1,210,900	1.4%	83,935,600	5,219,100	6.6%
1994	76,496,700	84.5%	8,526,800	9.4%	214,800	0.2%	468,700	0.5%	3,514,300	3.9%	1,289,000	1.4%	90,510,300	6,574,700	7.8%
1995	97,419,700	86.7%	8,513,100	7.6%	214,800	0.2%	500,100	0.4%	3,853,200	3.4%	1,848,400	1.6%	112,349,300	21,839,000	24.1%
1996	104,803,800	87.4%	8,537,000	7.1%	214,800	0.2%	370,100	0.3%	4,936,800	4.1%	1,074,400	0.9%	119,936,900	7,587,600	6.8%
1997	115,958,400	87.5%	9,003,300	6.8%	190,300	0.1%	370,100	0.3%	5,835,800	4.4%	1,126,300	0.9%	132,484,200	12,547,300	10.5%
1998	135,151,100	86.9%	11,066,600	7.1%	0	0.0%	348,600	0.2%	7,716,900	5.0%	1,175,700	0.8%	155,458,900	22,974,700	17.3%
1999	169,203,500	87.9%	12,737,800	6.6%	0	0.0%	336,500	0.2%	8,875,100	4.6%	1,268,200	0.7%	192,421,100	36,962,200	23.8%

\*Other includes swamp, waste, and other.

Source: Wisconsin Department of Revenue Statement of Merged Equalized Values 1991-1999.

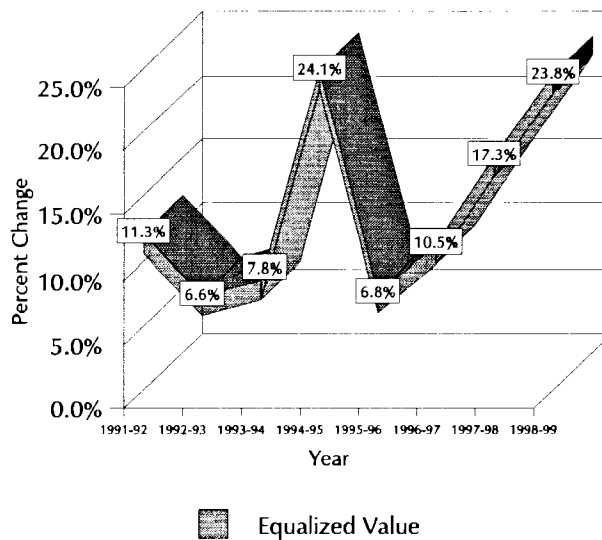
Since 1991, the town of Phelps has experienced an increase in the value of residential property, from \$50.7 million in 1991 to \$192.4 million in 1999, an increase of 172%. Residential property grew from 82.7% of the total equalized value for the town of Phelps in 1991 to 87.9 percent of the total equalized value in 1999.

Forest property values increased significantly between 1991 and 1999 rising from approximately \$3 million to \$9 million. However, in terms of the proportional value of the total equalized valuation of the town, forest land remained rather stable around 4%. The increase in valuation of forest land is a trend statewide as the demand for forested property has been on the increase driving the market value for such property up significantly.

Commercial property value decreased from 10.7% of the total equalized value in 1991 to 6.6% in 1999. Similarly, the manufacturing, agricultural and other property sectors also experienced decreases in their proportional value of the total between 1991 and 1999. "Other" property includes areas of swamp and waste land.

The overall percent change per year in the equalized valuation for the town of Phelps is presented in Figure 4-5, for the period from 1991 to 1999. The town has experienced consistent growth in equalized valuation between 1991 and 1999, with the largest increases recorded from 1994 to 1995 at 24.1% and 1998-1999 at 23.8%. These peaks are attributed primarily to the excessive growth in residential development during these time periods.

**Figure 4-5**  
**Percent Change in Equalized Value**  
**Town of Phelps**  
**1991-1999**



Source: Wisconsin Department of Revenue Statement of Merged Equalized Values 1991-1999.

## **Housing Profile Summary**

Between 1980 and 1990 the town of Phelps experienced an increase of 158 total housing units, or 12.4% growth. However, only 21 of the additional housing units were used as year-round units. The additional 137 housing units were seasonal/recreational units. This information indicates the town is a popular tourist destination. The number of persons per household for the town decline from 2.52 persons per household in 1980 to 2.43 in 1990.

The value of housing in the town has increased overall between 1980 and 1990, with the largest increase experienced in housing units valued between \$50,000 and \$99,999, and a significant decrease in the number of units valued at \$25,000 or less.

The town of Phelps has experienced growth in the number of seasonal and recreational housing units, which between 1980 and 1990 increased 17.1%, an annual growth rate of 1.71% of these units. Vilas County as a whole also experienced growth in seasonal and recreational housing units during this period at a rate of 0.57% per year, which is not as great as the growth experienced within the town.

Recent building permit activity data provides an indication of the growth experienced within the town since the 1990 U.S. Census. This data indicates that the town has experienced continued growth in residential development and other property improvements between 1991 and 1999, with a slight decline in permit activity in 1997. During the period from 1991 to 1999, 270 housing units were added to the town, including 233 new homes and 37 mobile homes. This is an average of 31 additional housing units per year.

Phelps has experienced continuous growth in the equalized valuation of the town with yearly increases ranging from 6.6% to 24.1% between 1991 and 1999. This information supports the town's strength to provide potential future services.

### **4.3 Economic Profile**

Important to the planning process for an area is the economic characteristics and resources. These characteristics generally include: civilian labor force characteristics, comparative employment growth, employment by industry, comparative unemployment rates, and commuting patterns. Assessment of these characteristics provides insight into the historical and current economic situation in the planning area, thereby providing direction for the planning area to expand its economic potential. (Additional economic characteristics are included in Appendix 4-1.)

## Civilian Labor Force

The civilian labor force consists of those persons age 16 and over which are currently employed or seeking employment, excluding persons in the armed forces. Shifts in the age and gender characteristics of residents, seasonal changes, and employment opportunities can all cause fluctuations in the number of persons in the labor force. Table 4-7 identifies the characteristics of the town of Phelps' labor force in both 1980 and 1990.

**Table 4-7  
Labor Force Characteristics  
Town of Phelps  
1980-1990**

Employment Status	1980				1990			
	Males	Females	Total	% of Total*	Males	Females	Total	% of Total
<b>In Labor Force</b>	268	196	464	50.6	257	255	512	54.8
Armed Forces	0	0	0	0.0	0	0	0	0.0
Civilian	268	196	464	50.6	257	255	512	54.8
Employed	223	173	396	85.3	234	242	476	93.0
Unemployed	45	23	68	14.7	23	13	36	7.0
<b>Not in Labor Force</b>	183	270	453	49.4	192	231	423	45.2
<b>Total</b>	451	466	917	100	449	486	935	100

\* Percentage of employed and unemployed is based on the total number of persons *in the labor force*, not the total of those in the labor force and not in the labor force.

Source: 1980 and 1990 U.S. Census of Population and Housing, STF 3.

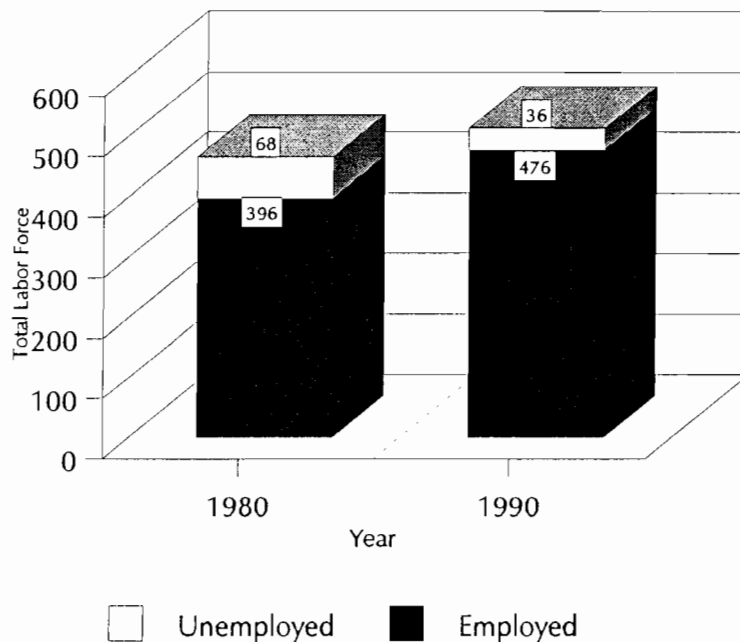
As shown in Table 4-7, participation in the town of Phelps' labor force grew slightly from 50.6% in 1980 to 54.8% in 1990. In 1980, there was a considerably greater amount of males participating in the labor force than females, 268 and 196, respectively. However, in 1990, there was an almost equal distribution of males and females participating in the labor force, with 257 males and 255 females. The percentage of those in the labor force who were unemployed decreased by one-half from 14.7% in 1980 to 7.0% in 1990. These trends indicate that the economic base of the town of Phelps has grown stronger between 1980 and 1990.

## Growth in Employment

Figure 4-6 illustrates the employment growth trends for the town of Phelps for 1980 and 1990.

There has been an apparent increase in the number of persons in the civilian labor force which are employed. Figure 4-6 clearly displays the positive employment trends experienced by the town of Phelps from 1980 to 1990.

**Figure 4-6**  
**Growth in Employment**  
**Town of Phelps**  
**1980-1990**

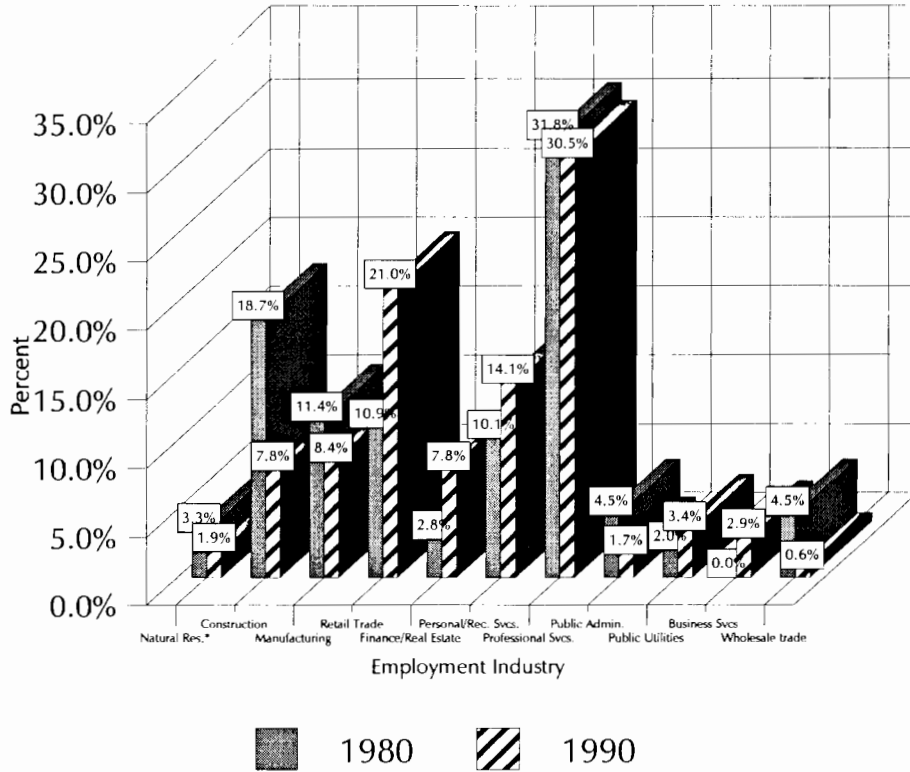


Source: 1980 and 1990 U.S. Census of Population and Housing, STF 3.

## Employment by Industry

The employment by industry within an area illustrates the structure of the economy. Historically, the state of Wisconsin has had high concentrations of employment in the manufacturing sector of the economy. Recent trends show a decrease in the concentration of employment in the manufacturing industry, and increasing levels of employment in the service industry. Figure 4-7 provides the employment distribution by industry for the town of Phelps for both 1980 and 1990.

**Figure 4-7  
Employment by Industry  
Town of Phelps  
1980-1990**

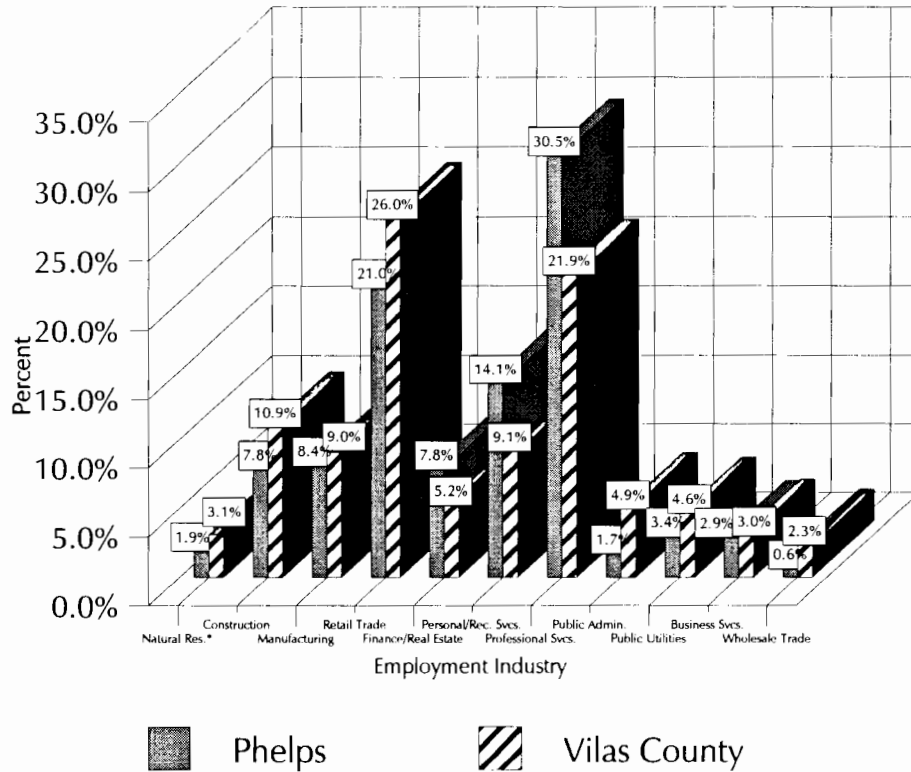


\*Natural resources includes agriculture, forestry, fisheries, and mining.  
Source: 1980 and 1990 U.S. Census of Population and Housing, STF 3.

As indicated in the figure, the largest concentration of employment by industry for the town of Phelps in both 1980 and 1990 was experienced in professional and related services, comprising 31.8% and 30.5%, respectively. The second largest employment industry changed from construction in 1980 comprising 18.7% of the total employment base, to retail trade in 1990 comprising 21.0%. The retail trade industry experienced a 132.6% increase in employment between 1980 and 1990. The greatest losses of employment between 1980 and 1990 occurred in the wholesale trade industry, decreasing 83.3%, and in public administration and construction, which decreased 55.6% and 50.0%, respectively.

Figure 4-8 presents a comparison of employment by industry between the town of Phelps and Vilas County for 1990.

**Figure 4-8  
Employment by Industry Comparison  
Town of Phelps and Vilas County  
1990**



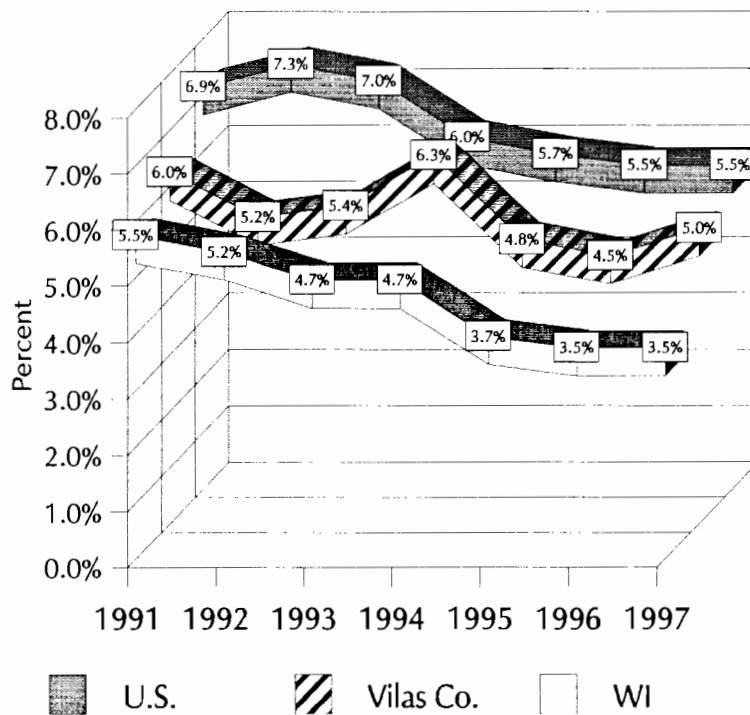
Source: 1990 U.S. Census of Population and Housing, STF 3.  
\*Natural resources including agriculture, forestry, fisheries, and mining.

The town of Phelps and Vilas County share a rather similar distribution of employment within the major industries. However, professional and related service industries comprise the greatest proportion of employment in the town of Phelps with 30.5%, and in Vilas County the greatest proportion of employment is in the retail trade industry at 26.0%. Professional and related services ranked second highest in Vilas County at 21.9%, while retail trade ranked second in the town of Phelps. The remaining industries share similar levels of employment in the town of Phelps and Vilas County.

## Comparative Unemployment Rates

The unemployment rate is an indication of the relative health and stability of the economy. Important to the analysis of the town of Phelps as a portion of Vilas County, is the comparative unemployment rates of Vilas County, the state of Wisconsin, and the United States. Figure 4-9 compares the unemployment rates for these areas for the years 1991 through 1997.

**Figure 4-9**  
**Unemployment Rate Comparison**  
**U.S., Wisconsin, and Vilas County**  
**1991-1997**



Source: Wisconsin Department of Workforce Development, Division of Workforce Excellence, Bureau of Workforce Information, Vilas County Workforce Profile, July, 1999.

The national trend in unemployment has followed a steady decline from 1991 to 1997 decreasing from 6.9% to 5.5% following a slight increase from 1991 to 1992. The state of Wisconsin has remained well below the national average unemployment rate, and dropped to a rate less than 4.0% in 1995, 1996 and 1997. Vilas County has also remained well below the national average unemployment rate, with the exception of 1994, but has been consistently higher than or equivalent to the unemployment rate of the state. The unemployment rate of Vilas County has

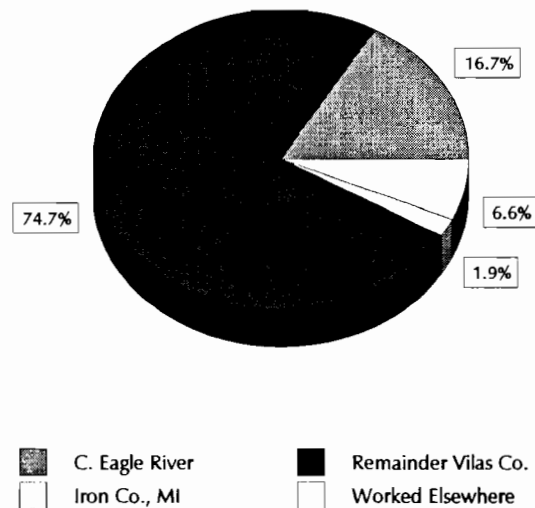


fluctuated from year to year, reaching a high of 6.3% in 1994, then decreasing to a low of 4.5% in 1996.

### Commuting Patterns

Figure 4-10 identifies the where residents of the town of Phelps commute to for employment opportunities. Vilas County was the location of business and industry where over 90% of the town's residents commuted to for employment in 1990, including 16.7% finding employment in the City of Eagle River and 74.7% working throughout the remainder of the county. The next highest employment destination was Iron County, Michigan, employing 1.9 % of Phelps's working residents. The remaining residents commute to destinations in Langlade, Forest and Oneida counties, and to Michigan or elsewhere for employment.

**Figure 4-10**  
**Location of Workplace**  
**Town of Phelps**  
**1990**



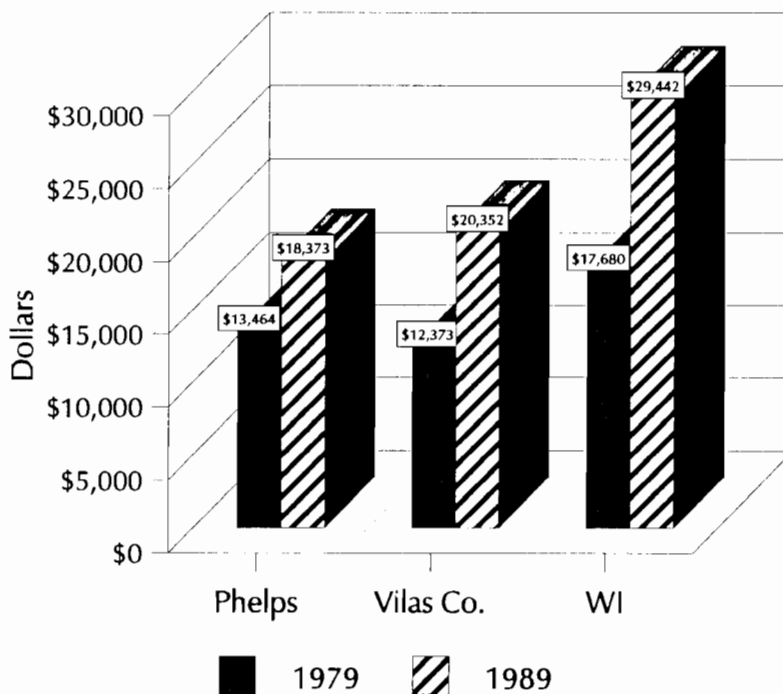
Source: Wisconsin Department of Administration, Wisconsin Workers' County of Residence and Place of Work, January 1994.

### Income Characteristics

The median annual household income in the town of Phelps in both 1979 and 1989 was comparable to that of Vilas County, but lower than that of the state of Wisconsin (see Figure 4-11). The town's median household income rose from \$13,464 in 1979 to \$18,373 in 1989, an

increase of 36.5%, while the county's rose from \$12,373 in 1979 to \$20,352 in 1989, an increase of 64.5%. The median household income for the state overall increased 66.5%, from \$17,680 in 1979 to \$29,442 in 1989.

**Figure 4-11**  
**Median Annual Household Income**  
**Town of Phelps, Vilas County & Wisconsin**  
**1979 and 1989**



Source: 1980 and 1990 U.S. Census of Population and Housing, STF 3.

**Economic Profile Summary**

The town of Phelps has experienced positive changes in many aspects of its economic potential. Participation in the civilian labor force grew from 50.6% in 1980 to 54.8% in 1990. In addition, unemployment of labor force participants fell from 14.7% in 1980 to 7.0% in 1990.

The Professional and Related Services sector remained the largest concentration of employment for the town of Phelps in both 1980 and 1990. The second largest employment industry changed from construction in 1980 to retail trade in 1990. In Vilas County, the greatest proportion of employment is in the retail trade industry, followed by professional and related services.

The location of the town of Phelps within Vilas County also supports positive economic trends as unemployment rates for the county have remained well below the national average from 1992 to 1997, though slightly greater than the state's unemployment rates. The lowest unemployment rate in the county during this time period was experienced in 1997, with an unemployment rate of 4.5%.

The majority of employed persons in the town of Phelps traveled within Vilas County for employment in 1990, including approximately 17% traveling to Eagle River and 75% elsewhere in the county. Only a small percentage travel outside of the county and/or the state.

Median income within the town increased between 1980 and 1990 from \$13,464 to \$18,373, however remained lower than that in both the county and state.

## 7 Physical and Biological Characteristics

The consideration of the physical and biological characteristics (natural systems) are essential elements of the comprehensive land use plan as these characteristics often dictate how land is used. For instance, soils, topography and geology can pose limitations to certain types of developments, while an inventory of surface water resources, vegetation types, environmentally significant areas, and historical features identifies those resources and areas which should be protected from development.

This section of the plan is intended to analyze the influence of these elements before making any decisions concerning future development, and to encourage the preservation of the town's natural and cultural environment. The elements which are analyzed in this section include climate, topography and drainage, geology, groundwater, soils, vegetation types, watersheds and sub-watersheds, surface water resources (rivers/lakes/wetlands), environmentally sensitive areas, wildlife and fisheries, state natural areas, agricultural lands, and historic and cultural sites.

The town of Phelps is located in the northeast portion of Vilas County on the Wisconsin/Michigan border. It is bounded by the state of Michigan to the north, Forest County to the east, Forest County and the town of Washington to the south, and the towns of Conover and Land O'Lakes to the west. The nearest Wisconsin cities are: Eagle River approximately 18 miles southwest, and Rhinelander approximately 37 miles southwest. The town of Phelps covers 69,736 acres of land, and had an estimated 1999 population of 1,321.

Phelps is primarily a recreational community with approximately 71.4% of its land being forest land or woodland. The Nicolet National Forest accounts for approximately 52 % of the town's total area (36,477.5 acres), while privately owned woodlands comprise another 19% (13,337.4 acres). In addition to the abundance of forested lands, Phelps includes numerous lakes and streams. Recreation is a very important element in the town's economic and employment activities. Map 7-1, U.S.G.S. Quadrangle, identifies the physical features of the town.

### 7.1 Climate

The climate of Vilas County includes very cold winters and short, fairly warm summers which is characteristic of a continental climate. Precipitation is distributed rather evenly throughout the year, however is highest in the summer months. The National Climatic Data Center reported the average annual precipitation in the town of Phelps in 1996 as 27.37 inches. The annual average temperature in Phelps was reported as 38.2 degrees Fahrenheit, with summer temperatures averaging 63.5 degrees Fahrenheit and winter temperatures averaging 13.5 degrees Fahrenheit. The ground is snow-covered during the majority of the period from late fall through early spring, with the County experiencing an average annual snowfall of approximately 84.5 inches, according to the Soil Survey of Vilas County (1988).

## 7.2 Topography and Drainage

The town of Phelps is located in the Northern Highland physiographic region of Wisconsin which has some of the highest elevations in the state. Elevations within the town range from approximately 1,660 feet above sea level in the southwestern portion of the town to 1,900 feet near the intersection of Boot Lake Road and Norwood Lake Road. Relief in the area is generally low, with most elevations being between 1,700 and 1,800 feet above sea level.

The landscape in Phelps includes drumlins and ground moraines, and is characterized by low, smoothly rounded, elongated, and oval ridges that are nearly level to moderately steep and are interspersed with long, narrow drainageways.

The primary source of drainage includes the town's numerous rivers and creeks, including the Wisconsin and Deerskin Rivers, and Kentuck, Elvoy, Brule, Military, Blackjack, Haymeadow and Muskrat Creeks. The Wisconsin River and its tributaries drain approximately 40% of the county, while the Kentuck, Elvoy, and Brule Creeks drain about 10% of the county. According to the Soil Survey of Vilas County, the secondary drainage system is rather poorly defined, and includes the town's numerous lakes which drain into the river systems through shallow, crooked drainageways. Glacial meltwater was unable to establish a system of deeper channels in the hummocky glacial topography of the area. In addition, many of the lakes do not have any outlets. However, the abundance of natural surface water features in the town is an asset as it attracts both tourists and residents.

## 7.3 Geology

As mentioned previously, the town of Phelps, like the rest of Vilas County, is located in the Northern Highland physiographic province; this province is characterized as a gently arched dome with crystalline rock below. In general, the geology of the area consists of glacial drift deposits which are underlain by igneous and metamorphic bedrock of the Precambrian Period (2,500 to 900 million years ago).

The surficial geology of the town of Phelps includes both stratified and unstratified glacial drift which were developed primarily during the various stages of glaciation of the last ice age. Stratified drift consists of outwash and ice-contact deposits which were laid down by meltwater during glacial stagnation. Within Phelps, stratified drift is located primarily in portions of the southern, northwestern, and central areas of the town occupying approximately one-half of the town's land. Unstratified drift consisting of ground moraine is located generally in the central, western and eastern portions of town. Ground moraine is composed of unsorted sandy clay till which was laid down directly by ice. The thickness of glacial drift, or the depth to bedrock, generally ranges from 0-240 feet, and tends to be thinnest in areas of ground moraine.

The bedrock geology of the town of Phelps is characterized by igneous and metamorphic rocks which are part of the Canadian Shield. More specifically, these rocks include Gneiss from the Archean age located in the southwest, and rocks from the Early Proterozoic age including

metasedimentary rocks which comprise the majority of the town, iron formations scattered throughout, and metavolcanic rocks in the northern region. The bedrock generally slopes to the south. Map 7-2 illustrates the bedrock geology of the town of Phelps.

#### **7.4 Groundwater**

The glacial drift which was described previously under the town's surficial geology is the only significant source of groundwater in the area. Within the town of Phelps, groundwater is obtained from sand and gravel aquifers located within the drift and either in or beneath till or clay. According to the United States Geological Survey of the Upper Wisconsin River Basin (1975), the groundwater within the basin is generally of good quality and the supply is adequate for domestic use.

In general, well depths within Phelps range from approximately 40 feet to 125 feet, with probable well yields of 5-50 gpm (gallons per minute). Groundwater is located approximately 10 to 40 feet below the land surface.

The groundwater in Phelps is generally between moderately and highly susceptible to contamination according to the Wisconsin Geological and Natural History Survey, 1989. There is risk of groundwater contamination in this area primarily because of shallow depth to groundwater and the high permeability of most of the subsurface materials. These characteristics increase the possibility that contaminants at the surface will percolate through the ground to contaminate groundwater. High concentrations of iron is a typical problem of groundwater throughout Vilas County, however this is not considered to be a health hazard.

Groundwater contamination can occur naturally, however is typically a result of land uses associated with modern society. The physical setting of an area usually determines how easily groundwater becomes contaminated if inadequate waste management or improper land uses occur.

#### **7.5 Soil Conditions**

Soil is composed of varying proportions of sand, gravel, silt, clay and organic material. The composition of a soil affects the specific properties of that soil. These properties must be evaluated prior to any development, as varying limitations exist for each soil.

The soils of the town of Phelps primarily result from glacial till, glacial outwash, or glaciolacustrine deposits, and a few formed from organic material. The effects of the last glacial period which are characteristic of the Northern Highlands Physiographic region are evident in the distinct soil variations which occur within relatively short distances within the town.

A detailed study of all the soils in Vilas County was developed by the U.S. Department of Agriculture, Soil Conservation Service. As part of that study, soils were identified in terms of both generalized soil associations, or predominant soil patterns, and specific detailed soils. Map 7-3 identifies the specific, detailed soils as they occur in the town of Phelps.

The following presents a list and description of the general soil associations included within the town of Phelps. It should be noted however, that these general descriptions are only guidelines and should be referred to as such.

- ♦ *Rubicon-Sayner-Karlin association:* Nearly level to very steep, excessively drained and somewhat excessively drained, sandy soils on uplands. These soils are suited for trees and therefore most are used as woodlands, while a few areas are used for crops and pasture. Areas with little slope are suited for residential development. Septic tank absorption fields function satisfactorily in these soils, however effluent can pollute groundwater because of the rapid or very rapid permeability of the soils. This association comprises only a small amount of the soils in Phelps, including the northwestern most corner of the town, and a portion in the southwest (near Deerskin River), and comprises approximately 42 percent of Vilas County's land area.
- ♦ *Padus-Pence association:* Nearly level to very steep, well drained, loamy soils on uplands. Similar to the Rubicon-Sayner-Karlin association, these soils are suited to trees and mostly used as woodlands, with a few areas used for crops and pasture. Areas with little slope are suited for residential development. Septic tank absorption fields function satisfactorily in these soils, however effluent can pollute groundwater because of the rapid or very rapid permeability of the soils. These soils are found scattered through the town comprising small portions in various areas including south of Lac Vieux Desert, around North Twin Lake, southwest of Big Sand Lake and Long Lake and in the east. Approximately 21 percent of the county's land area is made up of these soils.
- ♦ *Champion association:* Nearly level to moderately steep, moderately well drained, silty soils on uplands, specifically on prominent drumlins and glacial moraines. Most of the areas comprised of these soils are used as woodlands, and some are used for crops and pasture, however they are best suited to trees. Champion soils are poorly suited to residential development because of the seasonal high water table. These soils are present only in the eastern portion of Vilas County and primarily in the town of Phelps, comprising the majority of the town's soils. Small amounts of this soil association are also present in the towns of Land O'Lakes and Washington near their borders with Phelps. Only about eight percent of the county's total land area is underlain by this soil association.
- ♦ *Croswell-Dawson-Au Gres association:* Nearly level and gently sloping, moderately well drained, very poorly drained, and somewhat poorly drained, sandy and peaty

soils on flats and in upland drainageways and depressions. Again, most of these soils are used as woodlands, while a few areas are used for crops or pasture. Most areas of the Dawson soils support native wetland vegetation and are generally unsuited to trees, while the Croswell and Au Gres soils are suited to trees. The Croswell and Au Gres soils are poorly suited to residential development, and the Dawson soils are generally unsuited; the seasonal high water table is the primary limitation. This association comprises a portion of the soils in the northeast portion of the Town, and approximately eight percent of the soils county-wide.

Soils also determine, in part, the amount of rainfall/snowmelt and pollution which runs off to streams and lakes and how much infiltrates into the ground; this factor is highly considered in determining the susceptibility of an area to groundwater contamination. Low permeability soils, which consist of finer particles such as clay, silt and loam, allow rapid surface runoff and little infiltration; highly permeable soils allow rapid infiltration and little surface runoff and are characterized by larger soil particles containing higher percentages of sand and gravel. In general, the rate of permeability is related to the deposits from which the soils were derived. The majority of the town of Phelps experiences a medium rate of permeability, infiltrating at a rate of 0.8 to 2.5 inches per hour. Areas south of Big Sand Lake, and surrounding North Twin Lake have more rapid rates of permeability which are 2.5 to 5 inches per hour. The far northwest portion of the Town is highly permeable, infiltrating at a rate of 5 to 10 inches per hour, indicating very sandy soils. The rather rapid rate of infiltration throughout the Town is reflective of its rather high susceptibility to groundwater contamination.

## **7.6 Vegetation Types**

The vegetation in the vicinity of the town of Phelps is reported to have historically been comprised primarily of mixed coniferous - deciduous forest (mesic), with some areas of wetland vegetation and brush.

The major coniferous - deciduous forest type covering the town of Phelps in the mid-1800's was hemlock, sugar maple, and yellow birch with mixtures of white pine and red pine. This was the largest and perhaps most characteristic forest formation in northern Wisconsin. It is sometimes referred to as the "hemlock - northern hardwood" or simply the "northern hardwood" forest.

A few areas of the town contained stands of coniferous pine forest, including red and white. Though it is commonly thought that most of northern Wisconsin was once covered by extensive pure stands of white and red pines, this forest type was actually extremely limited even before settlement. Some small scattered areas of the town, primarily in the north and east, contained wetland vegetation consisting of swamp conifers including white cedar, black spruce, tamarack and hemlock. Brush vegetation existed in a small area in the southwest portion of town.



Presently, both the species composition and relative proportion of presettlement forest types have been greatly altered by humans in the northern forest region. The mixed coniferous - deciduous forest types have primarily lost their coniferous component. Hemlock occurs sporadically in second-growth hardwood stands, but white pine is virtually absent in many areas and shows no sign of regeneration. The sugar maple has retained a dominant position, however yellow birch is much less common than it once was. Basswood and white ash are now usually the most important associates of sugar maple. The area is generally dominated by mixtures of sugar maple, basswood, hemlock, yellow birch, white ash, and American beech, while red oak and red maple are the most common minor associates to these stands.

### **Nicolet National Forest Vegetation**

As mentioned previously, the Nicolet National Forest comprises 36,477.5 acres, or 52% of the town's total area.

Forest cover types of the Nicolet National Forest lands which are located within the town of Phelps are dominated by upland hardwoods, comprising over 44% of the forested land, followed by aspen which comprises approximately 11%. Red, white and jack pine comprise a total of 20% of the Nicolet National Forest Lands, including 7.7% red pine, 6.5% jack pine, and 4.8% white pine. A variety of other species each comprise a small percentage of the total forest land.

### **7.7 Watersheds and Basins**

A watershed is an area of land in which water drains to a common point. In Wisconsin, watersheds vary in scale from major river systems to small creek drainage areas and typically range in size from 100 to 300 square miles. River basins encompass several watersheds. There are 32 river basins in Wisconsin which range in size from 500 to over 5,000 square miles.

The majority of the town of Phelps is included in the Upper Wisconsin River Northern Sub-Basin, of which two watersheds are contained within the town's boundaries, including the Deerskin River Watershed in the southwest, central and northeast, and the Tamarack/Pioneer River Watershed in the northwest (see Map 7-4, Water Feature Data Map). The most recent water quality management plan for the Upper Wisconsin River Northern Sub-Basin was published in October, 1996 by the WDNR. The plan was prepared to identify the sources of water quality problems and identify management objectives that the WDNR, communities, counties and other agencies should take to protect and improve the water resources of the Northern Sub-Basin. In addition, the southeastern portion of the town is included in the Upper Green Bay Basin, including the Brule River Watershed. The most recent water quality management plan for this basin was completed in January, 1993, by the WDNR.

The surface water features located in each of these watersheds, along with their descriptions and classifications, are depicted in the following section and are shown on Map 7-4.

## 7.8 Surface Water Features and Wetlands

The Soil Survey of Vilas County reported that Vilas County ranks second in the state in total acreage of surface water with 96,321 acres, of which approximately 98 percent is lakes and the remaining 2 percent is streams. In addition, the county ranks first in the state in total number of lakes with 1,327 (WDNR PUBL-FM-800 91). The town of Phelps contains 10,997 acres of surface water, comprising 11.4% of the county's total surface water acreage, and has 41 named lakes which comprise 3.1% of the county's total lakes. Overall, the surface water features within the town comprise approximately 15.8% of the town's total acreage.

The town of Phelps contains numerous natural surface water features, including rivers, streams, lakes and wetlands. This section discusses the characteristics of the major surface water features located within the town. In addition, the WDNR classifies major surface water resources into one of five classes, which will be identified for each major surface water feature within the town. These classifications allow water bodies of particular importance to be identified because of their unique resource values and water quality. Two classes which are represented by surface waters in the town of Phelps include 1) Outstanding Resource Waters (ORW) which have the highest quality water and fisheries in the state and are therefore deserving of special protection, and 2) Exceptional Resource Waters (ERW) which have excellent water quality and valued fisheries but receive or may receive wastewater discharges.

### Rivers

Three river systems pass through the town of Phelps including the Wisconsin River, Deerskin River, and Little Deerskin River.

**Wisconsin River:** The main stem of the Wisconsin River originates at Lac Vieux Desert in the northwest portion of the town of Phelps and flows south to the Merrill Dam. This river is classified as an outstanding resource water. In addition, the portion of the river near Lac Vieux Desert is considered a warm water sport fish community which is capable of supporting a community of warm water sport fish or serving as a spawning area for these fish. The greater redhorse and pirate perch, which are on Wisconsin's watch species list are found in the Wisconsin River northern sub-basin.

**Deerskin River:** The Deerskin River flows from Long Lake south to Scattering Rice Lake near Eagle River. This river is designated as an outstanding resource water, and is classified as a warm water sport, Class I and II brook and brown trout fishery. Beaver activity on the river is a problem, therefore beaver control activity has occurred. Wisconsin Valley Improvement Company (WVIC) operates and maintains a dam on the river on the south side of Long Lake in the Town. Dam operations historically permitted significant flow variation in a relatively short period of time which has had an adverse impact on the fishery and associated habitat improvement structures.

Little Deerskin River: This river is classified as an exceptional resource water and Class I trout stream. It is located in the southwest portion of the town and provides drainage from Deerskin Lake. The river supports a highly diverse fish population of 24 species, including trout, and is a valuable feeder stream that discharges to the Deerskin River. The middle and upper portions are degraded by beaver dams.

In addition to the above listed streams, Military Creek, Muskrat Creek and Blackjack Creek are all classified as exceptional resource waters.

The Vilas County Shoreland Zoning Ordinance separates rivers and streams into two classes for management and development purposes, based upon factors set forth in the Vilas County Lake and River Classification Study, February 1999. Class I rivers and streams were designated as those water bodies that had low or limited adjacent development or potential for development, were classified as outstanding or exceptional resource waters by the WDNR, and those which were cold water trout streams. Class I rivers and streams are considered highly sensitive waters, and include the majority of rivers and streams in the county. Development regulations applied to class I rivers and streams include a minimum lot area of 60,000 square feet, 300 foot frontage, and 270 foot lot width. Class II rivers and streams (or segments of them) were individually reviewed and are generally larger in size and have higher flushing volumes, therefore are less vulnerable to impacts from nutrient or sediment runoff. Many rivers and streams classified as class II already have high levels of existing development along their shorelines. Development regulations for class II rivers and streams include minimum 30,000 sq. ft. lot area, 150 foot frontage width, and 135 foot lot width. All rivers and streams within the town of Phelps are identified as Class I waters.

## **Lakes**

As mentioned previously, the town of Phelps contains 41 named lakes. Within the area, the lakes are of glacial origin; some formed in broad, deep depressions in the drainage system while others are in depressions in the glacial drift.

As high levels of development exist on some water bodies and increased pressure for development of shorelands on many others, and given the varied sensitivity of lakes, Vilas County developed a Lakes Classification System as part of the Vilas County Shoreland Zoning Ordinance. Each lake in Vilas County greater than 50 acres in surface area was individually evaluated and classified (low, medium, high) based upon its sensitivity to development and the level of existing development along privately-owned shoreline. Minimum lot size and setback requirements for specified uses were then developed based on the lakes' sensitivity level. Lakes 50 acres and less in surface area were not individually evaluated, but were classified as warranting the highest level of protection (minimum 60,000 sq. ft. lot area, 300 foot frontage width, and 270 foot lot width).

The intent of the Lakes Classification Ordinance was to control further development as determined by the waterways ability to accommodate the development, and thus protect and

preserve surface water quality, fish and aquatic life, shoreland communities and natural beauty, and compatibility of proposed development with existing land and water usage. The ordinance will also maintain safe and healthful conditions, prevent and control water pollution and soil erosion, and control building sites and the placement of structures and other land uses.

Table 7-1 identifies the lakes classifications and associated development requirements for those lakes which are 50 acres or greater in surface area. Fourteen of the 41 named lakes in Phelps are 50 acres or greater. The remaining lakes within the town were not evaluated and were classified as warranting the highest level of protection with minimum lot size and setback requirements of 60,000 square foot lot area, 300 foot frontage width, and 270 foot lot width. Lakes less than 50 acres in surface area were deemed highly sensitive based on their small lake surface areas, proportionately larger shoreline lengths per surface area, less water volume to assimilate excess nutrients, and generally small-sized watersheds. In addition, these lakes have the potential for higher densities of development and higher numbers of recreational watercraft access points per acre of surface water

**Table 7-1  
Classification of Lakes  
Town of Phelps, Vilas County**

Lake Name	Surface Area (acres)	Max. Depth (ft)	Sensitivity Level	Level of Existing Development	Minimum Lot Area (sq ft)	Minimum Frontage Width (ft)	Minimum Lot Width (ft)
Big Sand Lake	1,408	35	Low	Medium	30,000	150	135
Deerskin Lake	309	18	Low	High	30,000	150	135
Imogene Lake	66	41	High	Low	60,000	300	270
Kentuck Lake	957	40	Low	Medium	30,000	150	135
Kildare Lake	54	21	Medium	Medium	40,000	200	180
Lac Vieux Desert	2,853	38	Low	Medium	30,000	150	135
Long Lake	872	95	Medium	Medium	40,000	200	180
Manuel Lake	76	9	Medium	Low	40,000	200	180
North Twin Lake	2,788	60	Low	High	30,000	150	135
Norwood Lake	125	89	Medium	Low	40,000	200	180
Smoky Lake	610	39	Medium	Low	40,000	200	180
South Twin Lake	642	43	Low	High	30,000	150	135
Spectacle Lake	171	35	High	Low	60,000	300	270
Sugar Maple Lake	137	46	Medium	Medium	40,000	200	180

Source: Vilas County Shoreland Zoning Ordinance, Article III, 3.4, A.

The lakes classification system identified that the lakes in Phelps which are 50 acres or greater generally have low/medium sensitivity levels and contain mixed levels of existing development along their shorelines. Two lakes were identified as warranting the highest protection of those lakes which were classified, Imogene Lake and Spectacle Lake, both of which were classified as highly sensitive with low levels of existing development. In this situation, the zoning standards

developed were based on higher prevention strategies rather than mitigation/restoration strategies.

The following provides general information about the water quality and fisheries of the larger lakes in the town of Phelps.

### **Lac Vieux Desert**

Lac Vieux Desert is located in the northeast portion of the town of Phelps and crosses into Michigan. This lake is the point of origination for the Wisconsin River. Lac Vieux Desert is managed by both the Wisconsin and Michigan DNR's as a warm water fishery. In addition, the WDNR has classified the lake as an outstanding resource water because of its water quality, aesthetic characteristics, outstanding fisheries, significant waterfowl staging area, and high quality, multi-use recreation. WVIC owns the dam on the lake outlet and manages the lake as a storage reservoir to augment Wisconsin River flows.

### **Long Lake**

The water levels of this lake are controlled by a WVIC-owned dam at the outlet. It is managed as a cold and warm water fishery, and identified as an exceptional resource water due to its water quality, largely natural watershed, cold water fisheries (cisco and trout), and high-quality, multi-use recreation.

### **Big Sand Lake**

Water levels here are influenced by WVIC-owned dam on the outlet of long lake. Big Sand Lake is managed as a warm water fishery and identified as an exceptional resource water.

### **Smoky Lake**

Smoky Lake is considered an exceptional resource water, located on the Wisconsin-Michigan border. It is managed as a warm and cold water fishery in cooperation with Michigan DNR

### **North and South Twin Lakes**

These two lakes are connected and actually are the same water body. A WVIC-owned dam at the South Twin Lake outlet controls the water level of both lakes. Both are identified as warm water fisheries, and as outstanding resource waters due to water quality, aesthetic characteristics, cold water fishery (cisco), trophy fisheries (walleye and muskellunge) and high-quality, multi-use recreation.

## **Wetlands**

Wetlands are areas where the soil is usually saturated or covered with surface water for two or more months during the year; the soil is nearly level and very poorly drained, allowing water levels to be the primary factor in controlling the environment and the associated plant and animal

life. Most wetlands are dominated by plants which can tolerate various degrees of flooding, with species composition and productivity dependent on the variations in the water patterns.

Wetlands act as a natural filtering system for nutrients such as phosphorus and nitrates, and serve as a natural buffer protecting shorelines and streambanks. Wetlands are also essential in providing wildlife habitat, flood control, and groundwater recharge. Consequently, local, state, and federal regulations place limitations on the development and use of wetlands and shorelands. Therefore, prior to altering a wetland resource, the appropriate agencies must be contacted to receive authorization.

There are numerous wetlands scattered throughout the town of Phelps, which comprise 8,779.21 acres, or 12.6% of the town's total acreage. Primarily, these areas are located adjacent rivers, streams and lakes, or in their general vicinity.

## **7.9 Environmentally Sensitive Areas**

Environmentally sensitive or significant areas are those unique environmental areas which should be preserved from (urban) development. Such areas are typically identified as a requirement of sewer service area plans, however as the town's population is less than 10,500 persons, a sewer service area plan is not required. Therefore, there are no designated environmentally significant/sensitive areas within Phelps. Wisconsin Administrative Code NR 121.05(1)(g) describes the natural features and sensitive environmental areas that are to be excluded from designated sewer service areas, which include resources such as wetlands, floodways and floodplains, shorelands, areas of steep slope adjacent wetlands or shorelands, publicly owned scientific and natural areas (i.e., fish and wildlife habitats), and identified archaeological sites. Designation of environmentally significant areas is intended to 1) protect general public health, safety and welfare, 2) protect surface and groundwater quality, 3) reduce damage from flooding and stormwater runoff, and 4) maintain important wildlife habitats or outdoor recreation areas. Even though such areas are not "designated" by means of a sewer service area plan in Phelps, the town does contain numerous environmentally sensitive resources which should be preserved and protected from development.

The following environmentally significant resources exist within the town of Phelps:

- ◆ National Forest Lands
- ◆ Other Woodlands
- ◆ Lakes
- ◆ Shorelands
- ◆ Streams
- ◆ Wetlands

These environmentally sensitive resources consume a large portion of land within the town of Phelps (over three-quarters of the town's total acreage), and are important to its tourist-driven

economy. Therefore, the town of Phelps should take steps to ensure the protection of these resources.

## 7.10 Wildlife

The distribution and abundance of animals in the northern Wisconsin forest areas have changed dramatically since the 1800's (Wisconsin's Biodiversity as a Management Issue, 1995).

Unregulated commercial hunting and trapping, along with significant habitat changes, has resulted in the extirpation of several species in the area including elk, wolverine, woodland caribou, Canada lynx, fisher, pine marten, moose, eastern cougar, and eastern timber wolf. Some of these species however, have been reestablished in low numbers including the fisher, pine marten, eastern timber wolf, eastern cougar, and moose.

Another factor limiting the population and presence of some animal species in the northern forest areas is the lack of large, contiguous blocks of wild land with minimal human presence. Such species include the eastern timber wolf, black bear, bobcat, moose, eastern cougar and spruce grouse. These species require extensive forest ranges which can be immature and intensively managed, however the presence of humans must be low.

Other species numbers declined when logging and settlement occurred which drastically changed their habitat, however as the forest began to mature again their numbers increased. These species include the gray squirrel, porcupine, flying squirrel, and beaver. Species such as the raccoon, striped skunk, woodchuck, ground squirrel, and eastern cottontail became more abundant young forests, and small town and resort development occurred. Other common species in the area include the otter, fox and coyote.

The white-tailed deer is a common species in the area. During presettlement time, white-tailed deer populations were low ranging between 5-15 deer per square mile, and by the 1940's their population in the northern forests peaked with 40-50 deer per square mile. The high deer populations caused widespread damage to vegetation, therefore the WDNR has established a Deer Management Unit to manage Wisconsin's deer populations.

There is an abundance of bird species in the northern forest areas - over 100 - with common species including the ruffed grouse, woodcock, chestnut-sided warbler, mourning warbler, blue jay, rufous-sided towhee, brown thrasher, Nashville warbler, indigo bunting, goshawk, yellow-bellied sap sucker, chickadee, song sparrow, rose-breasted grosbeak, and the great-horned owl. A number of other species are now declining as the forests are maturing.

In addition to the abundance of common species, special attention should be directed to those species which are of special concern, threatened and endangered within the town of Phelps. The U.S. Fish and Wildlife Service and the WDNR identify and list threatened and endangered species at the federal and state levels, respectively. The state of Wisconsin's DNR also identifies species of special concern.

The U.S. Fish and Wildlife Service classifies a species (fish, wildlife and plant) for protection as "endangered" when it is in danger of extinction within the foreseeable future throughout all or a significant portion of its range. Species are classified as "threatened" if they are likely to become endangered within the foreseeable future. There are three federally-listed threatened and endangered species located within Vilas County. These species include the bald eagle, which is listed as a threatened species, and the gray wolf and Kirtlands warbler which are listed as endangered. The U.S. Fish & Wildlife Service indicated that though gray wolves are currently not present in the planning area, the planning area does contain suitable wolf habitat that may become occupied in the future, especially as the wolf population in Wisconsin is expanding. In addition, 12 bald eagle nests were recorded within the town of Phelps as of 1997. Activity occurring within ¼ of a mile of these nests could disturb the eagles, possibly resulting in failure to reproduce in these areas. The town of Phelps should contact the U.S. Fish & Wildlife Service prior to working on specific projects to determine if the bald eagle, gray wolf, and/or Kirtland's warbler may be affected. A letter from the U.S. Fish & Wildlife Service is attached for review in Appendix 7-1.

The WDNR's Bureau of Endangered Resources lists species as "endangered" when the continued existence of that species as a viable component of the state's wild animals or wild plants is determined to be in jeopardy on the basis of scientific evidence. "Threatened" species are listed when it appears likely based on scientific evidence that the species may become endangered within the foreseeable future. The WDNR also lists species of "special concern" of which some problem of abundance or distribution is suspected but not yet proved; the intent of this classification is to focus attention on certain species before becoming endangered or threatened. The following species were identified in the town of Phelps:

Areas within town, *outside* of Nicolet National Forest:

- |                             |                 |
|-----------------------------|-----------------|
| ♦ Osprey                    | Threatened      |
| ♦ Bald Eagle                | Special Concern |
| ♦ Arctic Shrew              | Special Concern |
| ♦ Lake Herring              | Special Concern |
| ♦ Canada Mountain-Ricegrass | Special Concern |
| ♦ Prickly Hornwort          | Special Concern |
| ♦ Swamp Pink                | Special Concern |

Areas in town, *within* Nicolet National Forest:

- |                    |                 |
|--------------------|-----------------|
| ♦ Osprey           | Threatened      |
| ♦ Bald Eagle       | Special Concern |
| ♦ Broad Beech Fern | Special Concern |
| ♦ Swamp Pink       | Special Concern |
| ♦ Yellow Screwstem | Special Concern |



A letter from the WDNR which details the above information is attached for review in Appendix 7-2.

### **7.11 State Natural Areas**

State Natural Areas are formally designated sites which are devoted to scientific research, the teaching of conservation biology, and especially to the preservation of their natural values and genetic diversity for future generations. These areas are not intended for recreational uses such as picnicking or camping.

As of September, 1997, 324 sites including over 100,000 acres have been designated as State Natural Areas. There are no state natural areas within the town of Phelps, however the WDNR Bureau of Endangered Resources has identified Plymouth Lake within the town as an area which is known to contain high quality natural communities (see Appendix 7-2). There are nine state natural areas within other areas of Vilas County including the following:

- ◆ High Lake Spruce-Balsam Forest - town of Presque Isle
- ◆ Plum Lake Hemlock Forest - town of Plum Lake
- ◆ Bittersweet Lakes - town of Arbor Vitae
- ◆ Black Tern Bog - town of Arbor Vitae
- ◆ Johnson Lake Barrens - town of Land O'Lakes
- ◆ Aurora Lake - town of Plum Lake
- ◆ Goodyear Springs, East - town of Land O' Lakes
- ◆ Day Lake - town of Boulder Junction
- ◆ Pine-Oak Grove (location not identified)

For additional information regarding the state natural areas program contact the WDNR, Bureau of Endangered Resources.

### **7.12 Agricultural Land**

The presence of agricultural land within the town of Phelps is primarily limited to hobby farms with grazing areas for livestock, tree farms, and cranberry operations, which are found scattered throughout the town.

### **7.13 Historic/Cultural Features**

The identification of existing historical structures and cultural areas are an important consideration in all town planning efforts, as these features help to define a community's physical look and character.

The State Historical Society has recorded two "registered" historic properties within the town of Phelps. Both properties are listed on the National Register and State Register of Historic Places, and include:

- ♦ Fort Eagle (currently Homer K. Galpin House), located at 943 Fort Eagle Lane, constructed in 1919, with additions in 1921 and 1927, and
- ♦ Wallila Farm Site (archeological site), located in the southwest portion of the town

In addition to these areas which are listed on the National and State Register's, numerous other archeological and structural historic properties exist within the town, however these are non-listed. These properties include:

- ♦ Lac Vieux Desert Dam, located along West Shore Drive and the Wisconsin River, constructed in 1937.
- ♦ Long-on-Deerskin Dam, located along Dam Road and Deerskin Creek, constructed in 1937.
- ♦ Military Hill Lookout Tower, located 1/8 mile north of STH 17, T41N R11E, Section 2, constructed in 1935.
- ♦ Lodge Building (historically Hazen's Long Lake Lodge), located on Hazen Lane, constructed in 1901.
- ♦ Hazen Inn (historically Hazen's Long Lake Lodge), located on Hazen Lane, log barn.
- ♦ Cabin #1 (log), located on Hazen Lane, constructed in 1900.
- ♦ Cabin #2 (log), located on Hazen Lane, constructed in 1900.
- ♦ Cabin #3 (log), located on Hazen Lane, constructed in 1900.
- ♦ Statewide Public Access Vilas County, rustic style log house, located in T41N R11E, Section 3, constructed in 1945.
- ♦ Holiday Lodge (historically Sandy Beach Resort), located in T41N R11E, Section 2, constructed in 1919.

If the town is interested in identifying the location(s) and/or significance of these sites, the State Historical Society of Wisconsin can be contacted for further details.