

# **Turner Comprehensive Plan Update Section I**

**A Vision for Turner  
Goals, Policies, Strategies  
Future Land Use Plan  
Regional Coordination Program  
Capital Investment Plan**

**Adopted  
April 8, 2006**



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## **Introduction**

The cornerstone or most important elements of the comprehensive plan are the policies and strategies which the community adopts. They present the directions the community will take to address issues identified in the Inventory and Analysis element of the plan. Policies are statements of direction the community desires to take, and strategies define specific actions the Town should undertake in order to carry out the directions contained in the policies.

The update to the Comprehensive Plan, presented in three sections--the major findings of the Inventory & Analysis, Goals, Policies, & Strategies and the complete Inventory and Analysis --serves as a guide for the community and town officials as they make decisions about the future of Turner. The Plan suggests general directions, recognizing that specific details will require further efforts. The Plan should be considered a living document, meaning that it will require review and revisions as Turner changes over time.

The Plan is, however, intended to guide future changes in the Town's land use regulations so that they will reflect the goals and policies of this Plan. Similarly, the discussions of capital needs and spending priorities are intended as general guides, not specific proposals.

**Strategies or actions to carry out the plan have been identified as short-, mid- or long-term.** This refers to the time frame that the plan recommends actions to occur. Short-term actions should occur within one to two years of plan adoption, mid-term three to five years from plan adoption and long-term six to ten years from plan adoption. Those that should be responsible for undertaking the strategies are also identified.

The Turner Comprehensive Plan Committee has thoroughly considered each and every one of the policies and strategies and assessed its implications during the updating of the plan first adopted in 1991. In addition, it relied heavily on what the citizens of Turner told the committee in the Citizen's Survey conducted in 2001. Although, in not all instances did the committee unanimously agree; it is the position of the committee that the following presents a realistic direction for Turner in the first decade of the 21st Century.

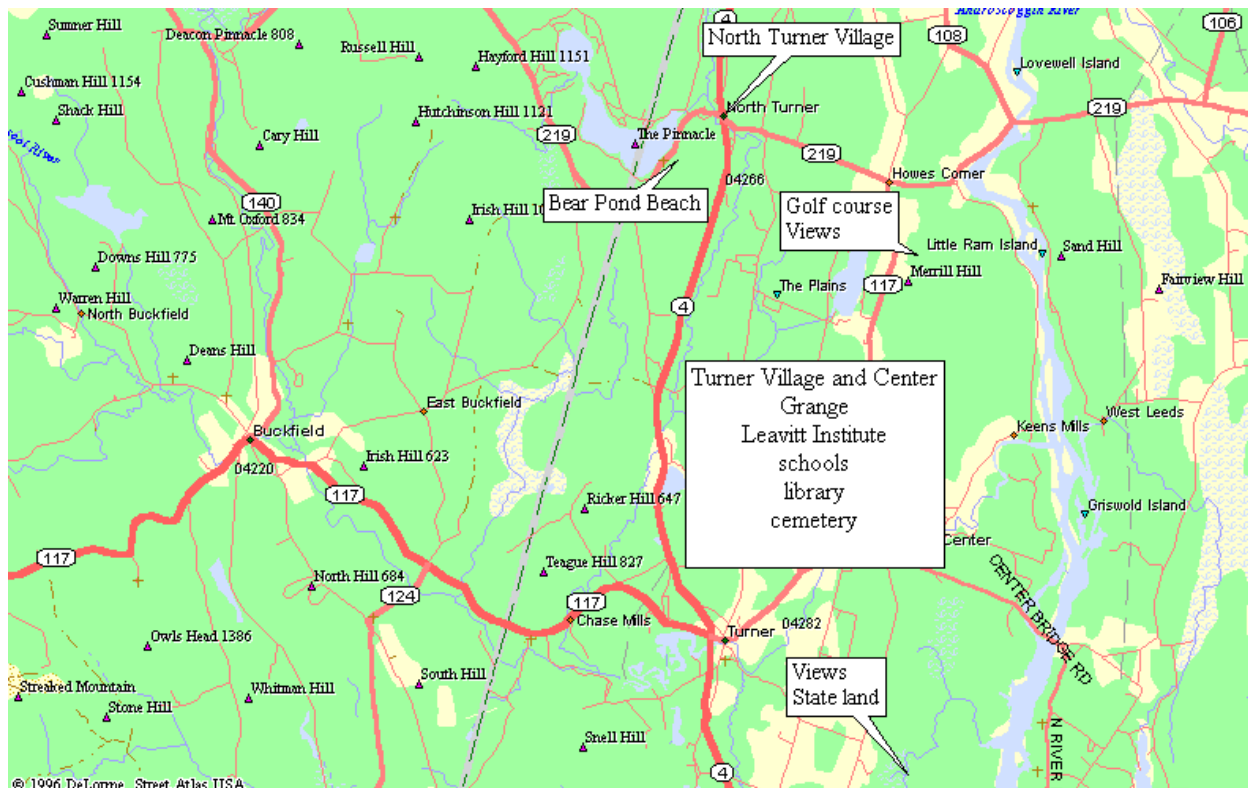
## A Vision for Turner - Based upon town visioning session of November 1, 2001

### *Character and Special Places*

Turner is a town of contrasts. It has farm families that go back many generations, and young families who just moved in last year. It has modern state-of-the-art schools and historic grange halls. It has undeveloped forests and a busy commercial highway. It has lakes and farms, homes and businesses, villages and open space. Yet, all of Turner has these two things in common. The people are caring and friendly. And the community has an open, rural feel.

There is a feeling of home and community in Turner. Many families and family businesses have been a part of the Town for generations. The schools have a widespread reputation for excellence. People are independent, and prefer lower property taxes to city-type services.

The rural character of Turner is felt in its farms, its open space, its woodlands and fields, its scenery, and its peacefulness. Some of Turner's special places include Turner Center, with its historic Grange Hall, churches, library, cemetery, and the Leavitt Institute; the views from General Turner Hill, from Upper Street and Lower Street, and from North Parish Road; the Androscooggin River with its state-owned lands and boating opportunities; the town beach on Bear Pond; and North Turner Village.



## ***Future Growth***

Turner will continue to attract development in the future because of its good schools, pretty scenery, low taxes, and community feeling. Commercial development will be concentrated along the Route 4 corridor. Elderly housing and multi-family housing will fit best in Turner Center and Turner Village. Single family homes will continue to be located throughout the community. Within this general pattern, here is the vision for Turner's villages and districts.

***Turner Village*** will be redeveloped.

The town office will be relocated or renovated. Deteriorated buildings will be demolished. There will be new residential housing. There will be a park and better access to Nezinscot River. An overpass or tunnel will ease access from one side to the other on Route 4. Commercial development will expand in the area of the Northland Plaza and to the north of the Plaza.

In ***Turner Center*** there will be new adult education and recreational opportunities around the school, new sidewalks, and a new library. There will be a new post office. The sewerage treatment plant will be updated.

In ***South Turner***, Route 4 will continue to develop and expand as a commercial hub. The road will have four lanes with limited access, plus a turning lane. The intersection to the Turner Business Park will be improved. Business and commercial development will stretch along Route 4 in South Turner (with the exception of used car dealerships). The current airport land is a key location; it will be developed further either through airport/runway expansion, or by development into a new business park. Back away from Route 4, there will be new residential development. Along the river there will be a greenway, with improved access to the state land.

The water quality in the aquifer will be protected – with sewer and water systems, if necessary.

**North Turner** will retain its friendly village character. The post office, GAR, church, and Boofy Quimby Memorial Center will remain. Recreation opportunities will be expanded, with public access to Bear Pond and a community park on Martin Stream. There will also be a ballfield at the beach. The Route 219 intersection will have an overpass. Ponds will be protected. Route 4 will develop commercially, as to the south, but on a smaller scale, with limited access commercial parks, and no large retail “box” stores.

The **rural areas** of Turner will continue to have farm activities. Where farming is no longer economically viable, public-private partnerships (involving state, local, and private funding) will purchase open space to keep the Town’s rural feel. Agricultural-tourism will be a new economic activity, with people coming from the cities to the south to experience life on the farm. Also food processing and related agricultural industries will be encouraged, such as cheese processing. There will be trails for walking, for snowmobiles, and for cross-country skiing. Where housing occurs, clustering will be encouraged. There will be no junk yards. Water bodies will not be threatened by “funneled development” (the practice of combining access for many inland homes to the waterfront).

### ***Appearance of Development***

**Commercial development** will be encouraged to have landscaping and trees, pitched roofs and a New England building character. **Residential development** will be encouraged to be in clustered locations off of main roads, with open space views preserved whenever possible.



## **PLANNING AREA:            Historic and Archaeological Resources**

### **Turner's Goal**

To maintain the values of important historic, cultural and archaeological resources.

### **Overview**

Turner's history dates back to the mid-1700's when the Town was known as Sylvester-Canada. Since the early days of the Town's development, many of the historic resources have been destroyed or lost. Although much of Turner's history has been visually lost, there remain individual structures, sites and areas which are remainders of the Town's heritage. As the Town undergoes change, these remainders of Turner's beginnings and history is invaluable.

Approximately 80% of the respondents to the Turner Comprehensive Plan Survey identified historic sites and areas as important or very important resources to maintain. Although not generally seen as important as historic sites, known and yet to be discovered archaeological areas can provide details of our history. The Town's history is represented by its buildings, historical sites and archaeological resources.

If lost or diminished, Turner's remaining historic values and significant archaeological sites will no longer present the Town's rich heritage.

### **Historic and Archaeological Policy**

**Pursuant to the goal, the historic and archaeological policies of the comprehensive plan are:**

1. To encourage the maintenance of its historic buildings and sites.
2. To maintain and enhance the traditional characteristics of its three villages (Turner Village, Turner Center and North Turner).
3. To support the Turner historical groups.
4. To minimize the impacts of development or other land use activities upon recognized historic buildings and natural sites/areas.
5. To assure that before archaeological sites/areas are disturbed their values are fully assessed and preserved where appropriate.

### **Implementation Strategies**

- A. Short-Term Activities-To accomplish the goal and policies, the Turner Community should undertake the following within one to two years of plan adoption.
  1. Apply to the Maine Historic Preservation Commission and/or other sources for a grant to assist in a professional survey of historic features, sites and structures and to document

them as either of local significance or eligible for the National Register of Historic Places.

Responsibility: Selectmen/Historic Groups

2. The Town's historical groups actively work with the owners of identified historic properties to assess the feasibility and assist in the nomination of buildings and sites to the National & State Register of Historic Buildings and Places.

Responsibility: Historic Groups

3. The Planning Board in development reviews consider the current provisions contained in the Site Review Ordinance and Subdivision Ordinance, relating to Preservation and Enhancement of Landscape and Relation of Proposed Buildings to Environment, to minimize the negative impacts to identified documented historic buildings and sites.

Responsibility: Planning Board

4. Prepare and submit applications for Community Development Block Grant funds for all village improvements.

Responsibility: Selectmen/Town Manager

5. The standards in the Zoning and Subdivision Ordinances that require that archaeological sites be assessed and appropriately addressed before development takes place be required.

Responsibility: Planning Board

## **PLANNING AREA:**

## **Economic Development**

### **Turner's Goal**

To provide for economic development which is suited to the town's character and its fiscal and infrastructure resources.

### **Overview**

It is often a goal or the desire of a community and its residents to increase its tax base in non-residential property, hoping to reduce the tax burden upon residential property. The approach employed most often to gain tax revenues by communities is to encourage economic growth in the commercial and manufacturing sectors.

Economic development occurs within a community due to a number of factors. These include market conditions, labor force availability, transportation systems, suitable land resources, availability of municipal infrastructure such as water, sewer and fire protection; tax rates; and a desire of the community to attract development. Several of the above factors are greatly influenced by the community whereas others are beyond the control of the community.

Market conditions, labor force, and the transportation system, to a degree, are beyond the control of Turner. However, they may be significant factors in local economic development. Factors such as providing suitable land resources through zoning provisions, adequacy of municipal infrastructure, tax rates, and community attitudes towards economic or business development can be directed by the municipality.

Turner's local economy realized significant gains during the mid to late 1980's. Over the decade of the 80's, Turner has not lost major employers but rather gained a number of new, small employers many of which are related to the service industry. The Maine Department of Agriculture was quoted in November 1989, as stating that, "dollar for dollar, Turner turns out more agricultural products than any other town in the State."

There are two main considerations relating to economic development within Turner. One relates to providing local employment opportunities and the availability of services and goods for the town's residents. The second relates to economic growth and its impact upon property tax rates. The Comprehensive Plan can suggest various activities which may lead to additional economic development. These actions can be indirect such as providing through zoning regulations suitable locations for commercial/manufacturing businesses; or direct such as developing business parks or providing tax incentives to attract new business.

Economic development strategies that are intended to meet the goal of stabilizing or lowering the property tax rate are difficult to achieve. The issues relating to the advantages and disadvantages of major commercial/manufacturing growth on the local tax rate are many and beyond the scope of the Comprehensive Plan.

Turner's agricultural base has been a significant factor in stabilizing the town's tax base. Although a detailed analysis has not been conducted for Turner to determine the value of farmland in tax base stabilization, analysis in Virginia found the following:

The Piedmont Environmental Council conducted a study to see what effect various types of land use had on the county budget. They discovered that for every \$1.00 collected in taxes on residential property, the county had to spend \$1.18 on services (education, roads, police and the like). But for every \$1.00 the county made by taxing farmland, forests, or open space, it had to spend only 15¢ on services.

If these figures are representative of Turner's situation, the value of farmland in relation to tax base is clear. Respondents to the Comprehensive Plan Citizen's Survey indicated a desire to encourage service related businesses (retail stores, restaurants, professional offices) and light manufacturing. A large percentage indicated that the town should discourage heavy manufacturing (76%), industrial parks (66%) and shopping malls (69%).

Turner's growing population will demand new and expanded local business. In addition, other economic or business-related development will provide additional local employment opportunities and an additional source of local tax dollars.

### **Economic Development Policy**

**Pursuant to the Goal, the economic development policies of the comprehensive plan are:**

1. To encourage the continuation of production agriculture and associated business development.
2. To provide for land areas of sufficient size and in suitable locations for commercial and manufacturing land uses in those areas where it will not conflict with adjacent, less intense, land uses or cause damage to the environment.
3. To be an active partner in promoting appropriate economic development.
4. To develop an economic development strategy which reflects the economic development needs of the town.
5. To allow for appropriate commercial development within village areas.
6. To allow home-based occupations in all areas of the community.
7. To develop/participate in programs with adjacent communities to retain and/or attract appropriate economic development.

### **Implementation Strategy**

A. Short-Term Activities-To accomplish the goal and policies, the Turner Community should undertake the following within one to two years of plan adoption.

1. Amend Zoning Ordinance to designate suitable locations of sufficient size for commercial and light manufacturing development.

Responsibility: Planning Board

2. Assess the feasibility of locating commercial and light manufacturing uses adjacent to portions of Routes 117 and 219.

Responsibility: Planning Board

3. Develop an Economic Development Strategy for the town.

Responsibility: Turner Economic Development Committee

4. Annually appropriate funds to provide professional support for the Economic Development Committee.

Responsibility: Selectmen/Budget Committee

Mid Term Activities- To accomplish the goal and policies, the Turner Community should undertake the following within three to five years from plan adoption.

1. Study the feasibility and location options for a business park.

Responsibility: Economic Development Committee

2. Study the need and feasibility of creating a municipal development district and tax increment financing program.

Responsibility: Economic Development Committee/Selectmen

3. Explore the interest of surrounding communities for developing a regional business park.

Responsibility: Economic Development Committee

**PLANNING AREA:            Production Agriculture**

**Turner's Goal**

To encourage production agriculture.

**Overview**

Production agriculture is a significant element of Turner's economy. In addition to its economic values, it has and continues to present significant elements of Turner's character.

**Production Agriculture Policies**

1. To encourage the presence of an agricultural land base for production agriculture.
2. To seek changes to the Maine Constitution and laws so that taxes are based on current use.
3. To minimize the conflicts between agriculture and adjacent land uses.
4. To encourage use of prime agricultural lands for farming.
5. To not pursue at this time strategies that mandate exclusive agricultural zones.
6. To develop farm enterprise districts that allow for farm diversification that maintains land for farming.
7. To encourage the use of and participate in the granting of conservation easements and/or purchase of development rights to maintain a production agricultural land base.
8. To explore a regional transfer of development rights program where rural agricultural areas would be the sending areas and the urban city areas the receiving areas.
9. Maintain the economic value of land owned by those engaged in production agriculture to allow its owner's to finance ongoing farm operations.

**Implementation Strategy**

- A. Short Term Activities- To accomplish the goals and policies, the Turner Community should undertake the following within one to two years of Plan adoption.
1. Seek changes to laws that would allow the Town to develop an agricultural land tax assessment program which encourages participation in the Farm & Open Space Tax Law by assessing land lower if it is registered under the Farm & Open Space Tax Law.  
  
Responsibility:                      Selectmen/Assessors
  2. Reactivate the Select Committee on Production Agriculture to reexamine the feasibility of

Turner developing and funding its own purchase of development rights program. If such a program is feasible, the Town should seek appropriate funding including a local long-term bond.

Responsibility: Selectmen Appoint Select Committee

3. Encourage agricultural landowners to participate in conservation easements and any other state program for the purchase of development rights of farmland. Assist in the application/proposal development and provide matching funds. Lobby at the state and federal level for the inclusion of Turner's farmland in any state and/or federal programs.

Responsibility: Selectmen/Conservation Commission

4. Amend local ordinance provisions to encourage the clustering of new subdivisions proposed for agricultural areas through density bonuses or other techniques. Clustering should be done in such a way as to maximize the potential for production agriculture and open space.

Responsibility: Planning Board

5. Amend local ordinance provisions to contain guidelines that provide a separation between new non farm residential uses and existing agricultural land uses including well locations.

Responsibility: Planning Board

6. Work jointly with land trusts, in order to coordinate an approach to Purchase of Development Rights and to take advantage of all possibilities for putting farmland under conservation easement.

Responsibility: Conservation Commission/Land Trusts

7. Amend local ordinance provisions to include farm enterprise uses that provide for diversified uses on farms that are compatible with farms and rural locations.

Responsibility: Planning Board

8. Develop ordinance provisions that allow the sale of individual lots in rural areas of not more than 80,000 square feet, as long as additional area is set a side with conservation easements to match zone density requirements.

Responsibility: Planning Board

B. Mid-Term Activities-To accomplish the goals and policies, the Turner Community should undertake the following within three to five years of plan adoption.

1. Investigate the merits of a regional Transfer of Development Rights program as a method to conserve agricultural land where rural agricultural areas would be the sending areas and the urban city areas the receiving areas.

Responsibility:

Conservation Commission/Land Trusts/Select Committee  
on Production Agriculture



## **PLANNING AREA: Public Services/Facilities**

### **Turner's Goal**

To provide necessary municipal services which are responsive to local needs in such a manner that will not overburden the community's financial resources.

### **Overview**

The delivery of necessary municipal services is extremely important for the community's well being. Adequate fire and police protection is required for the safety of the Town's residents. Educational services must be responsive to changing demands. Municipal government must be accessible and responsive to local needs.

### **Public Safety**

Public safety services include law enforcement, fire protection and emergency medical services. Turner does not provide any municipal law enforcement but rather relies upon the County Sheriff's Department and State Police. Fire and rescue services are provided by volunteers with the exception of a single paid person who works for the Turner Rescue Unit.

Turner residents are generally satisfied with the Town's fire and rescue services.

Current development and population and anticipated future growth has and will create demands upon Turner's public safety services.

### **Public Safety Policy**

**Pursuant to the goal, the public safety policies of the comprehensive plan are:**

1. To assure that new growth and development does not exceed the capacity of public safety services.
2. To include needed new and upgraded public safety facilities and major equipment in the Capital Improvements Program.

### **Implementation Strategies**

A. Short-Term Activities-To accomplish the goals and policies, the Turner Community should undertake the following within one to two years of plan adoption.

1. The zoning and subdivision ordinances shall include provisions that require a municipal service impact analysis to be completed. Should that analysis indicate that a proposed development would require additional public expenditures above what it supports, off-site improvements, in-kind contribution and/or an impact-type fee can be required.

Responsibility:

Planning Board

## **Education**

Quality education is vital to community health and future development. Expected future growth in Turner and the two other communities which comprise the School District will continue to place demands upon new/improved physical plants and human resources. Therefore, the following policies are adopted:

### **Education Policy**

**Pursuant to the goal, the education policies of the comprehensive plan are:**

1. To maintain a dialogue with the School District so that the district is aware of proposed and approved development that will affect the school system.
2. To assess proposed new development impacts upon school capacities.

### **Implementation Strategies**

A. Short-Term Activities-To accomplish the goals and policies, the Turner Community should undertake the following within one to two years of plan adoption

1. The Town Manager will establish a meeting between the Planning Board and the Superintendent of Schools to review new growth and development over the preceding year which may affect the school system.

Responsibility: Town Manager

2. The Subdivision Ordinance shall contain provisions to consider the phasing of residential development when it is found that school facilities are at capacity.

Responsibility: Planning Board

### **Effects of Growth on Public Facilities and Services**

Over the past 20 years, Turner has experienced one of the greatest increases in residential development of any Androscoggin County community. Studies have shown that rapid residential development can place burdens on public facilities and services and create a need for expanded and new services. Tax rates must be increased to pay for the new and expanded services.

It has been projected that if current conditions are maintained Turner will continue to grow faster than other Androscoggin County communities. This growth will likely require increased taxes for all property owners.

### **Growth Policy**

**Pursuant to the goal, the public growth policy of the comprehensive plan is:**

1. That future growth does not over burden the town's ability to provide high quality municipal services at reasonable cost.

## **Implementation Strategies**

A. Short-Term Activities-To accomplish the goals and policies, the Turner Community should undertake the following within one to two years of plan adoption.

1. The Planning Board shall annually assess the rate of growth of residential development and its effect on the cost of municipal services.

Responsibility                      Planning Board/Budget Committee

2. Should the annual assessment of rate of growth of residential development and its effect on the cost of municipal services indicate such growth is responsible for tax rate hikes, a growth limitation and /or impact fee ordinance should be developed for adoption by the town.

Responsibility                      Planning Board

## **Geographic Information System**

Turner has taken the first steps in the development of a Geographic Information System. This will allow in the years ahead the town to expand the system aiding in the delivery of municipal services and planning.

## **Geographic Information System Policy**

**Pursuant to the goal the Geographic Information System policy of the comprehensive plan is:**

1. To improve and expand the Geographic Information System.

## **Implementation Strategies**

Short-Term Activities- To accomplish the goals and policies, The Turner Community should undertake the following within one to two years of plan adoption.

- A. On an annual basis review the Geographic Information System and prioritize improvements/expansions to the system.

Responsibility:    Town Manager/Selectmen

- B. Seek funding including grants to improve and expand the Geographic Information System.

Responsibility:    Town Manager/Selectmen

## **PLANNING TOPIC: Outdoor Recreation**

### **Turner's Goal**

To provide outdoor recreation opportunities for all town residents.

### **Overview**

Turner's growing population will place greater demands upon its existing and potential recreation resources. Developed recreation activities have generally been provided by the School District, Turner Athletic Association and, more recently, the Town. These, along with the traditional recreational activities of hunting, fishing, boating and other non-facility activities, have generally met demands. However, the increased population will demand additional or new recreational opportunities and programs. In addition, changing landownership characteristics have and will continue to alter traditional recreational opportunities. More than half of the respondents to the comprehensive plan survey supported the development of recreational sport fields and other recreational facilities and programs over the next 10 years. Therefore, the following policies are presented.

### **Outdoor Recreation Policy**

**Pursuant to the Goal, the outdoor recreation policies of the Comprehensive Plan are:**

1. Plan for the necessary recreation areas, facilities and programs within the community to serve the needs of all age groups.
2. Provide limited and defined access to ponds and rivers including boat access to priority areas.
3. Provide input into the management plan(s) of State lands along the Androscoggin River.
4. Encourage the practice of allowing public access to privately owned land by permission of landowners.
5. Minimize the negative impact upon trail corridors and traditional recreation activities by new development.
6. Support the efforts of the Turner Snowmobile Club to maintain a multi-use trail system within the Town.
7. That trails for ATV use be properly planned and use authorized by property owners.

### **Implementation Strategies**

- A. Short Term Activities- To accomplish the goal and policies, the Turner Community should undertake the following within one to two years of plan adoption.
  1. Annually assess recreation facility and program needs and develop a plan to meet needs.

Responsibility: Selectmen/Athletic Association

2. Evaluate potential access sites including boat access to great ponds and rivers and the costs associated with acquisition and development.

Responsibility: Conservation Commission

3. Work with the Androscoggin Land Trust and the Maine Bureau of Parks and Recreation to develop and monitor management plans for the state owned land along the Androscoggin River.

Responsibility: Land Trust/Conservation Commission

4. Develop an ongoing information and education program regarding the continuation of public use of privately owned lands.

Responsibility: Conservation Commission

5. Participate with ATV groups in the planning for ATV trails.

Responsibility: Selectmen

6. Develop off-street parking areas in priority locations for walkers.

Responsibility: Selectmen

B. Mid Term Activities- To accomplish the goal and policies, the Turner Community should undertake the following within three to five years of plan adoption.

1. Develop a Nezinscot River access site and park adjacent to the Town Office.

Responsibility: Selectmen

**PLANNING TOPIC:            Transportation/Roadway System**

**Turner's Goal**

To maintain and improve a transportation system that ensures a safe means of travel.

**Overview**

A community's roadway system is extremely important to future development. Traditionally, the roadway system has been second only to education in the amount of tax dollars expended annually. Turner has approximately 66 miles of totally town-maintained roads. In addition, there are some 20 miles of road for which the State Department of Transportation has summer maintenance responsibility and which Turner plows and sands in the winter. The 12.7 miles of Route 4 which bisect the Town are totally maintained by the State.

Roadway conditions as reported by the town found that 18.2 miles of town roads are in good condition, 19.4 miles in fair to good condition and 27.8 miles in fair to poor condition. In addition, there are several locations that the Maine Department of Transportation has identified as "high crash locations." Route 4 has been classified as a retrograde arterial.

The majority of the respondents to the Comprehensive Plan Survey were satisfied with road maintenance. However, of all the town services rated in the survey, road maintenance was the Town service with which they were most dissatisfied or greatly dissatisfied (28%).

Current and future development will place demands upon the Town's highway system. Therefore, the following policies are adopted.

**Pursuant to the goal, the transportation/roadway policies of the comprehensive plan are:**

1.     Maintain a multi-year road improvement program.
2.     Require the developers of new or redeveloped projects which will exceed existing public roadway and intersection capacity to make improvements necessary for anticipated traffic volumes.
3.     New and reconstructed public and privately owned roads serving residential subdivisions and commercial/industrial development conform to minimum construction standards that assure durability and safe access and movement of people and motor vehicles.
4.     Require a separation of 600 feet between side streets, except in designated Village Areas, to provide safe traffic movement and maintain existing town character.
5.     That new development or redevelopment does not create or aggravate high crash locations.
6.     Improve transportation systems that would benefit economic growth and the safe movement of the traveling public.
7.     That new developments or redevelopments along Routes 4, 117 and 219 and other

important travel corridors will maintain traffic carrying functions and minimize congestion and crash potential.

8. Provide for pedestrian and bicycle transportation systems in densely developed areas.
9. That new proposed roads are planned and laid out to create an efficient network now and in the future.

### **Implementation Strategies**

A. Short Term Activities- To accomplish the goals and policies, the Turner Community should undertake the following within one to two years from Plan adoption.

1. The Road Commissioner/Road Committee maintain the five-year road improvement program that includes improvement priorities and estimated costs. Priorities should be directed toward the designated growth areas or high traffic areas.

Responsibility: Road Commissioner/Road Committee

2. Assess the feasibility of developing a local impact fee ordinance for road improvements necessitated by development.

Responsibility: Planning Board

3. Amend the Subdivision and Zoning Ordinances to contain provisions that require traffic impact analysis where necessary.

Responsibility: Planning Board

4. Amend the Street Construction Ordinance to provide for an assessment of the impacts for through and/or commercial traffic between commercial development and residential neighborhoods.

Responsibility: Planning Board

5. Amend the Subdivision, Street Construction and Zoning Ordinances to include alternatives to individual driveways and entrances onto Route 4, 117 and 219, Lower Street and Upper Street.

Responsibility: Planning Board

B. Mid Term Activities- To accomplish the goals and policies, the Turner Community should undertake the following within three to five years of Plan adoption.

1. Develop a sidewalk construction program that establishes priority construction in Turner Center and seek grants and/or dedicate municipal funds for construction.

Responsibility: Road Commissioner/Road Committee

2. Work with the Maine Department of Transportation to correct geometric design deficiencies that are a factor for high crash locations.

Responsibility: Selectmen

- C. Long Term Activities- To accomplish the goals and policies, the Turner Community should undertake the following within six to ten years of Plan adoption.

1. Work with the Maine Department of Transportation to plan for overpasses at the Routes 4 and 117 and Routes 4 and 219 intersections.

Responsibility: Road Commissioner/Road Committee



## **PLANNING AREA:        Affordable Housing**

### **Turner's Goal**

To allow a variety of housing types in various price ranges.

### **Overview**

The availability of affordable housing has become a major concern in various areas of Maine. Affordable housing is housing which is within the financial reach of prospective households. Affordable housing means decent, safe and sanitary living accommodations that are affordable to lower income households and moderate income households, in accord with the following provisions.

An owner-occupied housing unit is “affordable” to a household if the unit’s selling price/market value does not exceed that for which reasonably anticipated monthly housing costs (including mortgage principal and interest payments, mortgage insurance, homeowners’ insurance, and real estate tax) would equal 28% of the household’s gross monthly income.

A renter-occupied housing unit is “affordable” to a household if the unit’s monthly housing costs (including rent and utilities) do not exceed 30% of the household’s gross monthly income. Monthly housing costs do not include government subsidies.

The cost of purchasing or renting a home has increased significantly in recent years throughout Maine. Increased housing costs are also evident in Turner. Numerous factors have led to these increased costs including inflation, construction cost and market demand. Turner’s attractiveness for residential development has been a factor in increased housing costs.

The real estate transfer tax declaration forms provide sale prices of all homes sold; new or existing and mobile homes. Turner’s average sale price of homes in 1989 was \$95,400 and had risen to \$110,900 by 2000. A detailed rental rate survey was not conducted as an element of the comprehensive plan. However, based upon discussions with several individuals, rental rates generally fall into the \$500-\$600 per month range.

Based upon information derived from the real estate sales data, which indicated the average sale price of homes in Turner as \$110,900 in 2000, housing costs are above the affordability range of many current and perspective residents that are in the very low and low income ranges. Although current rental rates are generally in the \$500 per month range in Turner, their non-availability makes it difficult for those wishing to rent in Turner.

### **Affordable Housing Policy**

**Pursuant to the goal, the affordable housing policies of the comprehensive plan are:**

1. Provide for mobile home park development only in those areas where municipal services and roads are adequate to provide such services to that type of development.
2. Allow the development of “accessory apartments” provided building regulations and sewage disposal standards are met.

3. Provide a density bonus of 10% when a proposed development will provide lots or structures which are and remain affordable.
4. Allow mobile homes in individual lots in all locations within the community where traditional single-family homes are allowed.
5. Provide for the development of “Great American Neighborhoods” as a means to reduce housing development costs. [The features of Great American Neighborhoods are: they are walkable from end to end, have a civic core and a mix of neighborhood uses, have a street network that is interconnected, but where through-traffic does not afflict local streets, have recognizable boundaries, and have human scale.]
6. Allow multi-family housing development at greater densities in areas with suitable infrastructure.

### **Implementation Strategy**

A. Short-Term Activities- To accomplish the goal and policies, the Turner Community should undertake the following within one to two years of plan adoption.

1. Include in the Zoning Ordinance provisions which limit mobile home park development and expansion to areas designated as General Residential as defined in the Future Land Use Plan.

Responsibility: Planning Board

2. Allow the conversion of single family dwellings in existence prior to the effective date of the ordinance to contain accessory apartments. Regulations adopted should ensure suitable off-street parking, adequate sewage disposal capacity and maintenance of external structural characteristics and square footage of living space that comply with applicable building code standards.

Responsibility: Planning Board

3. Provide a density bonus of up to 10% of the total lots or units in multi-family development if sewage disposal capacity exists and the applicant agrees to market such lots or units within defined affordable guidelines. In addition, provisions must be included in an agreement that continues the affordability to future purchases or renters.

Responsibility: Planning Board

4. Amend the Subdivision and Zoning Ordinances as needed to allow Great American Neighborhood type residential development to take place.

Responsibility: Planning Board

5. Amend the Zoning Ordinance to allow for multi-family type development in the General

Residential and Village Districts at a density of one unit per 20,000 square feet.

Responsibility: Planning Board

B. Mid-Term Activities- To accomplish the goal and policies, the Turner Community should undertake the following within three to five years of plan adoption.

1. Assess the level of interest from adjacent communities in developing a regional affordable housing analysis. If interest exists, technical assistance should be sought.

Responsibility: Planning Board

C. Long-Term Activities- To accomplish the goal and policies, the Turner Community should undertake the following within five to ten years of plan adoption.

1. Coordinate with adjacent communities to develop a regional fair share affordable housing formula.

Responsibility: Planning Board

## **PLANNING AREA:      Natural Resources**

### **Turner's Goal**

To maintain the high quality of its own natural resources and those it shares, or to improve the quality if they have been diminished.

### **Overview**

Turner is endowed with significant natural resources. These resources have played an important role in community development. The Town recognizes the importance these resources will play in future community development as well. It is also recognized that without proper management of the Town's as well as shared natural resources, various community and/or regional values may be diminished or lost.

Natural resources which include soils, vegetation, surface and ground water, wetlands and wildlife habitat are significant factors in Turner's character. They have and continue to be important to the local economy and are valued by residents and nonresidents alike.

Respondents to the Comprehensive Plan Survey placed a high level of importance upon the Town's natural resources. The largest number of respondents agreed that clean drinking water was very important. Substantial majorities attached a high level of importance upon wildlife habitat, open space river front lands and farmlands. In addition, the survey revealed that the citizens of Turner felt very strongly that as the Town continues to develop and natural resources are threatened, the protection of its natural resources is extremely important.

Soils are extremely important to community development. They are the underlying material upon which roads, buildings, sewage, waste disposal and agricultural activities occur. Development upon soils that are unsuitable for such purposed uses will likely increase development and construction costs, annual maintenance costs and cause environmental degradation. Turner's agriculture is dependent upon high quality soils or "prime farmland soils" for the production of various crops.

Forests provide many resource values including wood, wildlife habitat, water quality protection, fish habitat, clean air, ecological values, recreation, existence values and avian species habitat. The existence of these values happens to coincide with maintaining the rural character of the town. In fact, it is often the mosaic of fields, farms and forests young and old that creates the naturally diverse landscape. Most of the land in Turner, some 28,000 acres, are forested at this time.

Wetlands are important natural resources and their values are becoming more recognized by towns' people. They provide habitats for a broad range of plants, animals, fish, insects, reptiles, and amphibians.

In addition, wetlands serve as water purifiers for contaminants and storage areas which reduce flooding by absorbing and dispersing excess rainfall. Wetlands generally include swamps, marshes, bogs and similar areas.

Turner's surface waters include the Androscoggin and Nezinscot Rivers, 13 ponds and a number of brooks and streams. None of the Town's surface water is used directly for a source of public drinking water. However, some surface waters do serve as a domestic water supply and are important recreationally. The water quality of the ponds located in Turner is being tracked by ongoing monitoring. The pond's Trophic

State Index falls in the midrange for all lakes.

The significant improvements to the water quality of the Androscoggin River have made the river attractive for many recreational activities. When water contact recreation is possible, a significant demand will develop. The Nezinscot River continues as an important recreation and wildlife resource.

Directly related to the quality of water in Turner's ponds are the activities which take place in their individual watersheds. Increased runoff from development within a watershed can create higher concentrations of phosphorus, a major detriment to high water quality. A new threat to water quality and recreational activities is invasive aquatic plants.

Turner shares the watershed of Lake Auburn, the source of public water supply of the Cities of Auburn and Lewiston, with several other communities. Also, Bear Pond and Little Wilson Pond cross town borders. The Androscoggin River flows past Turner as well as many other communities from its source in the Western Mountains to Merrymeeting Bay.

Groundwater from bedrock or sand and gravel aquifers is the primary source of water for residential and nonresidential uses in Turner. Groundwater can be contaminated from substances that seep into the ground directly or carried into the ground after dissolving in water. In the past, there has been documented contamination of ground water in Turner by petroleum products, road salt storage, and manure application and storage.

An extensive sand and gravel aquifer runs the entire length of Turner generally following Route 4. Within this major aquifer, there are several high yield sand and gravel deposits that have the potential to produce significant volumes of water. If, in the future, a need for a public water supply becomes necessary, the source will likely be from groundwater rather than from surface water. Large quantities of water can be found in bedrock aquifers as well as sand and gravel aquifers. They both may be a source for a public water supply. Respondents to the citizens' survey placed a high value on clean drinking water and the protection of aquifers. It is well known that aquifers can be degraded by improper land use activities.

Turner's numerous wetland areas, woodlands and farmlands provide outstanding wildlife habitats. In addition, the Maine Department of Inland Fisheries and Wildlife has mapped the location of 21 deer wintering areas in Turner. Food, water and shelter are basic requirements that must be supplied by an animal's habitat. The abundance and condition of a species of animals are a reflection of the quantity and quality of its available habitat. Wildlife habitat is constantly changing through natural succession or at the hand of man.

All wildlife is affected in one way or another by man. Land use practices ranging from agriculture to timber harvesting to residential development results in varying habitat and associated wildlife populations. As local and regional conditions and land use practices change, the wildlife of an area can also be expected to change, for all wild animals require adequate habitat to sustain their populations. Water quality factors including temperature, dissolved oxygen, and hydrogen-ion concentrations are critical to suitable fisheries habitat. Various activities including direct discharges or timber harvesting can alter fishery habitat.

A substantial majority (221) of the respondents to the Comprehensive Plan Survey rated maintaining wildlife habitat as very important and only nine of the respondents believed that such habitat should not be protected.

A floodplain is the flat expanse of land along a river or shoreline that is covered by water during a flood. During a flood, water depths in the floodplain may range from less than a foot in some areas or more than ten feet in others. Floodplains in Turner are located along the Androscoggin and Nezinscot Rivers and all brooks and streams. They are natural features where significant agricultural land is located as well as hazardous areas during flooding events.

## **Natural Resource Policy**

**Pursuant to the Goal, the natural resource policies of the comprehensive plan are:**

1. To permit development and other land use activities only upon or in soils which are suited for such use, unless technological advances remove the possibility of any environmental harm and such activities which are permissible under the Department of Environmental Protection criteria.
2. To conserve the integrity of wetlands so that their overall benefits and values are maintained.
3. To place a high level of protection on wetlands regulated by the Shoreland Zoning Act and the areas within 250' of the upland edge of such wetlands identified as being of significant wildlife value.
4. To promote an appropriate level of management of forest lands.
5. To require development that takes place in forested areas to conserve forest lands and resource values.
6. To provide and maintain limited public access to each great pond and the Androscoggin and Nezinscot River.
7. To maintain the significant natural resource values of Gulf Island Pond and its adjacent shorelines.
8. To participate in joint efforts to improve the water quality and realize the full values of the Androscoggin River.
9. To maintain and improve the quality of surface waters in Turner.
10. To minimize phosphorus loading as the result of development or other activities within watersheds of great ponds.
11. To assign a high Lake Protection Level for great ponds in the Town of Turner.
12. That all activities adjacent to surface waters will be directed so the cumulative effects of those activities do not bring water quality below state standards as in Title 38, MRSA Sec. 464.
13. To regulate development adjacent to surface waters in such a manner as to protect water

quality, maintain wildlife travel corridors, aesthetics, and other natural resources.

14. To minimize the threat of the spreading of invasive aquatic species into the ponds in Turner.
15. To protect the quality and quantity of ground water resources for current and future use.
16. That all activities over significant aquifers be directed so that the cumulative effect of those activities do not bring water quality below state drinking water standards.
17. To limit construction and development in floodplain areas that increase the risk of property loss and/or increase the level of flooding.
18. To maintain wildlife resources through habitat conservation and/or enhancement.
19. To maintain deer wintering areas.
20. To maintain wildlife travel corridors, along streams, rivers, ponds and wetlands.
21. To maintain surface water quality suitable for fishery habitat.

### **Implementation Strategies**

A. Short Term Activities- To accomplish the goal and policies, the Turner Community should undertake the following within one to two years from plan adoption

1. Provide ongoing training to the Road Commissioner and Road Foreman in soil erosion and storm water control practices. After appropriate training is acquired, this individual should oversee all road construction/reconstruction.

Responsibility: Selectmen/Road Commissioner

2. Update great pond watershed surveys to determine the adequacy of storm water drainage and necessary corrective measures to be taken.

Responsibility: Conservation Commission/Turner Watershed Alliance

3. Require in development reviews the identification of potential soil contaminants and place conditions upon such developments to safeguard against soil contamination.

Responsibility: Planning Board

4. Implement an education program for woodland owners to include programs available through Small Woodlot Owners Association, the Forest Products Industry, Maine Forest Service and others relating to woodlot management.

Responsibility: Selectmen/Conservation Commission

5. Amend local ordinance provisions to encourage the clustering of new subdivisions proposed for woodland areas through density bonuses or other techniques. Clustering

should be done in such a way as to maximize the potential for productive woodlands and open space.

Responsibility: Planning Board

6. Encourage and support efforts by land trusts to encourage woodland owners to place conservation easements on woodland or to acquire easements and fee interests.

Responsibility: Conservation Commission

7. Place wetlands rated as moderate or high value by the Maine Department of Inland Fisheries and Wildlife and the area within 250' of their upland edge in the Resource Protection Districts. Other wetlands should be placed in the Limited Residential/Recreation District.

Responsibility: Planning Board

8. Insure that permits required by the Natural Resource Protection Act (Title 38, M.R.S.A. Sec. 480-A-S) and Section 404 of the Federal Water Pollution Control Act (FWPC) 33 USC Sec. 1344), are obtained prior to final approval of an application.

Responsibility: Planning Board/Code Enforcement Officer

9. Sponsor a meeting(s) of the landowners adjacent to the Town's Great Ponds without or with an inactive lake association with a goal of establishing lake associations or reactivating an existing lake association.

Responsibility: Conservation Commission/Turner Watershed Alliance

10. Evaluate potential access sites to great ponds and rivers without public access and the costs associated with acquisition and development.

Responsibility: Conservation Commission

11. Continue to undertake a lakeshore and watershed analysis for each Pond to determine current and future impacts detrimental to water quality and recommend corrective measures.

Responsibility: Lake Associations/Conservation Commission/Turner Watershed Alliance

12. In connection with the Maine Department of Environmental Protection Volunteer Lake Monitoring Program continue water quality testing for each Great Pond in Turner.

Responsibility: Lake Associations/Conservation Commission/Turner Watershed Alliance

13. Provide waterfront residents information relating to the need for septic system periodic



maintenance, how to determine if their septic system is operating properly, methods to limit phosphorus export, the value of vegetative buffers and water quality generally.

Responsibility: Lake Associations/Conservation Commission/Turner Watershed Alliance

14. Amend the Street Construction Ordinance to allow the Planning Board to require a Phosphorous Impact Analysis and Control Plan and a long-term maintenance plan for all phosphorous control measures.

Responsibility: Planning Board

16. Amend the Zoning Ordinance to include standards that control phosphorous export from individual residential lot development within great pond watersheds

Responsibility: Planning Board/Code Enforcement Officer

16. Amend the Zoning and Subdivision Ordinances to included standards that regulate funnel development.

Responsibility: Planning Board

17. Meet annually with municipalities that share common watersheds to discuss water quality protection measures and their effectiveness.

Responsibility: Conservation Commission/Turner Watershed Alliance

18. Develop an educational program for priority ponds on the spread and effects of invasive aquatic species.

Responsibility: Conservation Commission/Turner Watershed Alliance

19. The Planning Board members should acquire and utilize a listing of potential threats to ground water published by the Maine Geological Survey or the United States Geological Survey for use when development proposals are reviewed.

Responsibility: Planning Board

20. Assess the uses permitted in the zoning ordinance over sand and gravel aquifers to determine if provisions are sufficient to protect the quality and quantity of ground water. The Planning Board should recommend necessary amendments.

Responsibility: Planning Board

21. Work with the Department of Environmental Protection and the Department of Human Services to implement measures to correct practices which contribute to ground water degradation.

Responsibility: Selectmen/Code Enforcement Officer

22. Develop a public education program to inform residents of the importance of ground water and the potential threats to it.

Responsibility: Conservation Commission/Turner Watershed Alliance

23. Enforce all existing ordinance provisions relating to sand and gravel pits particularly the prohibition of storage or dumping of any substance that could produce harmful leachate, unless they are placed under cover and on an impermeable spill proof base and excavation into the seasonal high water table.

Responsibility: Planning Board/Code Enforcement Officer

24. Impose all existing performance standards relating to development located on sand and gravel aquifers particularly those requirements of a hydrogeologic study, a nitrate/nitrogen study, monitoring wells, and spill containment facilities.

Responsibility: Planning Board/Code Enforcement Officer

25. Regulate any commercial and industrial uses in areas defined as significant sand and gravel aquifers, which carry a significant threat to ground water. These may include but not necessarily be limited to the following:

dry cleaners	photo processors	printers
auto washes	laundromats	meat packers/slaughter houses
salt piles/sand-salt piles		wood preservers
leather and leather products		electrical equipment manufacturers
plastic/fiberglass fabricating		chemical reclamation facilities
industrial waste disposal/impoundment areas		landfills/dumps/transfer stations
junk and salvage yards		graveyards
chemical manufacturing		pesticide/herbicide stores
metal platers		concrete/asphalt/tar/coal companies
bulk fuel storage		

Responsibility: Planning Board

26. Require that activities over significant sand and gravel aquifers will not bring water quality below State Drinking Water Standards.

Responsibility: Planning Board

27. Review the rules promulgated under the Forest Harvesting Practices Act (Title 12, M.R.S.A. Section 8869) to assess their impacts upon maintaining significant wildlife habitat. If these rules are determined to be inadequate to protect significant wildlife habitat, particularly deer wintering areas, enact local regulations.

Responsibility: Planning Board

28. Establish buffers which maintain suitable riparian habitat adjacent to priority brooks and streams that are not included in shoreland zoning provisions.

Responsibility: Planning Board

29. Enact ordinance standards to ensure that deer wintering areas identified as “high value” and “moderate value” are afforded the minimum protection recommended by the Department of Inland Fisheries and Wildlife.

Responsibility: Planning Board

30. Wetlands rated as moderate and high valued waterfowl habitat by the Maine Department of Inland Fisheries and Wildlife shall be zoned as resource protection including buffers along the upland edge.

Responsibility: Planning Board

31. Request and use information concerning critical wildlife habitats as defined by the Maine Department of Inland Fisheries and Wildlife as an element of development review.

Responsibility: Planning Board

32. The Town should request the Maine Department of Inland Fisheries and Wildlife to complete/update the mapping of “Significant Wildlife Habitat” as defined in the Natural Resource Protection Act.

Responsibility: Planning Board

33. Strictly administer and enforce the Town’s Floodplain Management Ordinance.

Responsibility: Code Enforcement Officer

**PLANNING AREA:        Rare, Endangered and Significant Natural Features**

**Turner's Goal**

To maintain the values of rare, endangered and significant natural features.

**Overview**

Turner contains a number of rare, endangered and significant natural features or areas. The loss or degradation of these will have lasting impacts.

**Rare, Endangered and Significant Natural Features Policy**

**Pursuant to the goal, the rare, endangered and significant natural features policies of the comprehensive plan are:**

1. To protect identified rare and endangered plant and animal species from degradation.
2. To recognize the Androscoggin River and its undeveloped adjacent lands as a significant natural resource.
- 3 To protect significant natural features including Devils Den and the scenic qualities of Lower and Upper Street.

**Implementation Strategies**

A. Short-Term Activities-To accomplish the goal and policies, the Turner Community should undertake the following within one to two years of plan adoption.

1. Develop a list and a map of rare and endangered species found in Turner for use by the Planning Board in their development reviews.

Responsibility:                      Conservation Commission

2. Assure that the Subdivision Zoning Ordinances standards that require information concerning the impact proposed development would have on rare and endangered species and measures to protect them are carried out.

Responsibility:                      Planning Board

B. Mid-Term Activities-To accomplish the goal and policies, the Turner Community should undertake the following within three to five years of plan adoption.

1. Inform land owners of the benefits of conservation easements and encourage landowners to place appropriate land under such easements.

Responsibility:                      Conservation Commission

2. The town, state and/or private groups seek conservation easements or purchase of

undeveloped land adjacent to the Androscoggin River, large blocks of land and other significant natural areas.

Responsibility: Selectmen/Conservation Commission/Land Trusts

## **PLANNING AREA: Scenic Resources**

### **Turner's Goal**

To maintain the scenic qualities of Turner.

### **Overview**

Scenic areas and views are a major resource. Residents strongly agree that the scenic values are very important to the character of Turner and should be maintained.

### **Scenic Policy**

**Pursuant to the goal, the scenic policies of the comprehensive plan are:**

1. To recognize identified scenic views as a significant natural resource.
2. To minimize the loss of the values of significant scenic areas and sites by encroaching development.
3. To provide the public with the opportunity to enjoy the Town's significant scenic resources.

### **Implementation Strategies**

A. Short-Term Activities-To accomplish the goals and policies, the Turner Community should undertake the following within one to two years of plan adoption.

1. Amend the Town's Site Review and Subdivision Ordinances to require proposed development which is found to impact identified scenic sites and views to minimize negative impacts through the use of mitigation measures such as locating structures off ridge lines and height limitations.

Responsibility: Planning Board

2. Amend the Subdivision and Site Review Ordinances to allow the Planning Board to utilize scenic easements as a method to protect Identified Scenic sites and views.

Responsibility: Planning Board

3. Amend the Subdivision and Site Review Ordinances to allow the Planning Board as a factor in considering a development approval to provide for reasonable public access to Identified Scenic sites and views.

Responsibility: Planning Board

4. When road construction or reconstruction is undertaken by developers, Town, and/or State, design plans include turn outs or suitable shoulders to allow vehicles to leave the travel way in Identified Scenic View locations.

Responsibility: Planning Board/Selectmen/Road Commission/ Foreman

## **PLANNING TOPIC: Land Use/Development Patterns**

### **Turner's Goal**

To manage development so that its valued character including farmland, scenic views, natural resources and open space is maintained and unreasonable demands are not placed upon the community as the result of that development.

### **Overview**

Past, current and future development patterns shape a community. They present overall community character and dictate to a large extent the cost and delivery of various municipal services.

Turner, with approximately 62 sq. miles, is geographically the largest community in Androscoggin County. Agricultural land use has been traditionally the most prevalent use of land in Turner other than forestland. In excess of 4,500 acres of land is actively under agricultural management. Activities include orchards, crop and pasture lands. Turner has realized a net loss in agricultural land over the last 10 years. Residential development has accounted for that loss.

Residential development has accounted for the most significant shift in land use over the past 20 years. An estimated 2,000 year-round housing units were located in Turner in 2000. Some 480 new dwellings were constructed between 1990 and 2001. A significant portion of these new dwellings have been located on individual lots ranging from two to five acres. This residential growth has consumed land which was forested, and, to a lesser extent, agricultural lands.

The importance of Turner's three traditional villages as commercial centers has long since diminished. The land along Route 4, with a daily traffic volume in excess of 10,000 vehicles, has attracted Turner's numerous new commercial ventures.

Respondents to the Comprehensive Plan Survey expressed a strong feeling that new development be located in appropriate locations within the community. Respondents felt that there are locational considerations when new land uses are proposed. Only two uses, single-family homes (73%) and farms (71%), were identified by more than 50% of the respondents as uses that should be allowed anywhere in the community. Seasonal homes (48%), housing for the elderly (43%) and duplexes (31%) were the only other uses which more than 30% of the respondents indicated that should be allowed anywhere within the community.

Auto graveyards (97%), heavy manufacturing (96%), mobile home parks (96%), shopping malls (95%) and industrial parks (93%) were the uses that respondents most often felt should be confined to specific areas of the community.

Turner has significant land areas that are not structurally developed. The Town's land use characteristics and, to a large extent, overall community characteristics are at a major point of transition.

The longstanding land use characteristics of an agricultural community are moving towards those of

residential significance and retail related business. This change can bring with it a philosophical conflict between traditional town character and new development. Local land use and development decisions Turner will make over the next several years will significantly shape the Town's future character.

## **Land Use/Development Policy**

### **Commercial Development**

Commercial development can be important to community growth. Over the past several years, Turner has experienced a rather significant level of new commercial development. The majority of this new development has occurred outside the three traditional three village centers. The highly traveled Route 4 has been the commercial growth area.

Appropriate locations of new commercial development are critical to Turner's future. Inappropriate locations for new commercial development can detract from community character, create unnecessary traffic congestion and/or hazards and cause environmental degradation.

#### **Pursuant to the Goal, the commercial development policies of the comprehensive plan are:**

1. To encourage appropriate commercial development within village areas.
2. To discourage the creation of random uncontrolled commercial development along the Route 4 corridor.
3. Allow new commercial development compatible with agriculture to locate in significant agricultural areas to provide for diversification and income supplementation.
4. That the architectural design of new commercial development and characteristics of advertising features including signs are compatible with the community and surrounding area.
5. Allow for home based occupations within the community.
6. To consider the suitability of the highway/road system in approving the development of new commercial development.
7. Provide suitable locations for commercial development.

### **Implementation Strategy**

- A. Short Term Activities- To accomplish the goals and policies, the Turner community should undertake the following within one to two years from plan adoption.
  1. Require, when deemed necessary, applicants to conduct a traffic analysis as part of their development application.



Responsibility: Planning Board

2. Amend architectural design review standards for commercial/industrial and institutional structures.

Responsibility: Planning Board

3. Provisions allowing commercial activities within the village areas adjacent to Route 4 and other areas identified in the future land use plan be included in the Zoning Ordinance.

Responsibility: Planning Board

4. Include in the Zoning Ordinance commercial development districts along the Route 4 corridor.

Responsibility: Planning Board

5. Amend the Subdivision and Zoning Ordinances to contain provisions that require proposed commercial subdivisions to utilize shared/common access points or frontage roads.

Responsibility: Planning Board

6. Include in the Zoning Ordinance a floating Commercial Zone which could be affixed to the zoning map under the following conditions:

- only affixed in the Rural I or II Districts;
- the District be a minimum of 50 acres and be suitable for commercial development;
- the District shall be affixed no more than two times without Comprehensive Plan update;
- the road systems and other public services have the capacity to service the district;
- will not adversely affect production agriculture or residential areas;

Responsibility: Planning Board

7. Amend the Zoning Ordinance to include farm enterprise uses that provide for diversified uses on farms that are compatible with farms and rural locations.

Responsibility: Planning Board

- B. Mid Term Activities- To accomplish the goals and policies, the Turner community should undertake the following within three to five years from plan adoption.

1. Study the feasibility and location options for a business park.

Responsibility:

Economic Development Committee

### **Manufacturing/Industrial Development**

Today, Turner does not contain what is considered traditional manufacturing or industrial land uses. However, there are several saw mills and metal fabrication businesses located in Turner. In addition several of the agricultural processing facilities in Turner are considered under manufacturing/industrial type land use. These include the DeCoster Egg Farm and the local apple storage/packaging.

In the years ahead, manufacturing/industry may be attracted to Turner. Such development may be the most intensive use of land. Conflicts including traffic, noise and odor may develop between industry and less intensive land uses.

**Pursuant to the Goal, the manufacturing/industrial development policies of the comprehensive plan are:**

- 1 To provide for manufacturing land uses in those areas where they will not conflict with adjacent less intense land uses or cause environmental degradation.
2. That new industry should be complementary and not detrimental to Turner's character and environment.

### **Implementation Strategy**

A. Short Term Activities- To accomplish the goals and policies, the Turner community should undertake the following within one to two years from plan adoption.

1. Develop zoning provisions which prohibit manufacturing/industrial development in areas of concentrated residential development.

Responsibility:

Planning Board

2. Amend the Zoning Ordinance to create an agricultural/manufacturing and industrial district in the area of the Plains Road.

Responsibility:

Planning Board

3. Require the analysis of the financial impacts upon municipal services of proposed manufacturing/industrial development.

Responsibility:

Planning Board

4. Study the feasibility and location options for a business park.

Responsibility:

Economic Development Committee

### **Residential Development**

Residential development and its patterns have significant impact upon a community. Residential development brings increased population, the need for improved or additional municipal services and generally greater municipal expenditures to provide needed new services. The pattern or location and character of residential development is a major component of how a community is perceived. Such development may damage temporarily or permanently the environment or other sensitive areas.

Over the past ten years, Turner has experienced significant residential development growth. Over the period between 1990 and 2001, a 31% growth rate in year round housing units has occurred. The majority of this development has been low density development. While to date, much of this residential development has occurred on newly constructed roads in wooded areas, recent trends have seen residential development in the Rural Area. The demand for new residential development is expected to remain high over the planning period. New tools are needed in Turner to direct future residential development to appropriate locations while not overly devaluing property where residential growth is not wanted.

In addition to the high rate of new residential development over the past several years, what has been much more significant is the increase in the cost of housing. These increases include land cost which has largely been brought about by outside market conditions over which Turner has little control upon. Current day housing costs are beyond the financial capacity of many residents and potential residents.

### **Pursuant to the Goal, the residential development policies of the comprehensive plan are:**

1. That over the next 10 years 60% of new residential development will take place in Growth Areas.
2. To direct new residential development to those areas where municipal services can be the most efficiently provided.
3. To assure that new residential development is located on or served by roads that have the capacity to handle new traffic generated by such development.
- 4 To direct new residential development in such a manner that it will not conflict with production agriculture and other rural uses.
5. That when new residential development is to be located along existing public roads shared access points be maximized.
6. To provide for innovative residential development techniques that will include a Density Transfer Program that would conserve land, significant natural areas and reduce construction costs.

7. To provide for a variety of housing and tenure types to meet changing needs of housing consumers.
8. To assure that new residential development minimizes impacts upon the natural environment.
9. To require the consideration of clustering of new residential development in prime agricultural and other rural areas.
10. To consider varying lot sizes as part of an overall program to conserve land resources.
11. To allow for mobile home park development in environmentally suitable areas.
12. To provide for mobile home park development in those areas where municipal services and roads are adequate to provide such services to that type of development.
13. To maintain the economic and social values of residential areas.
14. To maintain, upgrade and expand where appropriate the three traditional villages.
15. That residential development does not diminish the scenic characteristics of ridge lines, hill sides and vistas.
16. To manage the rate of residential growth so that it does not over burden municipal service delivery

### **Implementation Strategy**

- A. Short Term Activities- To accomplish the goals and policies, the Turner community should undertake the following within one to two years from plan adoption.
  1. Require, when deemed necessary, subdivision applicant's to conduct a traffic analysis as part of their development application.  
 Responsibility: Planning Board
  2. Seek assistance to assess the feasibility and development of an impact fee ordinance for road improvements necessitated by residential development.  
 Responsibility: Planning Board
  3. The Zoning Ordinance should include provisions which restrict commercial development in primarily residential areas.  
 Responsibility: Planning Board

4. Amend local ordinance provisions to encourage the clustering of new subdivisions proposed for agricultural areas through density bonuses or other techniques. Clustering should be done in such a way as to maximize the potential for production agriculture and open space.

Responsibility: Planning Board

5. Amend the Subdivision Ordinance to require residential subdivisions that will have lot access from high volume roads (peak hour volume of 200 vehicles or greater) and Lower Street, Upper Street, County Road, Route 117, Route 219 and Center Bridge Road to be limited to a total of two access points.

Responsibility: Planning Board

6. Amend local ordinance provisions to encourage the clustering of new subdivisions proposed for agricultural areas through density bonuses or other techniques. Clustering should be done in such a way as to maximize the potential for production agriculture and open space.

Responsibility: Planning Board

7. Maintain the provisions in the Zoning and Subdivision Ordinances that provide for open space subdivisions that maximize usable land for agriculture and open space, conserve scenic vistas and natural landscape features. The building envelopes may be reduced to 20,000 square feet except in the Village District, where it may be reduced to 10,000 square feet.

Responsibility: Planning Board

8. Amend the Zoning and Subdivision Ordinances to provide a density bonus of up to 20 percent for the clustering of residential subdivisions of appropriate design in fields and other rural locations.

Responsibility: Planning Board

9. Amend The Subdivision Ordinance to require that building envelopes be shown on subdivision plans proposed for Rural Areas. The building envelope should not include more than 40 percent of the lot and avoid tops of ridge lines, designated scenic locations and open fields, but rather be located on the edges of fields or in wooded areas where possible and feasible. The building envelope should contain a minimum of 20,000 square feet of land area which does not include floodplains, slopes greater than 20 percent or Class I, II or III wetlands.

Responsibility: Planning Board

10. Encourage the use of common driveways in the Rural Area where lots will be accessed by off-site public streets.

Responsibility: Planning Board

11. In January of each year, assess the rate and location of residential development for the average of the previous 5 years to determine if 60% of growth is occurring in Growth Areas. Based on the rate and location of residential development, develop options to meet the 60% goal. These will include but will not be limited to changes in Growth and Rural Areas, a deferential residential growth cap ordinance and/or ordinance which limits the amount residential development.

Responsibility: Planning Board

12. Amend the Zoning and Subdivision Ordinances to require a buffer between new residential development and agricultural uses.

Responsibility: Planning Board

13. Develop a Density Transfer Program (DTP) that will provide for the transfer of development density rights from the Rural I and II Areas to the General Residential I and II, Village Areas or out of town. The Density Transfer Program components will include the following:

- A. Densities in the General Residential Areas I and II could be increased by 50% provided that density transfers were purchased from willing owners of land in Rural I and II Areas.
- B. The uses of land from which density transfers are purchased will be limited to agricultural, forestry or open space through deed restrictions and/or covenants except when conservation type easements allow for other uses.
- C. The minimum land required to be purchased in the Rural I and II Areas as part of a density transfers will be 20 acres.
- D. The areas of wetlands as defined by shoreland zoning standards will not be counted in the density transfer program.
- E. A Density Transfer Program Committee will be appointed by the selectmen that will develop the program and assist landowners and developers meet the objectives of the Density Transfer Program.

Responsibility: Density Transfer Program Committee

## **Forest Land**

Forest or woodlands cover the majority of land in Turner. It is estimated that some 30,000 acres are covered by trees at various stages of maturity. Forest lands are important as a natural resource in that they provide raw materials for local and regional industry. They are also critical to water quality protection, wildlife and the quality of the air. Forest lands also provide numerous recreation opportunities.

**Pursuant to the Goal, the forest land policies of the comprehensive plan are:**

1. To promote an appropriate level of management of forest lands.
2. To require development that takes place in forested areas to conserve forest lands and resource values.

**Implementation Strategy**

A. Short Term Activities- To accomplish the goals and policies, the Turner community should undertake the following within one to two years from plan adoption.

1. Implement a education program for woodland owners of programs available through Small Woodlot Owners Association, the Forest Products Industry, Maine Forest Service and others relating to woodlot management.

Responsibility: Conservation Commission/Soil & Water  
Conservation District

2. Amend local ordinance provisions to encourage the clustering of new subdivisions proposed for forested areas through density bonuses or other techniques. Clustering should be done in such a way as to maximize the potential for forestry and open space.

Responsibility: Planning Board

3. Support efforts by Land Trusts to acquire easements and fee interest in woodland areas.

Responsibility: Conservation Commission

## **FUTURE LAND USE PLAN**

### **Purpose**

The primary purpose of the Future Land Use Plan and Map contained in the comprehensive plan is to plot the future development characteristics of Turner. It is based upon the various policies and strategies relating to production agriculture, natural resources, land use/development patterns, future economic development desires and the availability of municipal services.

The narrative of the Future Land Use Plan attempts to generally identify the future development characteristics of the Town. The development types have been based upon a desire to direct future development to environmentally sound and suitable municipal serviced areas.

The Future Land Use Map visually depicts the development types or areas. It is the purpose of the Future Land Use Map to indicate the general locations of desired future development characteristics. The map was developed utilizing various information obtained during the development of the comprehensive plan, including environmentally sensitive areas, soil characteristics and current development patterns. It was developed without consideration of individual property lines or ownership and thus should be viewed (as indicated earlier), as a visualization of how and where the comprehensive plan recommends the Town grows in the years ahead.

### **Implementation**

The Future Land Use Plan and Future Land Use Map will be implemented through amendments to the zoning ordinance. The Future Land Use Plan will provide basic direction for amending the zoning ordinance in relation to the purposes of the various development districts and dimensional requirements. The public will be given ample opportunity, through public meetings and hearings for input during the amendment process.

### **Future Land Use Plan**

A major purpose of the comprehensive plan is to establish a guide for ongoing development of the community. The plan establishes the foundation for land use decisions, defines growth and rural areas within the community, and aids in the definition of future capital improvement needs. It is, therefore, important that the plan sets forth a realistic development guide so that the community can prosper and at the same time maintain valued characteristics.

The Future Land Use Plan identifies desired future development patterns and characteristics. The Future Land Use Map synthesizes the statement of policies presented in the comprehensive plan. It must be realized that as demands dictate, the Future Land Use Plan and Map will require revisions. Principles which guided the development of the Future Land Use Plan included the following:

The type and density of development should be compatible with the natural and environmental constraints of the land to absorb future development. Maintenance and protection of surface and ground water, the soils capacity for subsurface sewage disposal, the slope of land and the presence of unique natural areas were key factors in the development of the Future Land Use Plan.



The desire to encourage production agriculture.

The desire to encourage the use of prime agricultural land for agriculture.

The desire to manage development so that Turner's valued characteristics including farmland, scenic views, natural resources and open spaces are maintained.

The desire to provide for suitable locations for appropriate commercial, industrial and manufacturing development.

The desire to maintain, upgrade and expand where appropriate traditional village areas.

The desire to maintain the values of residential areas.

The desire to maintain important wildlife areas and travel corridors.

The desire to maintain the high quality of Turner's own natural resources and those it shares.

The desire to maintain the significant natural resources of Gulf Island Pond and the Nezinscot River and their shorelands.

The desire that the type and location of development be compatible with municipal services including the transportation system.

The desire to discourage random, uncontrolled commercial development along the Route 4 corridor.

The desire to maintain Turner's historic heritage and significant scenic values.

The comprehensive plan has made various projections and predictions relating to growth and development to the year 2013. Population has been targeted to reach approximately 6,000 by 2013. In addition it has been predicted that some 400 new residential dwellings will be needed to house the 2013 population.

With increased population, it is expected that new and expanded commercial and service related businesses will be attracted to Turner. In addition, the Town's economic development strategy will affect future demand for land suited to commercial development.

The Future Land Use Plan and Map have identified general areas of appropriate location and size to accommodate predicted and desired growth and development. The Future Land Use Plan has not attempted to identify precise land areas needed to accommodate predicted growth and development. In addition, the comprehensive plan has not assessed the individual landowner's desires to sell his or her land for development to develop it themselves or to leave it undeveloped.

With these unknowns considered, the Future Land Use Plan has identified areas of realistic size to accommodate predicted growth and development and has identified each area as a growth area, rural area or critical rural area for purposes of the State Growth Management Act..

## **Special Protection Areas (These areas are located in Growth & Rural Areas)**

Certain areas within Turner warrant special consideration due to their likelihood of degradation as the result of various land use activities. Land use activities within these areas require stricter regulation than in other areas or, in some circumstances, prohibition. These areas include:

Significant groundwater supply areas/sand and gravel aquifers: These areas, because of the potential for degradation and/or contamination, require new development or redevelopment to take safeguards to minimize potential degradation. Performance standards will protect these water resources.

Watersheds: The land area which drains to a pond or watershed, directly affects the quality of that pond's water. Development within watersheds will be regulated to minimize water quality degradation as a result of erosion, sedimentation and phosphorus.

Critical wildlife habitats including travel corridors: These areas will be maintained through development standards that minimizes detrimental alteration to critical areas.

Wetlands: Forested and non-forested wetlands of 10 acres and larger and not rated, or rated as low wildlife value, will be protected by shoreland zoning standards. Other wetlands, through standards contained in the zoning and subdivision ordinances, should be conserved to maintain their resource values and functions.

## **Resource Protection Areas (Rural Areas)**

Turner has many areas of natural resources associated with its streams, rivers and wetland areas that warrant special consideration due to their likelihood of degradation as the result of various land use activities. Land use activities within these areas will also require stricter regulation than in other areas or, in some circumstances, prohibition. These areas include:

Floodplains: The land within the 100-year floodplain will be placed in a resource protection district which prohibits new structural development except in areas that are already developed.

Wetlands: Non-forested wetlands of 10 acres and larger, as mapped by the U.S. Fish and Wildlife Service, and the areas within 250 feet of their upland edge that are identified as having important wildlife values by the Maine Department of Inland Fisheries and Wildlife, will be designated as resource protection areas.

Androscoggin and Nezinscot Rivers and Gulf Island Pond shorelines and land purchased by the Land for Maine's Future Fund: These areas require regulation so that future development does not diminish the area's natural values.

Steep Slopes: Areas of two or more contiguous acres with sustained slopes of 20% or greater: Through development standards, structural development will be prohibited.

## **Village Area (Growth Area)**

These areas include the three traditional village areas, Turner Village, Turner Center and North Turner and areas for expansion. It is a major focus of the comprehensive plan to maintain and improve the vitality of these villages. A mixture of land use and development activity currently exists including commercial, business, services, residential and public and semi-public. This mixture of uses should continue into the future. Development regulations should be flexible to provide for a continuation of traditional village character. Density requirements should be flexible and depending, on soil conditions range from 20,000 to 40,000 per unit or structure with frontages and setbacks reflective of current development.

## **General Residential Area I (Growth Area)**

General Residential Area I is located where the greatest densities of residential development currently exist or are appropriate for this type of development at such densities. Residential development should be high density (one dwelling per 40,000 sq. ft. with the exception of mobile home parks). The area should be primarily residential however, other land uses appropriate and compatible with residential uses should be permitted. These include public and semi-public uses and commercial uses associated with residential areas and mobile home parks.

## **General Residential Area II (Growth Area)**

General Residential Area II is located where residential development currently exist or are appropriate for this type of development at such densities. Residential development should be medium density (one dwelling per 80,000 sq. ft.) The area should be primarily residential, except mobile home parks. Other land uses appropriate and compatible with residential uses should be permitted. These include public and semi-public uses and commercial uses associated with residential areas.

## **Rural Area I (Rural Area)**

The Rural I area comprises a significant land area in Turner. The purpose of this area is to maintain a rural character of the town including agricultural and forest lands. Portions of these areas are served by road systems not designed for high traffic volumes. Residential development should be medium density (less than one dwelling per 80,000 square feet) and not conflict with rural uses including agriculture and commercial forestry.

Building envelopes should contain a minimum of 20,000 square feet of land area which does not include floodplains, slopes greater than 20 percent or wetlands as defined in the Natural Resource Protection Act. Development regulations should encourage residential development to occur on existing or newly constructed interior roads. Also, where driveways will enter off-site public streets, common driveways should be required. Clustering of residential development should be encouraged through flexible lot standards and road frontage reductions and other techniques, with the undeveloped land remaining available for agriculture or other open space uses. Land uses requiring rural locations and land use compatible with rural areas that include natural resource-based business, recreation, public and semi public, are appropriate for this area.

## **Rural Area II (Rural Area)**

The Rural II areas are locations in Turner that are not well suited for development. They are not well suited for development because of natural resource values that include wildlife habitat and wetlands, physical characteristics that include steep slopes and soils not well suited to development, adjacency to large undeveloped tracts of land, lack of accessibility by public roads, areas where new public roads could result in significant public expenditures and critical lake watersheds. These factors make the Rural II areas only suitable for new development at low densities. Lots created outside of subdivision approvals would include a minimum of 5 acres when suitable private road access is available. Lot densities for residential subdivisions, in these areas, shall be a minimum of one dwelling per 5 acres and no new public roads shall be created. Clustering of residential development shall be required with flexible lot standards, including density bonuses. Land uses compatible with remote rural areas that include natural resource-based business, saw mills, recreational business, campgrounds, sporting camps or remote residential homes are appropriate for this area.

## **Shoreland Area (Rural Area)**

Shoreland areas are located along the shores of surface waters and upland edges of fresh wetlands of 10 acres or more that do not fall under Resource Protection areas or Special Protection areas. These areas extend 250 feet back from the normal high water mark. Residential uses are the primary land use; however, other land use activities generally associated with shoreland settings may also be allowed.

Development in these areas must take under consideration its shoreland setting, and the need to maintain shoreland and water quality factors. Lot size should not be less than 80,000 square feet and 250 feet of shore frontage.

## **Commercial Area I (Growth Area)**

This area is an important element of the land use plan with its purpose to provide primary commercial development space. Much of the area is adjacent to Route 4 and thus development must be undertaken in a manner that will not conflict with its traffic carrying function. In addition, Route 4 serves as the gateway to Turner and future development should enhance not detract from Turner's valued characteristics. It is intended that development be regulated to avoid the creation of a commercial strip through requiring "planned" commercial development and limiting curb cuts to Route 4. Appropriate uses include commercial, services, and light manufacturing with accessory residential uses.

The Commercial I areas exhibit suitable site considerations. Development in these areas should have a minimum lot area of 40,000 sq.ft. with maximum lot coverage ratios not to exceed 75%.

## **Commercial Area II (Growth Area)**

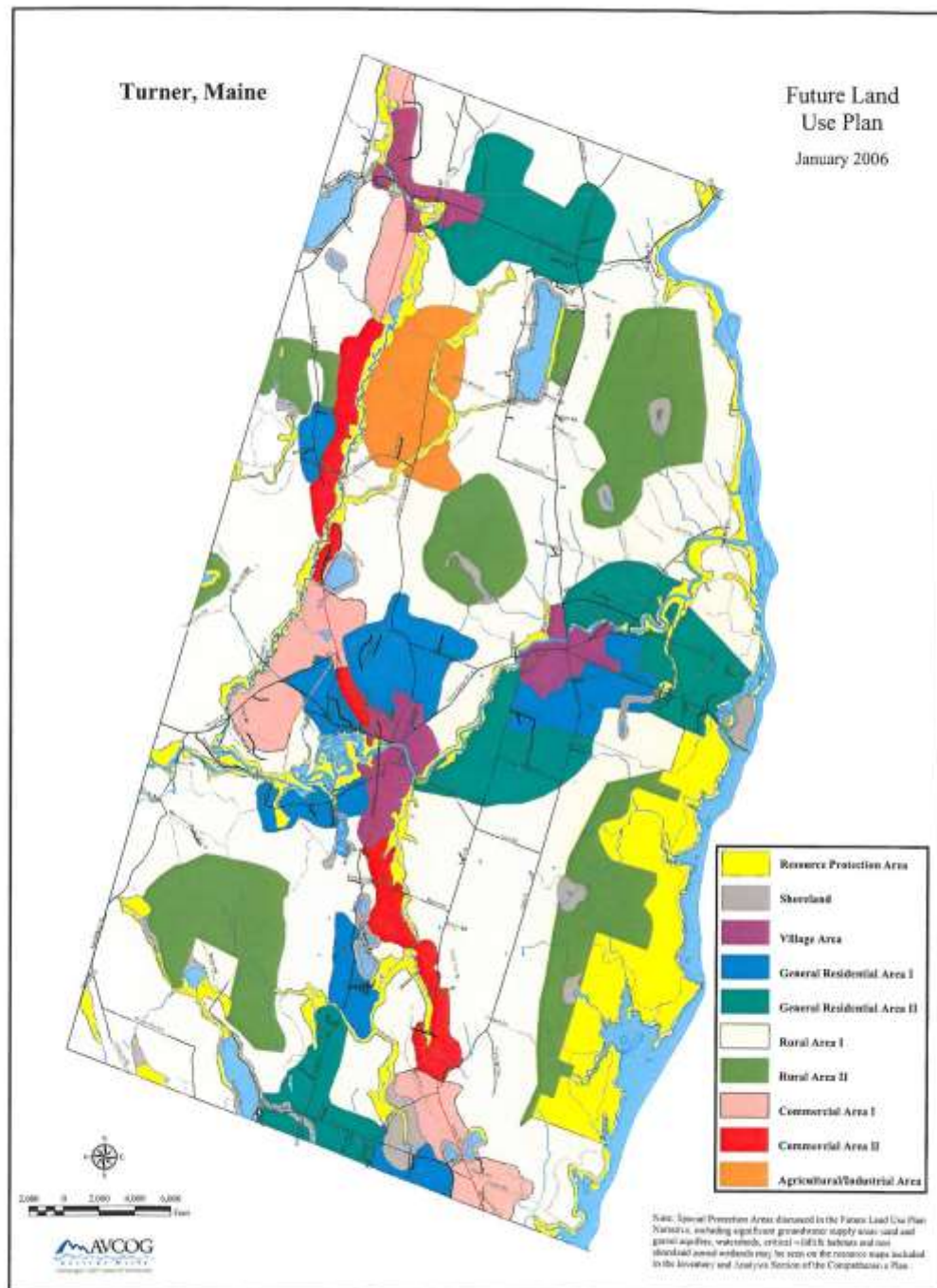
Much of this area is adjacent to Route 4 and is also adjacent to Resource Protection Areas along Route 4. With Route 4 access, it is suitable for commercial development, but that development should not conflict with the natural resource protection areas or the traffic carrying function of Route 4. Development should be regulated to avoid the creation of a commercial strip through requiring "planned" commercial development and limiting curb cuts to Route 4. Appropriate uses include commercial, services, and light manufacturing with accessory residential uses.

The Commercial II areas exhibit natural constraints to development or prohibited traffic safety limitations.

Development in these locations require stricter regulation and should be allowed only as a conditional use. Lot size should be a minimum of 80,000 sq.ft. with maximum lot coverage ratios not to exceed 60%.

### **Agricultural/Industrial Area**

This area is located in the vicinity of the Plains Road and includes the DeCoster Egg Farm operations. Found here are egg production, processing, shipping facilities and fleet maintenance. This area is suitable for industrial, manufacturing, warehousing and other businesses that can coexist with egg production and processing. New residential development except employee housing will not be permitted in this area. These uses are allowable provided that safeguards are maintained to minimize degradation to the sand and gravel aquifer which underlies this area. Lot sizes should be based on area to be covered by structures, outside storage and parking. Maximum lot coverage ratios should not to exceed 75% if it can be shown that groundwater resources will be protected.



Insert Future Land Use Map (8 ½ x 11)

## **PLANNING AREA: Regional Coordination**

### **Turner's Goal**

To develop and participate in regional programs to achieve common desires.

### **Overview**

Turner shares several significant natural resources with adjacent and nonadjacent communities. It is recognized that to maintain their resource values, joint action and coordination is necessary. In addition to natural resources, other programs such as affordable housing delivery, economic development and solid waste disposal may have interlocal approaches.

Based upon the results of the Inventory and Analysis element of the comprehensive plan, knowledge of issues of adjacent communities and the various policies contained in this plan, the following interlocal issues are contained in the Regional Coordination Program.

- o Lake Auburn watershed and that portion of the watershed contained in Turner
- o Bear Pond and the Bear Pond Watershed
- o The Androscoggin River Corridor shared with Livermore, Livermore Falls, Leeds, Greene, Auburn and Lewiston
- o The Nezinscot River Corridor shared with Buckfield
- o Economic development
- o Transportation
- o Compatibility of development; and
- o Affordable housing delivery

### **Regional Coordination Policy**

**Pursuant to the Goal, the regional coordination policies of the comprehensive plan are:**

1. To continue to participate in a Lake Auburn Watershed Commission.
2. To develop, in conjunction with appropriate communities, an acceptable lake protection level for phosphorous concentration for Bear Pond and Little Wilson Pond.
3. To regulate development within the Lake Auburn and Bear Pond Watersheds to comply with assigned lake protection levels.
4. To recognize the Androscoggin and Nezinscot Rivers and their shorelines as significant



regional resources.

5. To develop/participate in programs with adjacent communities to retain and/or attract appropriate economic development.
6. To participate in regional approaches to improve and expand transportation systems.
7. To coordinate with adjacent communities in zoning district designations.
8. To coordinate and/or work jointly with existing housing authorities on programs to provide affordable housing.

### **Implementation Strategy**

A. Short Term Activities- To accomplish the goal and policies, the Turner community should undertake the following within one to two years of plan adoption.

1. Continue to have a Turner representative on the Lake Auburn Watershed Commission
2. Seek professional assistance in determining appropriate lake protection levels and ordinance provisions to implement the selected lake protection levels.

Responsibility: Planning Board/Turner Watershed Alliance

3. Coordinate with the Androscoggin River and Nezinscot River Corridor communities to assess compatibility of proposed shoreland development strategies during ordinance amendments.

Responsibility: Planning Board

4. The Solid Waste Committee should assess regional options to solid waste disposal and recycling programs and recommend appropriate direction.

Responsibility: Solid Waste Committee

5. Meet with adjacent communities to determine the interest in joint community approaches to economic growth.

Responsibility: Economic Development Committee

6. If interest exists between communities request technical assistance to aid in the development of a joint economic development program.

Responsibility: Selectmen

7. Participate in the Regional Transportation Advisory Committee process for improvements to regional highway systems that improve mobility and safety.

Responsibility: Selectmen

8. Prior to any public hearing on a zoning district change that abuts or is in proximity to an adjacent Town's border, provide a copy of the proposed zoning amendments to the appropriate community and request their analysis of impacts if adopted.

Responsibility: Planning Board

## CAPITAL INVESTMENT PLAN

### Introduction

Road, school, highway and fire equipment, recreation areas and other public facilities are required to support projected growth in Turner over the next ten years. Town development depends on renewing, expanding and improving systems that support and/or stimulate development.

To promote appropriate development and accommodate Turner's projected growth to correct existing and emerging problems; to improve the quality of life for Turner's residents; to promote their health, safety and welfare; and fulfill the policies and strategies, calls for implementing various public improvements. Capital investments as used in the Capital Investment Plan refer to expenditures greater than \$25,000, do not recur annually, have a useful life of greater than three years and result in fixed assets. They may include new or expanded physical facilities, rehabilitation or replacement of existing facilities, major pieces of equipment which are expensive and have a relatively long period of usefulness, the cost of engineering or architectural studies and services, and the acquisition of land for community facilities.

Capital investments or improvements usually require the expenditure of public funds: town, state, federal or some combination thereof. Funding limitations will likely make it impossible to pay for or implement all needed major public improvements at any one time or even over a multi-year period. The formal Capital Improvement Program called for within the Comprehensive Plan will be the process whereby the needs identified here will be formalized and specific priorities and implementation periods targeted.

Listed below are the significant capital investments identified during the comprehensive planning program that are expected over the next ten years. Individual items represent necessary equipment replacement/upgrading, facility improvements and investments necessitated by projected growth. In addition the various identified improvements have been assigned a high, medium or low priority which relates to its urgency to implement.

**Identified Capital Investments Needs**  
**2003-2013**  
**Revised 1/2/03**

Item	Year	Priority	Estimated Cost	Probable Funding Source
Highway Improvements	Annually	High	\$300,000	P
Dump Truck & Plow Works	2003	High	\$ 90,000	RF
Salt Shed	2004	Medium	\$ 40,000	RF/P
Turner Village Dam Repair	2004	High	\$ 40,000	RF/P
Dump Truck & Plow Works	2005	High	\$ 90,000	RF/P
Purchase of Development Right Fund	2005	High	\$500,000	D/G
Back Hoe	2005	High	\$ 90,000	RF
Town Office Improvements/Replacement	2006	High	\$250,000	RF/P
Sidewalks-Turner Center	2006	High	\$75,000	G/P
Transfer Station Upgrade	2007	High	\$ 75,000	RF/G
Dump Truck & Plow Works	2007	Medium	\$ 90,000	RF
Nezinscot River Park/Access	2008	High	\$ 75,000	RF/G
Recreation Facilities	2009	Medium	\$ 75,000	P/TP
Dump Truck & Plow Works	2009	Low	\$ 90,000	RF
Fire Truck	2010	High	\$180,000	RF
Dump Truck and Plow Works	2011	Low	\$ 90,000	RF
Rescue Unit	2012	High	\$150,000	RF
Business Park	2012	Medium	\$500,000	B

Pay-as-you-go - P  
Time Phased - TP

Bonding - B  
Donations - D

Reserve Fund - RF

Grants - G

## **Capital Improvements Financing**

Capital improvements, as they are prioritized and scheduled for implementation through Turner's multi-year Capital Improvement Program, require a funding source or means of financing. A variety of techniques for financing capital improvements exist and are outlined here. State laws usually govern which techniques are authorized and how they are to be carried out.

### **Current Revenues (Pay-As-You-Go)**

The most fundamental and simplest means of paying for capital improvements is on a pay-as-you-go basis: funding capital improvements from current revenues. This has the advantage of avoiding bonding and its interest costs. Its disadvantage is that large scale capital improvements may require a similarly large amount of money to finance them that would create an inordinate tax burden for the implementation period and extreme fluctuations in the tax rate. Spreading these costs over a longer period reduces such sudden impacts and rate swings.

### **Bonding**

Borrowing against future taxes (general obligation bonds) or future service charges or fees (revenue bonds) to finance long-term public improvements is widely practiced and makes good sense from the standpoint of "paying-as-you-use". Bonding evens out the tax impact over time and allows the municipality to obtain vital improvements earlier in time than current revenue or reserve fund arrangements would permit. As a general rule, no improvement or equipment should be bonded beyond its service life and thus violate the pay-as-you-use rule. The chief disadvantage of bonding is the payment of interest on the borrowed money. The fact that purchasers of municipal bonds are usually exempt from payment of taxes on interest received causes the interest rate on such bonds to fall below market rates.

### **Reserve Fund**

A reserve fund is analogous to a family savings account for a future big ticket purchase (car, appliance, etc.). Reserve funds are often used to replace equipment with a known service life whose cost and date of replacement are fairly accurately known and can be planned for. The full replacement cost thus becomes available at the time when replacement is necessary without the necessity of bonding or suffering a sudden impact on the tax rate. Other advantages are that reserve funds may be invested to collect interest on their principal, thus reducing the tax revenue contribution required. Reserve funds, like bonding, even out the flow of revenues required for capital improvements.

### **Grants and Cost Sharing**

A number of state and federal grant-in-aid programs exist to share the cost of certain categorical public improvements. Full advantage should be taken of these cost-sharing programs to maximize the benefits to the community, recapture an equitable share of locally generated taxes and secure vitally needed public improvements. Cost sharing grant programs exist in a wide variety of areas such as highways and streets, water quality, sewers, energy cogeneration, parks, community development, conservation, school construction and bike paths.

### **Low Interest Loans**

In some cases, the federal and state governments have developed special low interest loan programs to support certain categories of public improvements. These should be investigated as possible funding

mechanisms for capital improvements falling within those categories at least cost to the town and its taxpayers.

### **Capital Investment Plan Implementation**

To implement the Capital Investment Plan, the Town of Turner should develop a formal Capital Improvements Program (CIP).

The plan provides a mechanism for estimating capital requirements; scheduling all projects over a fixed period with appropriate planning and implementation; budgeting high priority projects and developing a project revenue policy for proposed improvements; coordinating the activities of various departments in meeting project schedules; monitoring and evaluating the progress of capital projects; and informing the public of projected capital improvements.

In its most basic form, the CIP is no more than a schedule listing capital improvements, in order of priority, together with cost estimates and the proposed method of financing them.

Each year the CIP should be reviewed and updated to reflect changing community priorities, unexpected emergencies or events, unique opportunities, cost changes or alternate financing strategies. The CIP is comprised of three elements:

- a. inventory and maintenance plan;
- b. capital improvements budget (first year); and
- c. long-term CIP (5 years)

### **Policy**

- 1. It is a policy of the Town of Turner to maintain a multi-year Capital Investment Program.

### **Implementation Strategy**

- 1. Development and publish in the Annual Report the Capital Improvement Program.

Responsibility:                      Selectmen/Budget Committee

## **PLANNING AREA:**

## **Hazard Mitigation**

### **Town Goal:**

To protect life and property from natural disasters and hazards.

### **Hazard Policy**

**Pursuant to the Goal, the hazard mitigation policies of the comprehensive plan are:**

1. To minimize losses due to flooding.
2. To encourage owners of property in floodplains to undertake flood proofing measures.
3. That structures are constructed to withstand snow and wind loads common for the Turner area.
4. That development proposed in forested areas are designed to minimize loss due to forest fires.
5. To encourage property owners to be prepared for severe summer or winter storms.
6. To assure dams are maintained in a safe condition.

### **Implementation Strategies**

A. Short-Term Activities - To accomplish the goal and policies, the Turner Community should undertake the following within one to two years of plan adoption.

1. Place floodplains in resource protection district under shoreland zoning ordinance.  
  
Responsibility: Planning Board
2. Provide owners of property located in floodplains with information on methods to flood proof.  
  
Responsibility: Code Enforcement Officer
3. Develop a public infrastructure improvement plan to correct areas frequently damaged by flooding.  
  
Responsibility: Short
4. Assess building standards for snow and wind loads.  
  
Responsibility: Code Enforcement Officer

5. Develop ordinance standards to minimize loss of structures from forest fires.

Responsibility: Planning Board

6. Provide residents with information on how to prepare for severe summer and winter storms.

Responsibility: Director of Civil Emergency Preparedness

7. Conduct assessment of the condition of Town owned dams and seek funds for necessary repairs.

Responsibility: Selectmen



# **Turner Comprehensive Plan Update Section II**

## **Inventory & Analysis**

### **Town Meeting Version**

**April 2004**

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## INTRODUCTION

The comprehensive plan update process needs to be based on an accurate and comprehensive understanding of the community. In planning terms, the “community” means its people, infrastructure, services, and natural features. To provide that factual informational base, the Comprehensive Plan Committee, with assistance from Androscoggin Valley Council of Governments, collected, organized, and analyzed information about Turner. The starting point for this information was the 1991 Turner Comprehensive Plan. The committee has attempted to update the information in the 1991 Plan with new information and trends over the past 10 years. Areas considered in the updated inventory and analysis element related to population, economy, housing, transportation, natural resources, historic, cultural, and, archaeological resources, land use and development patterns, outdoor recreation, public facilities, and fiscal capacity.

The information to prepare the inventory and analysis came from a number of sources. Individual committee members collected information only available in Turner. Such information included road conditions, the sale prices of homes and recent development trends. Other information came from state and federal sources. State agencies provided information on the location of wildlife habitat, traffic volumes and traffic accidents. For much of the characteristics concerning Turner’s recent population trends is from the U.S. Department of Commerce 2000 Censuses.

The updated inventory and analysis also made several forecasts for the 10-year planning period. These included population growth and housing demand. Such forecasts were based on past trends and acceptable forecasting techniques.

The inventory and analysis is intended to be a snapshot of Turner based on the best information available in 2003. Communities are dynamic places and thus the inventory and analysis may not reflect all community characteristics at time of the adoption of the plan or five years from adoption. However, it presented a reliable picture of Turner and provided the necessary direction for the Comprehensive Plan Committee to identify issues and implications and formulate updated town goals and policies.

## **COMMUNITY OVERVIEW**

### **Location Overview**

Turner is located in west-central Maine and shares its southern border with the City of Auburn which with its sister city of Lewiston, forms the second greatest concentration of population in Maine. With a land area of 62 square miles, Turner is the largest geographic municipality in Androscoggin County. The Town has been known for its scenic and open space areas, a by-product of Turner's traditional agricultural base. More than 12 miles of the Androscoggin River and Gulf Island Pond form the eastern border of Turner. Although it was once felt that the Androscoggin River was a liability to the Town, its waters and sparsely developed shorelines are now seen as a significant community asset.

The urban center of Auburn and Lewiston to Turner's south provide opportunities for employment and acquisition of services. That population center also places demands upon Turner in the way of residential development and open space recreation activities. Route 4 bisects the community nearly in half. This major traffic corridor carries commuter traffic south to Auburn and Lewiston and north to paper mills in Jay and Rumford and to Maine's largest recreation area of the Western Mountains.

Turner, longs to hold on to its rural small town character and values, but it has reached a period of transition. The forth most populated community in Androscoggin County it will have many decisions to make over the next several years.

### **Historical Overview**

Turner's recorded history began in 1765 when the General Court of Massachusetts chartered the Town of Sylvester-Canada. The original grant was made to "the heirs and assigns of Captain John Sylvester and his company, for services rendered in the invasion of Canada under Sir William Phipps in 1690".

Conditions of the grant of Sylvester-Canada were that within six years the grantees would undertake the following:

- Settle 30 families in said town
- Build a house for public worship
- Settle a learned minister
- Layout 1/64 part of said town for use of the first settled minister
  - 1/64 part for the ministry
  - 1/64 part for a grammar school
  - 1/64 part for the use of Harvard College



It has been reported that a major motivation of at least some of the original proprietors of Sylvester-Canada was economic gain. No estimates have been made of the proprietors' actual gain or loss from their financial stake in their township. It would appear, however, from all the trials and tribulations they experienced in convincing families to settle in their town, the difficulties of obtaining and maintaining a settled minister, and the expenses involved in laying out roads and building the required town house, that they may have profited little from their efforts and expenditures.

Despite these difficulties, the available evidence seems to indicate that Sylvester-Canada/Turner has been relatively prosperous for most of its history from its late 18th century beginning to the late 20th century.

In 1786, Sylvester Plantation was incorporated into the Town of Turner. The Town's name was chosen out of respect for the Reverend Charles Turner, honoring his character and service.

Turner developed as an agricultural and manufacturing community. By the mid-1800s, each of Turner's three village areas (Turner Center, Turner Village and North Turner) were manufacturing centers. In 1860, Turner's population had reached 2,700 people. Many of these individuals were employed at the local mills producing lumber, boxes and furniture and processing locally produced vegetables and milk. All of these businesses were directly related to the Town's natural resource base. Turner's manufacturing base was set back several times by disasters, fires and freshets, but it was likely the new sources of power and the concentration, in the late 19th century of textile and shoe manufacturing in the urban centers that were the demise of manufacturing in Turner.

Ever since 1777 when Joseph Leavitt, one of the very first settlers, carried young apple saplings strapped to his back as he traversed a trail through the forest to the then Sylvester-Canada, agriculture has been economically, socially and psychologically important in Turner.

"The early settlers chose the highlands as best for the first crops, hence they selected farms on the 'Upper Street' and on the 'Lower Street' which run parallel with each other, 3/4 of a mile apart." Today Lower Street and Upper Street (and its continuation, the North Parish Road) continue to be the location of commercial apple orchards as well as several of Turner's dairy farms. It is possible that the original choice of lots on the Town's hillsides was based on a little more than that they were judged to be "best for their crop." In addition to the air drainage, a necessity for apple production in New England, the ridges were probably less densely forested than were the valleys. The rational farmer knew that under these circumstances, he could get his fields cleared more easily and quickly. The soils on the ridges were better drained, and transportation was easier than in the damp meadowlands. Also, the higher air was believed healthier than that in the lowlands.

Apple trees were planted on almost every farm, but dairying apparently became the most common commercial farm practice. The burgeoning volume of milk presented a marketing problem to Turner dairy farmers. Supply exceeded local demand. A partial solution to the

problem was reached in 1882 with the establishment of the Turner Center Dairy Association. The business abilities of the creamery's management were demonstrated early in its history.

The initial concentration was cheese making which "achieved a fair degree of success." At first, many farmers in the town did not associate themselves with the creamery because they preferred to make butter. The creamery operators heard the message, and the plant began to make butter--450 pounds per day. Butter making was a natural outlet for Turner's milk.

As in most Colonial era towns, particularly in heavily forested, stream and pond intersected, hill and valley areas such as Central Maine, the Town of Turner became the site of several population concentrations early in its history. Some of the early neighborhoods--Keene's Mills, Howes Corner, Chase's Mills--are now more memories than realities. Over time, they lost their ecological and/or social/economic functions. Today, these villages of North Turner, Turner Center and Turner Village are the primary centers. However, their importance is lessening due to recent development characteristics.

Source: Turner - A Study in Persistence and Change, Louis A. Ploch, 1989

## **POPULATION CHARACTERISTICS**

### **Findings and Trends 1990-2002**

- ❖ **Population in Turner increased by 657 between 1990 and 2000. The largest increase in Androscoggin County.**
- ❖ **Turner's population is younger than that of Androscoggin County.**
- ❖ **The median household income of \$46,200 in Turner is the highest of all surrounding communities except Greene.**
- ❖ **Turner's 2014 population is expected to reach 5,900.**

### **Introduction**

The following presents an overview of Turner's and surrounding communities' recent population trends. An examination of recent population trends and the characteristics of that population is extremely important to an understanding of the anticipated growth that will occur over the next ten years. In addition, the characteristics of that population will lend insight into future demands for various community services.

Turner has experienced a relatively significant population growth since 1980. Coupled with the high growth rate of the 70's, Turner's population has doubled in less than 30 years.

### **Year-round Population Growth**

Turner's population increased by some 1,400 people between 1980 and 2000. The decade of the 1990's was a high growth period for Turner while the population of all of Androscoggin County declined. Turner's numerical population growth of 657 between 1990 and 2000 was the greatest of any municipality in Androscoggin County. The town's population growth can be attributed to several factors that include availability of attractive residential lots in both subdivisions and individual lots, a lower property tax rate than Auburn and Lewiston, a new \$17 million high school and the attractiveness of Turner.

**Year-Round Population Change  
1980-2000**

	<u><b>1980</b></u>	<u><b>1990</b></u>	<u><b>2000</b></u>	<u><b>Percent Change 90-00</b></u>
<u><b>Turner</b></u>	<u><b>3,539</b></u>	<u><b>4,315</b></u>	<u><b>4,972</b></u>	<u><b>15.2%</b></u>
<u>Auburn</u>	<u>23,128</u>	<u>24,309</u>	<u>23,203</u>	<u>-4.5%</u>
<u>Buckfield</u>	<u>1,333</u>	<u>1,566</u>	<u>1,723</u>	<u>11.9%</u>
<u>Greene</u>	<u>3,037</u>	<u>3,661</u>	<u>4,076</u>	<u>11.3%</u>
<u>Leeds</u>	<u>1,463</u>	<u>1,669</u>	<u>2,001</u>	<u>19.9%</u>
<u>Livermore</u>	<u>1,826</u>	<u>1,950</u>	<u>2,106</u>	<u>7.5%</u>
<u>Androscoggin County</u>	<u>99,657</u>	<u>105,259</u>	<u>103,739</u>	<u>-1.4%</u>

SOURCE: U.S. Census

Both natural increase and in migration have been factors for Turner's population growth over the past ten years. In the 1990's natural increase in population, births minus deaths, account for approximately half the town's population increase. The remainder of the increase was the result of people moving into Turner.

**Births and Deaths  
1990-2002**

<b>Year</b>	<b>Births</b>	<b>Deaths</b>	<b>Natural</b>
1990	52	12	40
1991	72	22	50
1992	58	24	34
1993	56	25	31
1994	54	19	35
1994	50	24	26
1996	63	28	35
1997	60	21	39
1998	58	27	31
1999	50	31	19
2000	64	28	36
2001	59	28	31
2002	52	27	25
Totals 1990-	689	288	401

Based on birth rates, building permit data and school enrollment Turner's population has been estimated to be growing at approximately the same rate over the past two years as it did in the 1990's.

### Seasonal Population

In 1970 the Public Affairs Research Center of Bowdoin College estimated Turner's peak seasonal population would increase by approximately 900 people over that of the year-round population. Current estimates of seasonal population increases are much lower than the 1970 estimate. Based upon current number of seasonal dwellings and other facilities that attract seasonal population, it is estimated that the seasonal population during the summer months increases by some 500 people. Seasonal population is not considered a significant factor in Turner nor will it be over the next ten years.

### Age Distribution

Turner's age distribution for both 1990 and 2000 indicates a younger population than that of Androscoggin County. Although the average age of Turner's population is becoming older, it has not been at the rate of Androscoggin County. The median age of Turner's population in 2000 was 35.9 years and Androscoggin County was 37.2 years. This lower age is reflected in the less than 20 age group.

#### Population Distribution by Age 2000

	TURNER			ANDROSCOGGIN COUNTY	
	#	%		#	%
Under 5	336	6.8		6,122	5.9
5-19	1,239	24.9		21,775	21.0
20-44	1,798	36.1		37,191	35.8
45-64	1,147	23.1		23,743	22.9
65+	452	9.1		14,962	14.4
TOTALS	4,972	100.0		105,259	100.0

SOURCE: 2000 Census

## Occupation of Residents

The occupation characteristics of Turner's 1990 population were somewhat different from that of Androscoggin County. Most striking is that approximately 5% of the occupations of residents were reported to be in farming and forestry, whereas only 2% of the county's population's occupation was in farming and forestry. Over the ten-year period from 1980 to 1990 it should be noted that the percentage employed in farming and forestry decreased from 14% to 5%.

### **Employment by Occupation** **2000**

	<b>TURNER</b>		<b>ANDROSCOGGIN COUNTY</b>
	<b>#</b>	<b>% Total</b>	<b><u>% Total Population</u></b>
Managerial, Professional and Related Occupations	677	25.5	<u>26.0</u>
Service Occupations	292	11.0	<u>14.5</u>
Sales and Office Occupations	682	25.7	<u>28.8</u>
Farming, Forestry & Fishing	37	1.4	<u>0.7</u>
Construction, Extraction and Maintenance Occupations	393	14.8	<u>10.9</u>
Production, Transportation, and Material Moving Occupations	572	21.6	<u>19.0</u>

Source: 2000 Census

## Household Size

Turner's total households have increased to approximately 1,770 since the 1990 Census. Average household size has remained at approximately 2.8 persons. Turner has one of the higher average household sizes in Androscoggin County.

### **Number of Households** **1990-2000**

	<b>1990</b>	<b>2000</b>
Number of households	1,620	1,768
Average household size	2.85	2.81

## Household Income

Turner's 1999 median household income was above that of surrounding communities with the exception of the Greene. This is in part reflective of the type of employment shown above.

### Median Household Income 1999

Municipality	Median Income
<b>Turner</b>	<b>\$46,207</b>
Auburn	35,652
Buckfield	36,821
Greene	48,017
Leeds	37,993
Livermore	38,850
Maine	37,240

SOURCE: 2000 Census

### Household Income 1999

	Count of Households	Percentage of Household
Less than \$10,000	103	5.8
\$ 10,000 to \$ 14,999	73	4.1
\$ 15,000 to \$ 24,999	231	13.1
\$ 25,000 to \$ 34,999	144	8.2
\$ 35,000 to \$ 49,999	391	22.2
\$ 50,000 to \$ 74,999	419	23.8
\$ 75,000 to \$ 99,999	218	12.4
\$100,000 to \$149,000	77	4.4
\$150,000 and more	108	6.1

SOURCE: 2000 Census



## **Projected 2014 Population**

An estimate of Turner's future year-round population is extremely important to the comprehensive planning process. Depending upon future population characteristics, various community facilities needs can be identified and planned for. It should be understood, however, that predicting future population with great accuracy is difficult. Many factors contribute to this difficulty.

With a local population the size of Turner's, external forces could create sizable shifts in population. It is, therefore, not as important to identify future population in absolute numbers as it is to identify future population trends.

Population change is a result of two primary factors, natural increase and migration. Natural increase is derived from the number of live births minus the number of deaths over a specific period. Migration is the number of persons moving into or out of a community over a period of time. Births and deaths are readily obtainable. However, migration information is not readily obtainable. Therefore, the development of population trends utilizing migration, when migration is an important component, becomes difficult.

Most population forecasting techniques use in part past trends and judgmental factors. Using historic population counts to base future population is termed trend extrapolation. The advantages of trend extrapolation technique is its simplicity and reliability when only past census information is available. It has been found that this method to forecast population for a short period such as ten years works as well as much more complex techniques. Judgmental factors include knowledge of recent events that have affected population change and what local or regional factors will affect future population change. In the case of Turner continued residential development and regional economic growth was considered. Other factors considered included the aging of the baby boomers and a declining birth rate.

The forecast for Turner's year 2014 year round population using past trends results in an estimated population of 5,900. This number was based on the population growth rates since 1980. It is believed that over the 10-year planning period the rate of natural increase will decrease slightly over the 1990 to 2002-rate which was 401. It is also expected that in migration will continue at a rate similar to the 1900 to 2000 rate.

Our aging population, or the baby boom generation that is nearing retirement age, is reflected in Turner's estimated 2014 population age groups. The age group distribution of Turner's 2014 population reflects an increase in the 45-64 age category to 29 percent. The 5-17 age category will decrease slightly by the year 2014 to 19 percent reflecting fewer people in the child bearing ages. The 65-year-old and older category will also increase significantly.

**Turner  
Population Distribution by Age  
2013**

<b>Age</b>	<b>Number</b>	<b>Percent</b>
Less than 5	410	7.0%
5-17	1,100	18.6%
18-29	640	10.9%
30-44	1,410	23.9%
45-64	1,690	28.6%
65+	1,230	20.9%
Total	5,900	

## ECONOMY

### Findings and Trends 1990-2002

- ❖ Turner's labor force increase by 130% between 1984 and 2001 or five times greater than Androscoggin County.
- ❖ Fewer residents of Turner worked in Turner in 2000 than in 1980.
- ❖ Auburn and Lewiston are the locations of work for 45% of workers living in Turner.
- ❖ There is a significant leakage of retail sales dollars from Turner.

### Historical Economic Overview

In the 1800s, Turner had an elaborate manufacturing economy. The economic profile of the community included a number of lumber mills, a box factory, a chair manufacturing firm, several canneries, a can maker, a creamery and woolen cloth manufacturing. As throughout Maine and New England, the availability of water power was a significant factor for the manufacturing economy of Turner. The Androscoggin and Nezinscot Rivers provided readily available power during Turner's early economic development.

Turner's early economy was based largely upon the abundant supply of lumber and agricultural products. The Town was originally laid out as a farming community. Lots were based upon the former road along the Androscoggin River, much of which was flooded as the result of the construction of the Gulf Island Dam in the 1920s and along Upper and Lower Streets which were laid out generally parallel to the river. Since the late 1700s agriculture has been economically significant to Turner.

Apples were an early agricultural mainstay to Turner and the natural terrain lent itself to apple production. Some of those same areas that were developed by the early growers are still in production today. Dairying became a leading agricultural economic force in Turner during the 1800s. As the local farms' milk production exceeded local demand, the Turner Center Association was created as was the cheese factory in North Turner. Early historians claimed that in the mid-1800s, Turner was the leading dairy town in the State.

Improved transportation, alternative sources of energy and the movement of textile manufacturing were major factors for the loss of manufacturing in Turner.

By the early 1900s, a population decline as well as a decline in local industry occurred. Since the loss of manufacturing, Turner's local economy has generally been based upon agriculture.

### **Regional Economic Perspective**

Turner, located adjacent to the major economic and population center of Auburn and Lewiston, is greatly influenced by that center. In addition, Turner's close proximity to Jay and Rumford, major paper producing centers, provides other employment opportunities. It is the manufacturing and services of Auburn and Lewiston which have the greatest economic effect upon Turner. Historically, agriculture and forest products supported Androscoggin County's rural population, while the paper, leather and textile industries have traditionally been the employment base in the urban areas. All these have declined as employers, and yet still employ significant numbers of workers and serve as important parts of the area's economic base. Construction, wholesale and retail trade, public administration and service industries are gradually employing more workers, thus accounting for an overall employment increase.

Androscoggin County is principally made up of the Lewiston-Auburn Metropolitan Statistical Area (L/A MSA). Five communities located within Androscoggin County, specifically Durham, Leeds, Livermore, Livermore Falls and Minot, are excluded from the L/A MSA because they are included in adjoining labor market areas. The L/A MSA includes the communities of Auburn, Greene, Lewiston, Lisbon, Mechanic Falls, Poland, Sabattus, Turner and Wales.

The following table reports the percentage change in sectorial employment for the L/A MSA for the years 1997-2000 (Note: The 2000 data is the latest available data). Highlights on employment by sector follows.

- From 1997 to 2000, total non-farm wage and salary employment increased 10.8%.
- Total non-manufacturing employment increased about 13.4% from 1997 to 2000, comprising 81% and 83% of total employment, respectively.
- Total manufacturing employment decreased 0.9% from 1997 to 2000, comprising 19% and 17% of total employment, respectively.
- The greatest job loss occurred in the manufacturing of leather and leather products, down 64.8% during this time period.
- Majority of employment in 2000 was in services (33%) with health services making up 11.1%, followed by retail trade (19.4%), manufacturing of non-durable goods (12.8%), and government (10.8%).

<b>Lewiston-Auburn Metropolitan Statistical Area</b> <b>Non-Farm Wage and Salary Employment 1997-2000</b>					
	<b>1997</b>	<b>1998</b>	<b>1999</b>	<b>2000</b>	<b>% Change 1997-2000</b>
<b>Total</b>	<b>41,560</b>	<b>42,360</b>	<b>44,520</b>	<b>46,040</b>	<b>10.8%</b>
<b>Total Manufacturing</b>	<b>7,780</b>	<b>7,730</b>	<b>7,880</b>	<b>7,710</b>	<b>-0.9%</b>
Durable	2,230	2,240	2,320	2,282	<b>2.3%</b>
Lumber & Wood	440	450	460	440	<b>0.0%</b>
Logging	10	20	10	10	<b>0.0%</b>
Non-Durable	5,540	5,490	5,560	5,430	<b>-2.0%</b>
Printing/Publishing	710	740	820	900	<b>26.8%</b>
Leather & Leather Products	1,080	950	900	380	<b>-64.8%</b>
<b>Total Non-Manufacturing</b>	<b>33,790</b>	<b>34,630</b>	<b>36,640</b>	<b>38,330</b>	<b>13.4%</b>
Construction	1,600	1,590	1,700	2,210	<b>38.1%</b>
Transportation/Utilities	1,640	1,650	1,920	1,840	<b>12.2%</b>
Wholesale Trade	2,130	2,240	2,420	2,600	<b>22.1%</b>
Durable Goods	1,020	1,010	1,040	1,070	<b>4.9%</b>
Retail Trade	8,450	8,710	8,730	8,930	<b>5.7%</b>
Finance, Insurance, Real Estate	2,130	2,190	2,550	2,530	<b>18.8%</b>
Services and Mining	12,930	13,530	14,610	15,260	<b>18.0%</b>
Health Services	4,480	4,780	5,280	5,150	<b>15.0%</b>
Government	4,460	4,440	4,710	4,970	<b>11.4%</b>
Source: Maine Department of Labor Employment and Earnings Statistical Handbook					

The L/A MSA includes many large employers in the health services, retail/telemarketing, and manufacturing sectors. As of September 2000, the largest employers with over 500 employees included Central Maine Medical Center, Bates College, People's Heritage Bank, L. L. Bean, St. Mary's Hospital, Lewiston School Dept., Auburn School Dept., Pioneer Plastics, Great Spring Waters, Tambrands, Sisters of Charity Health Systems. (Source: MDOL).

Over the past two years, the Lewiston/Auburn MSA closely mirrored the State of Maine's unemployment rate. Unemployment was highest at 5.5% in January 2002 and was at it's lowest in December of 2000, at 2.1%. Since January 2001 the general trend has been increasing rates of unemployment.

The L/A MSA is separated for retail sales data collection into an urban (Lewiston, Lisbon and Auburn) and a suburban area. From 1997 to 2001, Lewiston-Auburn total retail sales increased by 5.9 %. The largest gain in retail sales was in building supply sales 14.5%, auto stores 5.8%, lodging increased 5.2%, and other retail 3.0%. Food stores decreased by 0.5%.

The Lewiston Suburban Area includes Durham, Greene, Leeds, Mechanic Falls, Minot, New Gloucester, Poland, Sabattus, Turner, and Wales. For the Lewiston Suburban area, total retail sales grew 8.1% from 1997 to 2001, with the largest gain in general merchandise sales 22%, followed by auto sales 9% and food stores 6.8%. Between 1980 and 2000, there were significant shifts in the employment patterns of Androscoggin County residents. Employment increased greatly in the service industries (90%) and finance, insurance and real estate (86%). Employment in manufacturing decline by 34%.

**Number of Employees by Type of Industry  
for Androscoggin County  
1980 and 2000**

<b>Industry</b>	<b>1980</b>	<b>2000</b>
Agriculture, forestry & fisheries	1,157	597
Construction	2,352	3,289
Manufacturing	15,109	9,925
Transportation & public utilities	1,759	1,932
Wholesale trade	2,009	2,010
Retail trade	6,874	7,628
Finance, insurance & real estate	1,662	3,097
Services	10,182	19,265
Public administration	1,682	1,854
Other	927	1,925
<b>TOTALS</b>	<b>43,718</b>	<b>51,522</b>

SOURCE: U.S. Census\*

NOTE: \*Census employment is resident employment--how residents of a given town or county are employed, but not where they are employed.

## Turner's Economy

It is unrealistic to examine Turner as a single economic unit. What happens in Turner, Androscoggin County, the State and Nation will impact Turner's economy. An examination of various regional and local economic indicators will provide a picture of Turner's past, current and future economic characteristics.

Turner's labor force has increased at a significantly greater rate than that of Androscoggin County. In information developed by the Maine Department of Labor, Turner's civilian labor force increased by 130% between 1984 and 2001, whereas the county increased 25%. This growth is reflective of the overall population growth in Turner over the period.

Unemployment rates in Turner have been below that of Androscoggin County over the period.

### Civilian Labor Force 1984-2001

	TURNER		ANDROSCOGGIN COUNTY	
	Labor Force	Unemployment Rate	Labor Force	Unemployment Rate
1984	1,307	7.9	48,060	7.4
1990	2,526	5.2	56,494	6.6
1992	2,715	6.4	57,176	8.4
1995	2,726	5.0	57,118	5.7
2001	3,002	3.7	60,144	4.1
% Change in Labor Force 1984-2001	129.6%		25.1%	

Source: Maine Department of Labor

The type of employment of Turner's labor force has changed greatly since 1980 and is somewhat different from Androscoggin County as a whole. Some notable trends include the following. Employment in agriculture and forestry dropped from 20% of the labor force in 1980 to 3% in 2000. Part of this decrease was the result of the DeCoster Egg Farms not housing employees in Turner. The number of employees employed in manufacturing increased by almost 300 between 1980 and 2000. In Androscoggin County the number dropped by 5,000 over the same period. This increase is not the result of significant growth in manufacturing jobs in Turner, but rather migration of

manufacturing workers to Turner.



**Distribution of Labor Force by Industry**  
**2000**

	<b>TURNER</b>		<b>ANDROSCOGGIN COUNTY</b>	
	<b># of Workers</b>	<b>% of Total</b>	<b># of Workers</b>	<b>% of Total</b>
Agriculture, forestry, fisheries & mining	<b>85</b>	<b>3.2</b>	597	1.2
Construction	<b>300</b>	<b>11.3</b>	3,289	6.4
Manufacturing	<b>568</b>	<b>21.4</b>	9,925	19.3
Transportation & utilities	<b>101</b>	<b>3.8</b>	1,932	3.7
Information	<b>57</b>	<b>2.1</b>	1,073	2.1
Wholesale trade	<b>169</b>	<b>6.4</b>	2,010	3.9
Retail trade	<b>275</b>	<b>10.4</b>	7,628	14.8
Finance, insurance & real estate	<b>145</b>	<b>5.5</b>	3,097	6.0
Arts, entertainment & recreation services	<b>97</b>	<b>3.7</b>	3,082	6.0
Professional, scientific & Administrative services	<b>135</b>	<b>5.1</b>	3,738	7.3
Health, education & social services	<b>534</b>	<b>20.1</b>	11,372	22.1
Other services	<b>114</b>	<b>4.3</b>	1,925	3.7
Public administration	<b>73</b>	<b>2.8</b>	1,854	3.6
<b>TOTALS</b>	<b>2,653</b>		51,522	

Source: 2000 Census

An indication of the importance of the local employment to the local economy can be obtained from where people live and where they work. Although relying totally on the 1990 Census information may not represent current day local employment patterns, it does lend insight. While Turner had a higher percentage of its residents working in their town of residence than that of surrounding communities there was a significant decline in the ten years from 1980 to 1990. This shift reflects population growth and changes in number of individuals employed in agriculture.

This rate is expected to decrease again by the time of the 2000 Census, it is, however, expected to exceed that of adjacent communities.

**Place of Work by Town of Residence  
1980-2000**

	<b>1980</b>			<b>2000</b>	
	<b>In Town of Residence</b>			<b>In Town of Residence</b>	
	<b>#</b>	<b>%</b>		<b>#</b>	<b>%</b>
<b>Turner</b>	<b>890</b>	<b>48.6</b>		<b>637</b>	<b>24.8</b>
Buckfield	149	31.1		212	16.1
Greene	208	14.9		190	8.3
Leeds	160	24.2		149	15.1
Livermore	126	16.2		134	6.7

Source: 1980-2000 Census

Lewiston and Auburn have become the employment center for Turner residents. In 2000, 45% of employed persons in Turner travel to Lewiston and Auburn for work whereas as in 1980 only 25% did so. This trend points to Turner's role as a bedroom community for the two cities.

**Distribution of Labor Force by Place of Employment  
1980-2000**

	<b>1980</b>		<b>2000</b>	
<b>Place of Employment</b>	<b># of Persons</b>	<b>% of Total</b>	<b># of Persons</b>	<b>% of Total</b>
<b>Turner</b>	<b>890</b>	<b>48.6</b>	<b>637</b>	<b>24.8</b>
Auburn	244	13.1	577	22.5
Lewiston	232	12.8	581	22.7
Jay	90	4.9	92	3.6
Greene	34	1.9	26	1.1
Rumford	28	1.5	63	2.5
Lisbon	15	0.8	50	2.0
Livermore Falls	13	0.7	26	1.0
Buckfield	13	0.7	17	0.7
Other	242	13.2	491	12.5
<b>TOTAL</b>	<b>1,833</b>		<b>2,560</b>	

SOURCE: 1980-2000 Census

### **Consumer Retail Sales**

One source of information which can be considered when attempting to gain insight into a small community's economic conditions is to examine sales tax information. The Maine State Planning Office publishes consumer retail sales information by municipality. Consumer retail sales do not include those business operating purchases and thus provides a more accurate picture of what is commonly thought of as retail store sales.

The review of consumer retail sales in Turner in 1990 and 2000 shows an increase of 28% in adjusted dollars to account for inflation. This increase was much smaller than that of Greene, Leeds and Androscoggin County over the same period. When considering that Turner has had the greatest population growth it is surprising that it has shown the smallest increase in retail sales.

**Total Consumer Sales**  
**1986-2000**  
**000s of Dollars**

	<b>1986</b>	<b>1990</b>	<b>2000</b>	<b>% Change 1990-2000</b>	<b>% Change 1990-2000</b>
				<b>Unadjusted \$</b>	<b>Adjusted \$</b>
<b>Turner</b>	<b>6,080</b>	<b>9,100</b>	<b>14,929</b>	<b>64%</b>	<b>28%</b>
Greene	3,890	4,870	10,720	120%	72%
Leeds	3,200	3,000	6,442	115%	58%
Andro. County	202,660	239,970	803,152	235%	162%

Note: 1990 dollars adjusted to 2000 dollars

### **Leakage of Retail Sales Activity**

Assessing total consumer sales data is not enough to form the basis of an area's economic performance. To further evaluate an area's economic activity, it is important to assess the trends. One of the best ways to identify retail trends is by analyzing the "pull factor". A pull factor (PF) is calculated by dividing a community's per capita sales (retail sales divided by the population) by the state average per capita sales. This factor provides a measurement of purchases by residents and non-residents. As the name suggests, the pull factor measures the retail drawing power of a community.

The magnitude of the pull factor indicates whether a community is attracting business or losing it to other communities. A pull factor less than 1.00 suggests the community is losing retail business. A pull factor of 1.00 indicates there is a balance of sales equal to the average for the state. A pull factor greater than 1.00 indicates the community is attracting business from other areas.

Total consumer retail sales data is shown according to the State of Maine Disclosure Policies. The consumer retail sales data was obtained from the Maine State Planning Office, and population was based on the 2000 Census. The following table indicates that in 2000 Turner had a large leakage of consumer sales. The leakage was similar to that of Greene and Leeds and is an indication of the bedroom community role for Auburn and Lewiston Turner plays. Residents not only seek employment in the two cities but also purchase most of their goods there.

**Pull Factor For Consumer Retail Sales  
2000**

	<b>Sales in \$000</b>	<b>Population</b>	<b>Per Capita Sales</b>	<b>Pull Factor</b>
<b>Turner</b>	<b>14,807</b>	<b>4,972</b>	<b>\$3,003</b>	<b>.34</b>
Greene	10,720	4,067	\$2,635	.30
Leeds	6,422	2,001	\$3,219	.36
Andro. County	803,152	103,793	\$7,737	.88

**Current Economic Characteristics**

Over the past decade, Turner has not lost major employers but rather gained a number of new small employers, many of which are related to the service industry, in addition to the paper industries in Livermore Falls, Jay and Rumford. The Lewiston and Auburn's service industry base has diversified providing employment opportunities for Tuner residents.

**Agricultural Business**  
**2001**

Brigee Farm  
Bradford Farms  
DeCoster Egg Farms  
Bob Leavitt Farms  
Ricker Hill Orchards  
Cooper Bros.  
Greenwood Orchards

Wadsworth Farm  
Caldwell Farms  
Geran Farms  
Bill Varney  
Jay Roebuck Cattle  
This Ole Farm Market  
Gregg & Gloria Varney

**Conclusion**

Turner's major industry has been agriculture. A conservative estimate has been made that the value of agricultural products produced exceeds \$50 million per year. The agricultural industry provides various economic benefits to the community and provides a number of employment opportunities. However, agricultural wages typically lag behind those of other industries.

There are a number of long established businesses in Turner and over the past ten years a significant number of new businesses have begun. The majority of these are service related, responding to Turner's growing population.

### **Economic Expectations**

A realistic expectation of the local and regional economy is important to the comprehensive planning program. To accurately anticipate future economic conditions is extremely difficult. However, the following assumptions reflect anticipated local and regional economic trends.

Lewiston/Auburn will continue to be a major manufacturing and service center providing employment opportunities.

The paper industry will continue to be important to the region providing direct and secondary employment.

New service related businesses directed at the needs of an expanding population will be established in Turner.

## **PUBLIC SERVICES AND FACILITIES**

### **Findings and Trends 1990-2002**

- ❖ Over the past 10 years a new transfer station, fire/rescue station, highway garage and high school have been constructed and the land fill closed.
- ❖ The town acquired property on Bear Pond for a public beach.
- ❖ Over the next ten years Turner's school enrollment is projected to increase slightly and the overall school district enrollment is projected to decline.
- ❖ New or improved municipal facilities that include town office, solid waste disposal, salt storage and South Turner fire station are needed.

### **Introduction**

An examination of Turner's public facilities and their current day capacities is an important element of the comprehensive plan. In addition, the future demands upon the Town's public services and facilities must be assessed and their adequacy to meet future demands determined. Turner has grown in population significantly over the past 20 years. Population growth is expected to continue through the year 2013. This growth will place various burdens upon current municipal services and facilities and will create demands for new services.

The Comprehensive Planning Committee found that the most notable thing about Turner's public facilities is how extremely limited they are. There are a number of historic, economic and social reasons why the Town has so few public facilities.

Other than the Pleasant Pond boat launching area and the public beach at Bear Pond, there is no deeded public access to any other body of water in the Town, although Florida Power and Light maintains a public boat launching area on Gulf Island Pond. The absence of numerous other kinds of public facilities and private facilities licensed to provide necessary services to the public, is readily apparent.

## **Public Water Supply**

Neither the Town, a quasi-municipal body, nor a private water company provides any public water supply within Turner. Although no public supplies or distribution systems exist, there are several non-public supplies that have been identified by the Maine Department of Human Services.

New state law requires notification when specific activities are to be located in designated source protection areas or such areas are to be rezoned. The Department of Human Services has identified the following non community public water supplies in Turner.

### **Non Community Public Water Supplies**

Auburn Water District  
Bear Pond Variety Store  
Big Apple Convenience Store  
Boofy Quimby Municipal Center  
Calvary Baptist Church/Academy  
Chick-A-Dee Restaurant  
Crystal Spring Water  
Country Care day Care  
DFD Russell Medical Center  
Eli's Restaurant  
Greenland's Diner  
Kids Camp Learning Center  
Hill View Trailer Park  
Martin Stream Campground  
MSAD 52  
Nezinscot Village Trailer Park  
Northland Plaza  
Peanut Gallery Day Care  
Ricker Hill Orchard  
Sandy Bottom Estates Trailer Park  
Schrepp's Variety  
Turner Properties Inc. (DeCoster Trailer Park)  
Turner Square Apartments  
Youly's Restaurant

SOURCE: Department of Human Services, Division of Health Engineering



## **Public Sewerage System**

There is only one partial treatment facility which serves the school facilities in Turner Center, which is situated between the Unitarian-Universalist Church and the cemetery on the northerly side of Route 117, and which has an outfall into the Nezinscot River. There is a combination of miscellaneous private treatment facilities of various kinds in Turner Village, some of which share certain facilities, all of which outfall into the river at Turner Village.

In 2001 a lagoon type disposal system was installed at treat the egg processing water from the Decoster facilities.

## **Solid Waste Disposal**

The Town operates a solid waste transfer facility and recycling center on the southerly side of the Snell Hill Road. Individual town residents and businesses transport their solid waste to the transfer station unless they contract with a private firm to dispose of their wastes. In 2000 there was 2,445 tons of solid waste incinerated, 96 tons of solid waste transported to commercial land fills and 630 tons of solid waste recycled. In 2000 the town spent \$172,000 for the disposal of solid wastes and recycling of wastes.

In 2001 a committee was appointed to conduct a comprehensive review of solid waste disposal options and recommend an necessary changes.

## **Septage Waste Disposal**

State law requires each municipality to provide for the disposal of all refuse, effluent and sludge from septic tanks. At the present time, there are no septage disposal sites located in Turner. The Town has agreements with municipal treatment plants in other communities for disposal. In the years ahead, there may be a need for a disposal site in Turner.

## **Public Safety**

### **Law Enforcement**

The Town of Turner does not provide municipal law enforcement services but rather relies on the Androscoggin County Sheriff's Department and Maine State Police. This coverage is alternated between the County Sheriff and State Police on a 28-day rotating basis. Turner is one of six communities in Androscoggin County which does not provide some type of municipal law enforcement.

## Fire Protection

A volunteer fire department supported by municipal tax revenues provides fire protection in Turner. Three fire stations are located in Town. They are located in Turner Village, North Turner at the Boofy Quimby Memorial Center and in South Turner on Fern Street.

The Turner Village Station is the newest station constructed in 1994. The North Turner Station is located in a portion of the Boofy Quimby Center and provides suitable space. The South Turner Station is of cinder block construction and is small for the Department's needs. Mutual aid is provided to and by several neighboring communities.

The fire department continues to attempt to upgrade its equipment. The most recent acquisition was the purchase in 1999 of a 1991 pumper. A capital equipment replacement fund has been established to fund major equipment purchases.

## Emergency Medical Services

Emergency medical services are provided by the Turner Rescue Unit, a staffed and volunteer municipal organization. The Turner Rescue Unit provides 24-hour on call response.

The Turner Rescue Unit is supported by fund-raising activities, insurance billing, contributions and municipal funds. A group of dedicated volunteers has created one of the most respected local units in the area. In addition to serving Turner, the Rescue Unit also services Leeds and portions of Hartford.

The Turner Rescue Unit is located at the Turner Village Fire Station.

## Health Care Facilities

In the fall of 2000 the DFD Russell Medical Center announced that it would construct and operate a community health center in Turner. The 4,700 square foot facility will provide a full range of primary health care medicine including obstetrics and preventive health services and will include a pharmacy. The Center plans to open in 2002.

Turner residents rely upon two major hospitals in Lewiston, Central Maine Medical Center and St. Mary's Hospital.

## General Administrative and Service Facilities

The Town's general administrative and service facilities are situated in the Town Office at the intersection of Routes 4 and 117 in Turner Village. The Town is governed by a five-member board of selectmen and town manager. The selectmen serve as assessors and overseers of the poor. The Town employs a full-time code enforcement officer.

The Town Office was expanded in 1988 to provide for improved administrative areas and meeting facilities for the Town's various boards. Currently, the space at the town office is inadequate for properly functioning services and required storage of records. A town office building committee is examining options to improve town office facilities.

In 2003 the town contracted for the development of new digitized tax maps based on orthophotography. With a new computer program, the town will have the ability to make property parcel map revisions in house rather than contracting out. With this Geographic Information System the town will have the capacity to do many things such as fixing the location of road projects, the location of culverts and tracking patterns of rescue and accident scenes among others based on this new technology.

### **Town Garage**

In the fall of 2001 the town opened a new town garage located on the Pit Road. The 4,000 square foot facility provides work bays for equipment maintenance and repair, office space and storage. Space in the new garage is not sufficient to park all major rolling stock inside.

The Highway Department, which is responsible for summer and winter road maintenance and, employs five full-time men.

### **Post Offices**

There are two post offices in Turner. They are the North Turner Post Office, situated on the northerly side of Route 219 and the Turner Post Office situated on the southerly side of Route 117 in Turner Village.

In 2001 the US Postal Service selected a site to lease in Turner Center to replace the Turner Village Post Office. The construction of the new 4,700 square foot facility was put on hold as the result of financial concerns in the US Postal Service.

### **Cultural Facilities**

The only independent cultural facilities of any kind in the community are the Town Library, presently housed in the Leavitt Institute Building in Turner Center and the Turner Historical and Natural History premises, also located in Turner Center. Other cultural facilities, such as additional libraries and stages for the production of dramatic presentations and the like, are confined to the public school facilities in Turner Center.

### **Cemeteries**

There are approximately 15 cemeteries in the Town, many of which are small, family cemeteries. These are widely scattered throughout the geographic area of the Town. Several of the cemeteries are at or near capacity.

## Education

Turner, along with the communities of Greene and Leeds, forms School Administration District 52 (River Valley School District). SAD #52 is one of 76 Maine School Administration Districts whose formation was due in part to the recognition that smaller communities could not provide all of the modern, accepted education opportunities for young people.

District offices, Leavitt Area High School, Tripp Middle School and Turner Elementary School are located at the SAD #52 complex in Turner Center. The Turner Primary School is located a short distance away on the Cobb Road.

All district high school and junior high school students attend facilities in Turner. In 2000 a \$17 million expansion was completed at the Leavitt area High School. Each of three district communities, however, has its own elementary schools, Greene Central School, Leeds Central School.

Total enrollment in the District increased by 11% between 1989 and 2000. The most significant gain within the overall District was in grades 9 through 12 with a 50% increase or 266 students. Overall student enrolments in Grads K through 6 decreased over the same period by 2%.

**SAD #52**  
**Total School Enrollment**  
**1989-2000**

	<b>K-6</b>	<b>7-8</b>	<b>9-12</b>	<b>Total</b>
1989	1,174	299	532	2,058
2000	1,146	341	798	2,276

Source: Maine Department of Education

Total enrollment of Turner students attending schools in SAD #52 increased by 21% between 1989 and 2000. This rate of growth was above the overall district's growth rate of 11%. The most significant growth has been in grades 9 through 12 with a 60% increase over the period.

**Turner School Enrollment**

**SAD #52**

**1989-2000**

	<b>K-6</b>	<b>7-8</b>	<b>9-12</b>	<b>Total</b>
1989	511	130	237	902
1995	596	164	282	1,042
1996	590	161	285	1,036
1997	597	154	308	1,059
1998	571	189	313	1,073
1999	582	174	337	1,093
2000	563	158	379	1,100

Source: Maine Department of Education

School Administrative District 52 has prepared school enrollment projects to the school year 2010-11. Based on those projects the over all school enrollment in the District will decrease by 6 percent. Turner's school enrollment has been projected to increase slightly over the 2000 school year enrollment.

**Projected School Enrollment**

**SAD # 52 and Turner**

**2010-2011**

<b>Year</b>	<b>Turner</b>	<b>SAD 52</b>
2000	1,100	2,276
2010-11	1,115	2,135

Source: SAD 52

The Comprehensive Planning Committee reviewed the projections prepared for SAD 52 and raised some questions. These related to the small increase projected over the ten year period. The committee believes that a dialog should be established between the District and planning board to tract growth on a yearly basis.



## FISCAL CAPACITY

### Findings and Trends 1990-2002

- ❖ The rate of growth in total valuation has been greater than the rate of inflation.
- ❖ Between 1990 and 2000 total town expenditures increased by 73% or \$1,800,000.
- ❖ Education costs accounted for 63% of the town total expenditures in 2000.
- ❖ The town has a strong fiscal capacity.

### Introduction

A community's fiscal capacity refers to its ability to meet current and future needs through public expenditures. As Turner continues to grow and develop over the next ten years, demands will be placed upon its fiscal capacity to provide various municipal services both existing and new. These may include new and improved roads, new or additions to fire and rescue stations, education facilities, public water and sewer, new or improved waste facilities, parks and recreational facilities, law enforcement, library improvements and public improvements to service a business park just to name a few. The comprehensive plan will make various recommendations requiring public investment. These recommendations must be considered in light of Turner's capacity to pay for or finance them.

### Revenues

Revenues considered in this fiscal analysis include those that are recurring such as property tax and various user fees. Turner's largest source of revenues is from the property tax. The following table indicates the value of the municipal tax base, tax commitment and mil rate for the past five years and also for 1985, 1990 and 1995. There was a significant increase in net valuation between 1988 and 1989 (\$118,000,000) due to the first revaluation of the Town since the late 1970's. A second revaluation was completed in 1997 that resulted in only a modest increase in net valuation of \$5,280,000 that was reflected in the 1998 fiscal report.

**Valuation Tax Commitment and Mil Rate  
1985-2000**

<b>Year</b>	<b>Net Valuation</b>	<b>Tax Commitment</b>	<b>Mil Rate</b>
1985	\$70,438,053	\$1,029,429	14.6
1990	\$192,675,423	\$1,868,951	9.7
1995	\$212,563,783	\$2,657,047	12.5
1996	\$214,823,518	\$2,771,224	12.9
1997	\$221,491,318	\$2,768,641	12.5
1998	\$226,771,128	\$2,857,316	12.6
1999	**\$209,117,488	\$3,115,852	14.9
2000	\$216,476,589	\$3,039,331	14.04

\*\* The drop in net valuation from 1998 to 1999 was substantially due to the \$7,697,200 of “Homestead Exemptions” granted.

Source: Town of Turner Annual Reports

Other significant revenue sources have been excise taxes, state revenue sharing and highway block grants.

**Significant Sources of Revenue  
1985-2000**

<b>Year</b>	<b>Excise Taxes</b>	<b>State Revenue Sharing</b>	<b>Highway Block Grant</b>
1985	\$202,831	\$78,557	N/A
1990	\$376,011	\$142,912	\$66,347
1995	\$494,194	\$135,000	\$160,000
1996	\$514,246	\$168,767	\$85,000
1997	\$541,598	\$221,765	\$88,000
1998	\$584,177	\$243,335	\$88,723
1999	\$655,741	\$260,150	\$87,072
2000	\$723,786	\$270,481	\$90,015



Source: Town of Turner Annual Reports

## Expenditures

The largest annual expenditure is for education through Turner's share of MSAD #52's budget. The school assessment (\$2,685,230) accounted for 63% of the town's total expenditures (\$4,274,087) in 2000. This compares to 57% in 1990. The school assessment has increased 90% (\$1,269,000) in the 10-years between 1990 and 2000 from \$1,416,465 to \$2,685,230. During this same 10-year period the total annual town expenditures have increased 73% (\$1,800,000).

This means that all other town expenditures increased \$531,000 or 20% in this 10-year period.

### Significant Items of Expenditure Turner, Maine \$000's

	<u>1990</u>	<u>1995</u>	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>
Education	1,416	2,116	2,254	2,353	2,547	2,756	2,685
County Tax	172	163	219	228	235	227	237
Administration	129	198	231	206	250	218	247
Paving, constr, summer/winter roads	394	447	457	676	816	602	725
Solid Waste, Landfill, Transfer Facility	101	121	143	152	146	158	172
<b>Totals</b>	<b>2,212</b>	<b>3,045</b>	<b>3,304</b>	<b>3,615</b>	<b>3,994</b>	<b>3,961</b>	<b>4,066</b>

Source: Town of Turner Annual Report

## Major Capital Expenditures

Major capital expenditures over the past four years have been for a new highway garage and rolling stock.

**Major Capital Expenditures  
1998-2000**

	<b><u>1998</u></b>	<b><u>1999</u></b>	<b><u>2000</u></b>	<b><u>2001</u></b>
Fire truck	\$20,000	\$10,000	----	\$10,000
Highway garage	----	\$20,000	\$150,000	\$25,000
Nezinscot dam	----	\$10,000	\$5,000	\$30,000
Food Bank	----	----	\$5,000	----
Town office	----	----	----	\$25,000
Pleasant Pond dam	----	----	----	\$20,000
Highway equipment	----	----	----	\$75,000
Tax maps	----	----	----	\$58,000
<b>Totals</b>	<b>\$20,000</b>	<b>\$40,000</b>	<b>\$160,000</b>	<b>\$243,000</b>

Source: Town of Turner

**Balance Sheet**

At fiscal year ending June 30, 2000 the Town of Turner had no long-term debt obligations and showed a strong undesignated fund balance of \$1,083,536 or 57% of total assets of \$1,892,071. The only indebtedness is the town's share of the MSAD #52 indebtedness and their share of the County debt. On June 30, 2000 MSAD #52 had total debt of \$20,767,740 and Turner's share of that was 46.05% or \$9,563,540. At the same time the County's total debt was \$4,080,000 and Turner's share was 5.14% or \$209,712.

**Fiscal Capacity**

The Town's total outstanding debt is limited by state law to 15% of the Town's last full state valuation. This limit is reduced by 7.5% if the debt for schools, sewer and airport, water and special district purposes are excluded. With Turner's valuation of \$216,476,589 on June 30, 2000 the Town's total debt limit, established by State law, would be \$32,471,487.

## **TRANSPORTATION**

### **Findings and Trends 1990-2002**

- ❖ **Approximately one half of the town road milage is considered in good condition.**
- ❖ **Over the past 10 years two miles of new town roads have been accepted.**
- ❖ **Route 4 in Turner has been classified as a retrograde arterial by the Maine Department of Transportation.**

### **Introduction**

Turner's transportation system is primarily limited to its roadway system. There is a privately owned airport and float plane base located in South Turner.

A community's roadway system is extremely important to future development. Traditionally, the roadway system has been second only to education in the amount of tax dollars expended annually. Turner has approximately 67 miles of totally town-maintained roads. In addition, there are some 19 miles of road for which the State Department of Transportation has summer maintenance responsibility, and which Turner plows and sands in the winter. The 12.7 miles of Route 4 which bisects the Town are totally maintained by the State. Since 1991 the town has accepted approximately two miles of new public roads. These roads serve residential subdivisions.

In addition to public roads there are of privately owned roads serving residential subdivisions and homes adjacent to ponds.

### **Roadway Conditions**

Physical conditions of all Town maintained roads were rated by the Turner Road Commissioner. The rating system was based upon the surface conditions and drainage. This analysis found that 32.6 miles of Town roads were in good condition, 21.4 miles in good to fair condition, 10.2 miles in fair condition and 2.4 miles in poor condition.

**Road Conditions, 2001**

<b>PAVED ROADS IN GOOD CONDITION</b>	
<b>Road/Street</b>	<b>Miles</b>
Abenaki Way	.25
Airport Road	.16
Aspen Way	.17
Back Cove Road	.81
Beals Pond Drive	.08
Bean Street	1.65
Blake Street	.43
Bradford Road	.79
Brookfield Estates	.2
Canterbury Lane	.18
Colony Drive	.3
Dow Farm Road	.34
East Hebron Road *3/4 in good & 1/4 poor	2.97
Fish Street	2.43
Forest Trail	.38
General Turner Hill Road	3.2
Holbrook Road	.85
Johnson Hill Road	.29
Kennebec Trail	.86
Little Wilson Pond Road	1.61
Lower Street	4.0
Mancine Road	.69
Mason Road	.59

PAVED ROADS IN GOOD CONDITION	
Nezinscot Drive	.34
North Main Street	.18
Pearl Road	.74
School House Hill Road	1.32
Skillins Corner Road	.29
Skillins Woods	.23
Snell Hill Road	1.44
Tidswell Road	1.0
Wilson Hill Road	1.93
<b>Total</b>	<b>30.41</b>

PAVED ROADS IN GOOD TO FAIR CONDITION	
Road/Street	Miles
Boothby Road	.2
County Road	3.24
Fern Street	1.95
Harlow Hill Road	2.35
Lard Pond Road	.25
Long Meadow Estates	.24
Main Street	.9
Magnum Drive	.48
McCavity Drive	.16
Old Turner Road	.06
Orchard Way	.31
Ricker Hill Road	1.48
Pheasant Run	.19
Plains Road	2.93

PAVED ROADS IN GOOD TO FAIR CONDITION	
So. Livermore Road	1.24
Stone Road	.32
Turkey Lane	.65
Willard Drive	.2
<b>Total</b>	<b>16.86</b>

PAVED ROADS IN FAIR CONDITION	
Road/Street	Miles
Berry Hill Road	.5
Bryant Road	.74
Church Street	.13
Cross Street	.1
Howe's Hill	1.3
Mill Hill Road	.43
River Road	.36
Round Pond Road	.16
Teague Avenue	.18
<b>Total</b>	<b>3.9</b>

PAVED ROADS IN FAIR/POOR CONDITION	
Road/Street	Miles
Allen Road	.24
Heikennen Drive	.26
Poland Road	.12
Popular Hill Road	.75
<b>Total</b>	<b>1.66</b>

PAVED/GRAVEL ROADS IN GOOD TO FAIR CONDITION	
Road/Street	Miles
Bennett Road	.24
Pleasant Pond Road	2.4
Sherm Varney Road	.2
Teague Hill Road	.2
<b>Total</b>	<b>3.04</b>
PAVED/GRAVEL ROADS IN FAIR CONDITION	
Road/Street	Miles
Conant Road	1.02
Cobb Road	1.78
Hammond Road	.17
Old Varney Road	.5
Potato Road	1.1
<b>Total</b>	<b>4.84</b>

GRAVEL ROADS IN GOOD CONDITION	
Road/Street	Miles
Belisle's Road	.19
Durgin Road	.06
Merrill's Mills Road	.92
Pit Road	.27
Staples Road	.34
Torrey Hill Road	.7
<b>Total</b>	<b>2.21</b>



<b>GRAVEL ROADS IN GOOD TO FAIR CONDITION</b>	
<b>Road/Street</b>	<b>Miles</b>
Beach Street	.28
House Road	.1
Knight Farm Road	.21
Wood Street	.89
<b>Total</b>	<b>1.48</b>

<b>GRAVEL ROADS IN FAIR CONDITION</b>	
<b>Road/Street</b>	<b>Miles</b>
Cran Apple Lane	.24
Malloy Road	.23
White Birch Drive	.8
Youngs Hill Road	.2
<b>Total</b>	<b>1.47</b>

<b>GRAVEL ROADS IN POOR CONDITION</b>	
<b>Road/Street</b>	<b>Miles</b>
Town Farm Road	.73

### **Roadway Capacities**

Turner's rapid residential development and projections of continued residential growth will place additional burdens upon the local roadway system. Because of this and the substantial annual investment, to maintain roads and the even greater investment to upgrade them, a highway maintenance and capacity analysis was conducted as an element of the comprehensive plan. The results of this analysis will aid in roadway improvement programming and the determination of future development impacts upon local roadways.

The following methodology was employed to collect the base line information to determine roadway capacity:

- a. Each road was driven and various road segments were located on the Town of Turner's Street Base Map.
- b. Each segment was numbered for each road name from one end consecutively to the other end. Segments were determined by intersections or other relevant features of the road.
- c. Road type was designated as one of the following:
  - state route
  - urban/village
  - local collector
  - general rural
  - limited use
- d. Paving was indicated by the type of surface, bituminous or gravel.
- e. Drainage was determined by the suitability of ditches and culverts and a historic perspective on flooding and washouts. It was rated as good, fair or poor.
- f. Base was a general description of the adequacy of base--rated as good, fair or poor.
- g. Alignment was used to indicate the adequacy of alignment to provide for safe travel. Again a good, fair, poor rating was used.
- h. The actual width of pavement was recorded.
- i. Shoulders were recorded as the average width of shoulder over the length of the segment.

This information was recorded on field sheets that corresponded to the road segments located on the street base map.

The assessment factors were separated into two distinct parts--factors related to adequacy of service and the factors related to maintenance costs. All can be combined into an overall adequacy of the road to provide a sufficient level of service at a reasonable maintenance cost.

Capacity rating of a road, or particular segments of a road, are important to planning for Turner's future. Capacity of roads should be a consideration in the future development patterns of the community. Based upon the roadway capacity analysis, the following major transportation routes have the following capacity ratings:

### **High Capacity**

Upper Street  
Lower Street  
North Parish Road  
Route 117  
Route 219

### **Medium Capacity**

Wilson Hill Road  
Main Street  
School House Hill Road

### **Low Capacity**

North Auburn Road  
East Hebron Road  
General Turner Hill Road  
Gauthier Hill Road

### **Traffic Volumes**

Route 4 is one of the major arterials in Maine. It carries industrial traffic to the paper mills in Livermore Falls, Jay and Rumford and to the urban center of Lewiston and Auburn. As residential development expanded in Turner and other rural communities, commuter traffic has increased. It also carries recreational traffic to the Western Mountains of Maine. Annual average daily traffic volume on Route 4 at Tuner Village increased by 34% or 3,400 vehicles between 1998 and 2000. Other major roads are Route 117 which provides east/west travel through Norway and Paris and Route 219 that connects with Route 26 in West Paris. Other roads that receive a high level of traffic although not as great as the State routes include the Center Bridge Road, Lower Street, Upper Street and Western Road.

The Maine Department of Transportation maintains traffic volume data for several locations throughout Turner. The following table presents annual average daily traffic data at several locations.

**Annual Average Daily Traffic**  
**Number of Vehicles**

Location	Year	
	1988	1998/99 or 2000
Route 4/Turner Village	9,980	13,360
Route 4/Lower Street	10,890	13,550
Route 4/North Turner	9,110	9,650
Route 219/Howes Corner	1,780	2,140
Lower Street/Greene Road	1,460	3,010
Turner Center	2,040	2,770

**High Crash Locations**

The Maine Department of Transportation maintains reports of all reportable crashes (\$1000 damage or personal injury). A report entitled "Maine Accident Record Summary" provides summarized data relating to the location and nature of crashes. One element of the summary report is the identification of a "Critical Rate Factor" (a statistical comparison to similar locations in the State). Locations with a critical rate factor of greater than 1.00, with a total of 8 or more crashes, should be of concern because it is considered a high accident location. Based upon the information provided by the MDOT, there are a number of locations with a critical rate factor greater than 1.00 in Turner.

**High Crash Locations**  
**1998-2000**  
**Turner, Maine**

Location Description	# of Accidents	Critical Rate Factor
Route 4/Snell Hill Road	9	2.08
Route 4/Route 117	13	2.14
Route 4/Mancine Road	10	2.08
Route 4/219	19	3.85
Howes Corner	8	1.26
Source: Maine Department of Transportation		

## **Route 4 Corridor Safety Study**

The Maine Department of Transportation at the request of the Androscoggin County Sheriff's Department published the Route 4 Safety Study in 1999. That study was updated in 2001. The study compared crash characteristics found on Route 4 with crash characteristics found on similar sections of roadway in the general area of Turner and with the statewide averages for all road types. The study found that Route 4 is a comparatively safe roadway in terms of crash rate but the severity of crashes is quite high. It was also found that a high percentage of crashes occur at driveways along Route 4.

Between 1998 and 2000 there were 249 crashes reported on Route 4. The following table presents the type and number of crashes.

**Route 4 Crashes in Turner  
1998-2000**

<b>Type of Crash</b>	<b># of Crashes</b>
Intersection Movement	73
Rear end/Sideswipe	67
Dear/Moose Strike	36
Run off Road	32
Head on/Sideswipe	22
Other	19
Total	249
Source: Maine Department of Transportation	

## **Retrograde Arterial**

Route 4 in Turner has been classified as a retrograde arterial by the Maine Department of Transportation. A retrograde arterial is a mobility arterial where the access related crash-per-mile rate exceeded the 1999 statewide average for arterials of the same posted speed limit. Access to retrograde arterials will be regulated by the Maine Department of Transportation through driveway and entrance permits.

## **Airport Facilities**

Turner Aviation (Twitchell's Airport), located at South Turner, and Twitchell's Seaplane Base, located on Gulf Island Pond, are defined by the Maine Department of Transportation as a privately owned commercial airport. The airport is designated as a utility airport with Runway 8-26, 2,000 ft. in length and Runway 12-30, 2,340 ft. in length. The airport provides fuel and aircraft repair.

## **Sidewalks**

The only sidewalks found in Turner are located on Lower Street from the Leavitt Area High School parking lot entrance to Route 117 (Turner Center Road) on the bridge that crosses the Nezinscot River in Turner Village and the remnants of a side walk on the easterly side of a portion of Main Street in Turner Village. The total length of sidewalks in Turner is approximately 800 feet.

In Turner Center there is a critical need for additional sidewalks to serve school pedestrian traffic. The area along Turner Center Road and Cobb Road to the Turner Primary School are priority locations.

## **State Highway Improvement Plan**

The Maine Department of Transportation updates its Six-Year Transportation Improvement Plan every two years. The purpose of the Six-Year Plan is to provide a linkage between the policy-based 20-Year Transportation Plan, the project based Biennial Transportation Improvement Program and local planning. Project in Turner identified in the Six-Year Transportation Improvement Plan include.

### **Reconstruction**

- Route 219 at Twin Bridges
- Route 117 from Buckfield to Upper Street
- Route 219 from Hartford to Route 4

### **Bridge Replacement**

- Twin Bridges
- Ricker Bridge

## OUTDOOR RECREATION RESOURCES

### Findings and Trends 1990-2002

- ❖ The town has added a town beach and ballfields to its recreation facilities.
- ❖ Traditional outdoor recreation opportunities may decrease as the result of land posting.
- ❖ Additional outdoor recreation facilities will be needed over the next ten years.

### Introduction

Most public recreation facilities in Turner are associated with the school system. Recreation oriented facilities owned directly by the Town have expanded over the past ten years and include the town beach at Bear Pond, boat launching area at Pleasant Pond, the Boofy Quimby Memorial Center in North Turner and baseball fields on the Cobb Road.

Recreation in Turner, as in many rural communities, has been non-facility oriented. Traditional access to water bodies and woodlands has provided for many recreational opportunities with limited demands for facility oriented recreation.

### Public/Semi-Public Recreational Facilities/Areas

School Administrative District #52 owns and maintains the majority of the public recreational facilities in Turner. Although these facilities are primarily utilized for school activities, the Turner Athletic Association enjoys a high level of cooperation with the District and in the utilization of their various facilities.

**SAD #52 Recreation Facilities**

**Turner Center**

<b>Type</b>	<b>Number</b>
Baseball fields	2
Softball fields	4
Football fields	2
Soccer field	1
Field hockey field	1
Track	1
Tennis courts	3
Basketball court (outdoor)	3
Basketball courts (indoor)	5
Playground areas	2
Cross-country trails	yes

The Boofy Quimby Memorial Center located on Route 219 in North Turner is located on the site of the old North Turner School. The center was made possible through a gift in memory of a young North Turner boy.

**Boofy Quimby Memorial Center**

**Recreation Facilities**

**North Turner**

Baseball/softball fields	2
Indoor basketball	1
Outdoor Basketball	1

In 1997, the town purchased property on Bear Pond for a town beach. A total of 3.7 acres was purchased with 1.1 acres beach area. The beach is overseen by a volunteer Beach Committee.

In 2001, two new little league baseball fields were constructed off the Cobb Road. This was made possible through donations and volunteer labor.



## **Formal Public Access to Surface Waters**

The public is provided access via a town-owned boat launch at only one of the Town's 12 Great Ponds, including Gulf Island Pond, (lakes and ponds with a surface area of 10 acres or more). The Town-owned land, approximately 1/4 acre, at the southern end of Pleasant Pond, has been improved for boat access to Pleasant Pond.

In the fall of 1988, a hard surface launching area and parking facility were completed at the Turner-Greene Bridge at the head of Gulf Island Pond of the Androscoggin River. This facility was constructed by Central Maine Power Company and is now owned by Florida Power and Light. It was constructed to provide recreation access to the largely undeveloped Gulf Island Pond Area as a condition of the Federal Energy Regulatory Commission's relicensing of Gulf Island Pond Dam. The facility receives a high amount of use.

There are several informal access sites to the Town's surface waters where the public has enjoyed access across private lands. These include: the area immediately above the Main Street Bridge on the Nezinscot River, where an unpaved boat launch exists; the parking lot behind the former Hearth & Cricket Building (the mill building) below the Main Street Bridge on the Nezinscot, and at the Route 117 Bridge across the Nezinscot. There are, in addition, numerous other informal access sites to the rivers, streams and ponds.

## **Open Space Areas**

Turner is endowed with a large amount of privately owned open space that has traditionally been open to the public for snowmobiling, hiking, cross-country skiing and hunting. The largest area, often referred to the Diamond Match Land, is located along Gulf Island Pond. The parcel contains some 1,800 acres and 9.4 miles of undeveloped shoreland along the Androscoggin River. The public has enjoyed access to these lands and because of development potential, the Land for Maine's Future Board purchased the tract in fall of 1990. It is managed by the Bureau of Parks and Recreation and has had walking and ATV trails developed.

These open space areas have made a large snowmobile trail system possibly throughout the town, connecting to the trail systems in other communities and the statewide snowmobile trail system.

The 4-wheeler or ATV is becoming a popular outdoor recreation activity. The Maine Department of Parks and Recreation has designated the Androscoggin Riverland's as an ATV riding area. There is interest of ATV owners' in Turner and surrounding communities to establish a system of trails outside the State owned Androscoggin Riverland's.

## **Important Hunting and Fishing Areas**

Turner has traditionally been a favorite hunting area for both town residents and nonresidents. The Town's farming activities and woodlands provide excellent wildlife habitats. Significant

hunting areas include the lands along the Androscoggin River and land along Upper Street. More and more land is being posted to no hunting in Turner. The Nezinscot and Androscoggin Rivers traditionally have been favorite water fowl hunting areas.

The rivers, streams and brooks in Turner provide for numerous fishing opportunities. In recent years, the Nezinscot River has become an important fishery for brown trout.

Various brooks and streams provide for a brook trout fishery as do the ponds. In addition the Androscoggin River has become a regionally important bass fishing water.

### **Recreation Programs**

The Turner Jr. Athletic Association sponsors recreation programs for elementary school age children. The program is run by volunteers with a portion of costs appropriated by the Town. However, to date, the majority of money has been raised through fund-raising. The Association conducts three seasons of sports programs. In the spring and summer, baseball, softball and T-ball are provided, involving approximately 500 children. Peewee football is conducted in the fall for 11, 12 and 13 year olds. In the winter, basketball is played by children in grades three through six.

### **Facility Need Analysis**

Turner's existing outdoor and indoor recreation facilities were assessed based upon the Guidelines for Recreation and Park Services prepared by the Community Parks and Recreation Program. The analysis was based upon the facilities identified in the above sited report and current day facilities in Turner. The first column identifies the type of facility. The second column presents recommended capacities for each type of facility. Also in the second column in parentheses is identified capacity and facilities needs based upon a planning population of 5,000. The last column represents current day facilities.

The analysis indicates that Turner meets or exceeds most of the recreation facilities needs considered, however, several deficiencies exist. Based upon the analysis, Turner has deficiencies in neighborhood parks, ice skating and picnic tables.

### **Outdoor Recreation Facility Analysis**

<b>Type of Facility</b>	<b>Recommended Facilities</b>	<b>Existing Facilities</b>
Neighborhood Playgrounds	10 acres; located within ½ mile of each housing concentration of 50 or more homes - playground basketball court, play field, etc.	1 located at Turner Elementary School
Community Recreation Area	12-25 acres developed with ballfields, tennis courts, swimming facilities, ice skating, etc.	1 Boofy Quimby (no swimming)
Community Park	100+ acres; largely undeveloped for walking, cross-country skiing, nature study, etc.	1 Androscoggin Riverlands
Baseball Diamond (90 foot base paths)	0.16 per 1,000 population ( 1 diamond)	2 diamonds
Softball/Little League Diamond	0.75 per 1,000 population (4 diamonds)	8 diamonds
Basketball Court	0.50 per 1,000 population (2 courts)	3 courts
Tennis Courts	0.67 per 1,000 population (3 courts)	3 courts
Multi-purpose Field/Football, Soccer, Field Hockey	0.50 per 1,000 population (3 fields)	4 fields
Swimming Area	Area to serve; 5% of population 15 sq.ft./user	1 swimming area
Ice Skating	5,000 sq.ft. per 1,000 of population (24,000 sq.ft.)	0
Playgrounds	.50 per 1,000 population (3)	3
Picnic Area	2 tables per 1,000 population (10 tables)	0
Outdoor Education Area	1 per town	Androscoggin Riverlands Lands



## SCENIC RESOURCES

### Findings and Trends 1990-2002

- ❖ Scenic views help define Turner's character.
- ❖ Agriculture plays an important role in maintaining the scenic views in Turner.
- ❖ Scenic view locations are in demand for residential development.

### Introduction

Turner is endowed with a number of scenic areas and views. These scenic views is second only to farmland of the characteristics that residents most often use to describe Turner's character. The Town's topography and several north-south roads which traverse these ridges provide striking scenic views, some reaching Mt. Washington.

### Scenic Resources

During the inventory element of the 1991 Comprehensive Planning Program, 18 scenic vistas were located and ranked. A system to rank each site was developed with the highest possible score being 12. Although there are other scenic areas throughout the Town, the following is representative of the most significant.

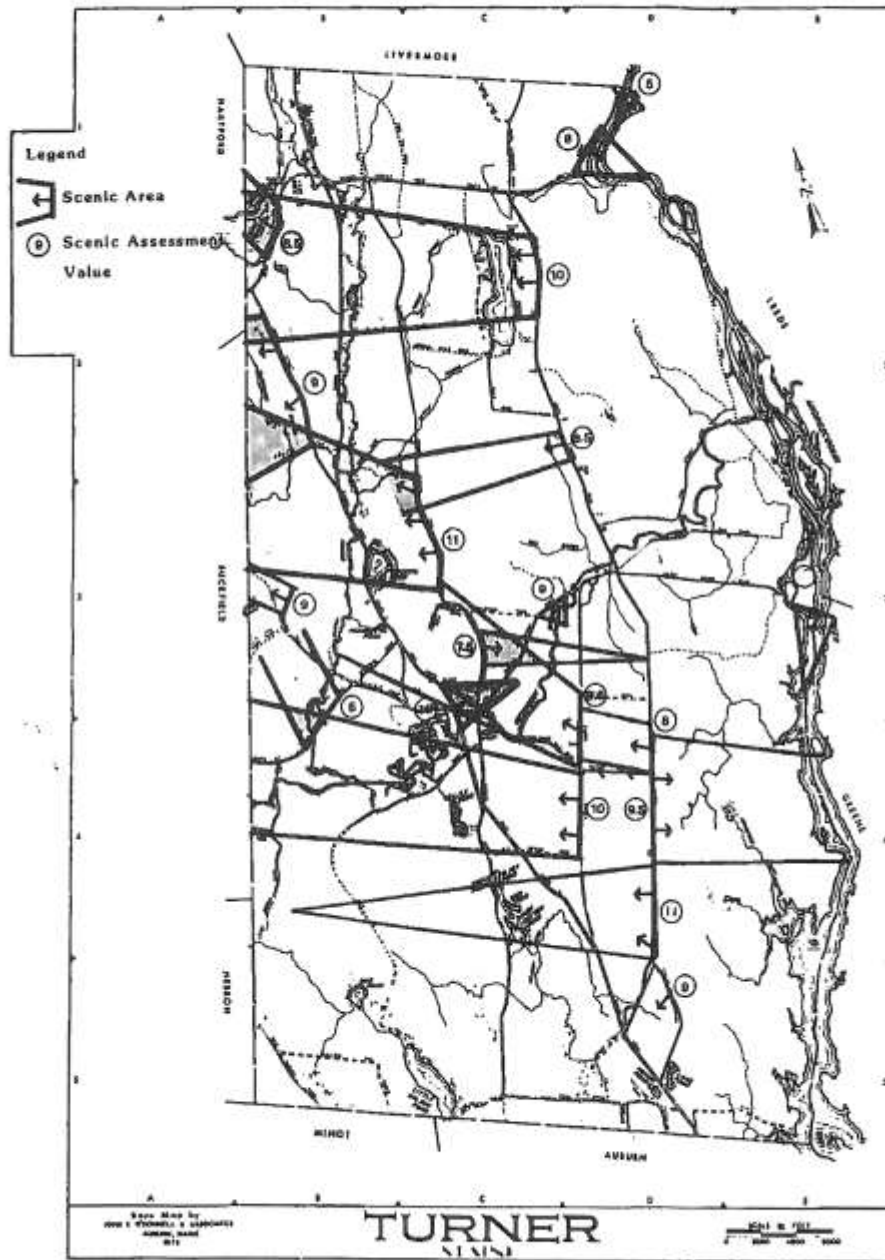
Current development regulations in Turner require an assessment of the impacts upon scenic locations when a subdivision or commercial type development is proposed. However, they fall short in providing an adequate level of protection when single lots are developed for residential use.

Many of the scenic locations will be attractive for development if agriculture declines in the future. Since 1990 several scenic view locations and view sheds have been developed for residential use. Scenic view locations which have seen residential development include the views westerly from General Turner Hill, Lower Street and Upper Street.

## Visual Quality Assessment 1990

Location	Distance	Duration	Uniqueness	Accessibility	Total Score
Upper St. Westerly	3	3	3	2	11
Gen. Turner Hill Westerly	3	3	3	2	11
Lower St. Westerly	3	3	3	2	11
N. Parish Rd. Westerly (Merrill Hill)	3	2	3	2	10
Rte. 4 South	3	2	3	2	10
Upper St. Easterly	3	2	2.5	2	9.5
Pearl Road/West & North Schoolhouse Hill	3	2	2.5	2	9.5
Poplar Hill Rd. Westerly	3	2	2	2	9
Top of Ricker Hill Westerly	3	1	3	2	9
Mud Street Westerly	3	2	2	2	9
Rt. 117 (Turner Ctr.) East	1	3	3	2	8
N. Parish Rd. Westerly (Caldwell's)	3	1	2.5	2	7.5
Upper St. N.W. (Schoolhouse Hill)	3	1	2	2	8
N. Parish Rd. (E/SE) (Wadsworths to Grants)	1	2	3	2	8
Gen. Turner Hill Rd. S.E.	3	1	1.5	2	7.5
Andros. River, Greene Bridge	1	1	2	3	7
Bear Pond Rd. West	1	1	2.5	2	6.5
Rt. 117 (Chases Mills) W/SW	1	1	2	2	6

# Turner Comprehensive Plan



Scenic Areas

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## **HISTORIC AND ARCHAEOLOGICAL RESOURCES**

### **Findings and Trends 1990-2002**

- ❖ **A single site, the Turner Town House, is listed on the National Register of Historic Places.**
- ❖ **The historic Turner Creamery was lost to fire in 1995.**
- ❖ **Seventeen prehistoric sites have been identified along the banks of the Androscoggin River.**

### **Introduction**

The Town's formal history began in 1765 when the General Court of Massachusetts chartered a town known as Sylvester-Canada. In July 1786 Sylvester-Canada became Turner. The three remaining villages, Turner Village, Turner Center and North Turner, were important community centers. Today, these three village areas provide some evidence of Turner's past.

In addition to the villages, the Turner Town House is listed on the Natural Register of Historic Places. A number of locally significant historic buildings and sites are also scattered throughout the Town.

### **Historic Resources**

The Town House situated between the Universalist Church and the Natural History Club building in Turner Center is quite a distance from the site that was originally intended for its construction.

Around 1831, the town chose a central spot to build the town house. The spot was chosen near a farm now owned by Gregg Varney on Route 117 between Turner Village and Turner Center. The lumber was acquired and stacked for the new building to begin. It seems that some people were not in favor of the location, and one night a group of 40 men moved the lumber to the east side of the river, and before dawn the town house was well advanced on its present site. To prevent its being moved, the men used notched wooden spikes in its framing. Records show that they won the battle but lost the war, because at the next meeting, all officers were replaced in elections. The building is now in the custody of the Natural History Club. Story taken from Trails Magazine, Class of 1976 by Wendy Libby.



### Locally Significant Historic Buildings and Sites

<u>Site</u>	<u>Location</u>	<u>Owner</u>	<u>Surroundings</u>
<u>Cattle Pound</u>	<u>General Turner Hill</u>	<u>Town</u>	<u>Private residents</u>
<u>Devil's Den</u>	<u>Merrill's Hill</u>	<u>E. Russell</u>	<u>Woodlands</u>
<u>Bible Corner</u>	<u>Ricker Hill</u>	<u>Rickers</u>	<u>Fields &amp; woods</u>
<u>Town House</u>	<u>Turner Center</u>	<u>Town</u>	<u>Village, church</u>
<u>G.A.R. Hall</u>	<u>North Turner</u>	<u>N. Turner Church</u>	<u>Private homes</u>
<u>Barrell's Quarry</u>	<u>Poplar Hill,</u>	<u>Barrells</u>	<u>Private woods</u>
<u>Adm. Bradford House</u>	<u>Snell Hill Road</u>	<u>Hope Haven</u>	<u>Private homes</u>
<u>Solon Chase House</u>	<u>Rt. 117, Chases Mills</u>	<u>Braleys</u>	<u>Private homes</u>
<u>Leavitt Institute</u>	<u>Turner Center</u>	<u>SAD #52</u>	<u>Schools, village</u>

### **Archaeological Resources**

Archaeological resources are physical remains of the past, most commonly buried in the ground or very difficult to see on the surface. Archeological sites are defined as prehistoric or historic. Prehistoric sites are those areas where remains are found that were deposited thousands of years

before written records began in the United States. These sites are the only source of information about prehistory. More recent archaeological sites are those sites which occurred after written records began.

In Maine, archeological sites are most commonly found within 25 yards of an existing or former canoe-navigable waters including lakes, rivers, streams and swamps. These areas provided good locations for boat access and camp locations. Although some 4,500 archeological sites have been identified in Maine, there may be an additional 12,000 sites to be discovered.

The Maine Historic Preservation Commission reports 17 prehistoric sites located along the banks of Androscoggin River. These were found as part of relicensing studies for the FPL Gulf Island Dam. Three of these sites are listed on the Register of Historic Places and four others may be eligible for listing. It is expected that additional prehistoric sites could exist along the banks of the Nezinscot River and other streams, brooks and ponds in Turner.

A single historic archeological site, the Keene's Mills Archeological District has been identified in Turner. It is believed that other historic archeological sites exist which represent early mill and farmstead sites representing the first wave of Euro-American settlement of Turner.

## **LAND USE/UTILIZATION**

### **Findings and Trends 1990-2002**

- ❖ **The decade of the 90's saw a net loss in agricultural land in Turner.**
- ❖ **It is estimated that more than 500 acres of land was converted from agriculture to residential uses between 1990 and 2002.**
- ❖ **From 1990 to 2002, 39 residential subdivisions were approved or pending approval with a total of 256 lots.**
- ❖ **Since 1990 there have been 15 new structures constructed for businesses along Route 4.**

### **Introduction**

A major element of the Comprehensive Plan is the analysis of the use of land and existing development patterns. Through such an analysis, insights into community functions, spatial relationships, past and current priorities and future directions are possible. Current land use patterns and expected future development trends are cornerstones in the development of policies and strategies which will shape Turner's future land utilization characteristics.

Turner has a total land area of approximately 62 square miles and is the largest geographic community in Androscoggin County. The Town partially developed as a manufacturing community based upon its natural resources and agricultural products. Water from the Androscoggin and Nezinscot Rivers powered the mills that transformed raw materials into various products. By the early 1900's, the manufacturing economy had declined. However, the importance of agriculture continued. While, today's land use patterns are still reflective of the importance of agriculture low density residential develop has become much more prominent.

### **Agricultural Land Use**

Agricultural land use has been historically the most prevalent use of land other than woodlands in Turner. Agricultural land use includes those lands currently utilized to produce agricultural commodities such as croplands, pasture lands, orchards, farmsteads, and one of the largest egg

farms in the nation. Forest lands or woodlands closely associated with agriculture are considered as an individual land use category for the purposes of the Plan. It is difficult to specifically identify the total land area utilized for agriculture in Turner.

Several past studies and discussions with agricultural landowners, provide insight into the significance of Turner's agricultural land utilization. In a study published in March 1981 based upon 1977 aerial photography, 5,087 acres of agricultural land use was identified in Turner.

The 1982 Study of Farmland Conversion in Nineteen Maine Communities published by the Maine State Planning Office reported that Turner had 8,698 acres of open land in 1981. That same report found that Turner had a net gain of 515 acres of agricultural land between 1964 and 1981. This gain was calculated based upon 827 acres of new land cleared with 650 acres attributed to DeCoster Egg Farm operations. Over the period, 312 acres of available agricultural land was reported lost, thus a total gain of 515 acres was realized.

Between 1980 and 1990, additional lands were cleared for agriculture, although the exact amount is not known. During that period, land once used for agricultural purposes was converted to other uses, including residential and woodlands. However in that 10 year period, it is estimated that there had not been a net loss in agricultural land.

The decade of the 90's saw a net loss in agricultural land in Turner. That loss is contributed to residential development through the subdivision of land and individual lot development on land formally used for agricultural purposes. Thirteen subdivisions totally 110 individual lots were approved over the ten years that before were used for farmland. The land area subdivided and removed from agriculture exceeded 400 acres. In addition to subdivided land, there has been more than 30 new individual residential lots created on land formally used for agriculture. In total it is estimated that more than 500 acres of land was converted from agriculture to residential uses between 1990 and 2002. The greatest loss of agricultural land was in orchard land and the more marginal crop and hay lands.

The majority of land utilized for agriculture is situated in the eastern half of Turner. Upper and Lower Streets, which follow a long ridge, are major centers of agricultural land use. In addition lands along the banks of the Androscoggin and Nezinscot Rivers are major agricultural areas. The Turner Plains area contains the site of 1,200 acre DeCoster Egg Farm. A portion of the site is used for the production of eggs, their processing and shipping.

## **Forested Land**

Forest or woodlands cover the majority of land in Turner. It is estimated that some 30,000 acres are covered by trees at various stages of maturity. These woodlands provide raw material for the pulp and paper industry, and the lumber industry. They are also important recreation resources and wildlife habitats and protect the quality of water. It is estimated that there are some 5,000 acres of forest land under active management in Turner. Much of the remaining forest land has been or will be harvested some time in the future.

Information provided by the Maine Forest Service indicates that from 1991 to 1999 timber was harvested from 6,400 acres in Turner. There were 5,850 acres of selection harvest, 380 acres of shelter wood harvest and 78 acres clear-cut. In addition there were timber stand improvement on 318 acres and 240 acres of woodland changed to a use other than forestry.

Residential development has resulted in the loss of commercial woodland. Between 1990 and 2002 fifteen subdivisions were approved with a total of 105 lots in forested locations.. In addition it is estimated that 60 homes were constructed in forested locations.

Most of Turner's woodland owners have not placed their land under the Tree Growth Tax Program which is intended to lower the amount of property tax paid if certain conditions are met. Some 2,100 acres have been registered under the program or approximately 10 percent of the total woodland.

### **Residential Land Use**

The 2000 Census reported 1,977 housing units in Turner. This was an increase of 265 units or a growth rate of 15.5 percent over the 10 year period. Based on building permit records it is believed that an undercount of some 100 new housing units occurred. This rate of growth represents a significant residential growth rate when compared to surrounding communities.

In 1993 the Town's first zoning ordinance was adopted. That ordinance established several districts. An analysis of building permit information for the years 1995 -2001 found that the 70 percent of the new residential dwellings were constructed in the rural zoning districts.

### **Residential Building Permits Issued By Zoning District 1995-2001**

<b>Zoning District</b>							
<b>Year</b>	<b>Village</b>	<b>G- Res</b>	<b>Rural-I</b>	<b>Rural-II</b>	<b>M-Use</b>	<b>Shoreland</b>	<b>Total</b>
1995	2	5	8	3	0	1	19
1996	4	11	19	2	0	0	36
1997	5	15	27	12	1	0	60
1998	1	11	13	6	0	0	31
1999	0	7	35	7	1	1	51
2000	3	4	26	7	0	0	40
2001	2	13	21	8	0	0	44
<b>Total</b>	<b>17</b>	<b>66</b>	<b>149</b>	<b>45</b>	<b>2</b>	<b>2</b>	<b>282</b>

Turner's residential land use and development can be separated into several types. These include traditional compact village areas, recent low density subdivision and scattered residential development.

### **Traditional Compact Village Areas**

Turner contains three traditional compact village residential areas. They are Turner Village, Turner Center and North Turner.

These areas are comprised of older residential structures on lots ranging from 15,000 to 30,000 sq. ft. Frontages are generally in the 100' range. As many as 200 residential structures are contained in the three villages.

The 1993 zoning ordinance created a village district allowing residential lots of 20,000 square feet with a minimum frontage of 100 feet. New residential development has been minimal with 15 or 6 percent of the new residences constructed in this zoning district.

### **Low Density Subdivision**

Since the 1990, Turner has experienced significant level of residential development in low density subdivisions. Low density subdivisions contain lots generally ranging in size from two to five acres with frontages in excess of 200 feet. While in the 1980's most low density subdivision development occurred off existing roads in wooded areas, the trend in the 1990's has been toward open fields that offer views.

From 1990 to 2002, 39 residential subdivisions were approved or pending approval with a total of 256 lots. This level of subdivision development was greater than in surrounding community. Subdivision development has been primarily in rural areas of the town. An analysis of the subdivision development by zoning district shows that 30 of the 39 subdivision have been located in the two rural zoning districts. Eighty percent or 211 new lots were created in the rural I and rural II zoning districts.

<b>Residential Subdivision by Zoning District-1990-2002</b>		
<b>Zoning District</b>	<b># of Subdivisions</b>	<b># of Lots</b>
Village	1	8
General Residential	7	33
Rural I	23	138
Rural II	7	73
Mixed Use	1	4
Totals	39	256

Source: Town of Turner

Although low density subdivision development has occurred in a number areas, several concentrations exist. These include south east Turner, General Turner Hill, adjacent to the Center Bridge Road and the Howes Corner area.

### **Scattered Residential**

Scattered residential development is residential that takes place on individual lots or lots not in a subdivision. Individual lot sizes range from less than an acre to more than five acres Since 1990 this type of residential develop has occurred adjacent to most public roads and has accounted for the majority of new development..

### **Commercial Land Use**

The importance of Turner's village areas for commercial use has diminished since the time when 19 separate retail or service businesses were located in Turner Village along with an electric car service. Although limited commercial land use exists today in each of the three traditional villages, Route 4 with its traffic volumes has attracted many of Turner's new commercial establishments.

South Turner, adjacent to the City of Auburn's town line, is a center of commercial activity. Located here is the Turner Business Park with six businesses, Twitchell's Airport and 10 service related businesses.

Route 4, which has an annual average daily traffic volume of more than 10,000 vehicles, has become the place of choice for commercial development. Commercial businesses are scattered along the entire length of Route 4. Since 1990 there have been 15 new structures constructed for businesses along Route 4. In addition a number of other existing structures have been converted to commercial uses.

### **Industrial/Manufacturing Land Use**

Today Turner does not contain major amounts of industrial/manufacturing land use. Several saw mills exist in the community and are located along Route 4 between Turner Village and the Turner/Livermore town line.

Although not traditionally considered as manufacturing, several of the agricultural processing facilities in Turner have been considered in a broad manufacturing/industrial classification. These include the area of the DeCoster Egg Farm which cleans, packs and ships eggs, and apple storage and packing facilities.

## **Institutional Land Use**

The major area of institutional land use is the School Administrative District property located in Turner Center. The area includes some 75 acres of developed and undeveloped land. In total acreage, institutional land use comprises a small portion of Turner's total land area. Other than the SAD property, small areas of land are devoted to the Town Office fire stations, post offices, and other public buildings

## **Undeveloped Land**

Undeveloped land is land that is not utilized for agriculture, residential, commercial, manufacturing/industrial or institutional land uses. This land may be in forest land or commercial woodlots.

Turner contains approximately 30,000 acres of undeveloped land. Significant portions of this 30,000 acres are located between Upper Street and the Androscoggin River, between the North Parish Road/Route 117 and the Androscoggin River, and from the County Road west to the Hebron town line.

## **Development/Land Use Trends**

Over the past 20 years Turner has experienced considerable land use change. Residential development has accounted for the most significant shift in land use over the period. This shift had been primarily at the expense of woodland but over the past 10 years development on traditional agricultural land has occurred.

The demand for residential development will remain high over the next ten years. The level of residential development is expected to be above that of adjacent communities over the next decade. The economy and market conditions may reduce the rate of growth that occurred. However, the significant rate of residential development will continue to exceed that of adjacent communities.

Commercial development and growth have increased significantly over the past two years and will continue to do so. Turner's growing population has attracted service related businesses to the community. Current and future population will create an additional demand for service related businesses.

Route 4 has been a desired location for new and expanded businesses. Wooded areas and marginal agricultural land have been converted to commercial use. Although commercial densities have not become significant, there is a definite trend towards a "commercial strip" along Route 4, particularly from the Auburn-Turner town line to Turner Village. Commercial land use will continue to expand adjacent to Route 4 over the next ten years. In addition commercial ventures will seek locations adjacent or within Turner Village due to the existing and projected population concentration. The Plan recommends several new locations for commercial type development based on a desire to locate such development in centralized locations and near major transportation corridors.



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Industrial land use is presently minimal in Turner. The fabrication and manufacturing of goods is centered in Lewiston and Auburn where municipal services such as water and sewer are available. Turner's industrial land use is centered at the egg processing and packing facilities at DeCoster Egg Farms. Land devoted to industrial use will remain minimal over the next ten years.

Although small, less than ten employee, industrial type firms may locate in Turner, they will not have a significant impact on land utilization. Locational demand will be adjacent to Route 4 and with easy access to it.

Agriculture is important in Turner and with that strength significant changes in agricultural land use patterns have not occurred. While it is believed that agriculture will remain strong in Turner it is seeing more development on and adjacent to agricultural land. It is expected that this trend will continue.

## **HOUSING**

### **Findings and Trends 1990-2002**

- ❖ **The number of year-round homes increased by 47% (585) between 1980 and 2000.**
- ❖ **From 1995 to 2000, 238 building permits were issued for new residential homes.**
- ❖ **The average sale price of a home increased from was \$95,400 in 1989 to \$110,900 in 2000.**
- ❖ **The demand for some 400 new residential dwellings is expected over the next 10 years.**

### **Introduction**

Housing characteristics within a community is an important consideration of the comprehensive plan. The documentation of housing development trends, availability of housing, its affordability and condition are important planning considerations. This information will allow decisions to be reached concerning the need for additional housing, provisions for affordable housing and the need for a mixture of housing types.

### **Housing Trends**

In 2000, the Census reported 1,977 total housing units, 1,830 year round and 147 seasonal, in Turner. Since 1980, some 600 new year-round housing units have been added to the Town's housing stock as reported by the Census. The 47% increase in year-round housing units between 1980 and 2000 was similar to surrounding communities that have experienced sprawl over the past 20 years.

**Number of Year-Round Housing Units**  
**1980-2000**

	<b>1980</b>	<b>1990</b>	<b>2000</b>	<b>Percent Change 1980-2000</b>
<b>Turner</b>	<b>1245</b>	<b>1558</b>	<b>1830</b>	<b>+47.0</b>
Buckfield	463	614	668	+44.3
Greene	986	1,277	1,525	+54.7
Leeds	460	599	776	+68.7
Livermore	630	769	899	+42.7
Androscoggin Cty.	37,208	42,615	44,532	+19.7

SOURCE: 1980, 1990, 2000 Census

**Change in of Total Housing Units**  
**1990-2000**

	<b>1990</b>	<b>2000</b>	<b># Change</b>	<b>% Change</b>
			<b>1990-2000</b>	<b>1990-2000</b>
<b>Turner</b>	<b>1,707</b>	<b>1977</b>	<b>270</b>	<b>+15.8</b>
Buckfield	633	715	82	+12.9
Greene	1,277	1,525	248	+19.4
Leeds	670	856	186	+27.8
Livermore	919	1,066	147	+16.0
Androscoggin Cty.	43,815	45,960	2,145	+04.9

SOURCE: 1990 & 2000 Census

The report of the 2000 Census regarding the number of new housing units is somewhat suspect. An under count could have occurred considering that between 1995 and 2000 town records indicate that building permits were issued for 238 residential dwellings. This number is only 60 less than the Census reported for the 10-year period.

## Type of Housing Unit

Turner's housing stock is comprised primarily of the traditional year-round, single-family home. In 2000, 72.8% of the total housing stock was single-family. The percentage of the traditional single family home increased between 1990 and 2000 due to the rate of decrease in mobile homes reported by the Census. The number of mobile homes decreased by 45 or 10% over the 10-year period. Mobile homes comprised approximately 20% of the housing stock. Multi-family dwellings or apartments and seasonal dwellings comprised a small share of the total housing stock in 2000, 7.3% and 7.5%, respectively. When compared to Androscoggin County's housing stock, Turner had a higher percentage of single-family dwellings and a much lower percentage of multi-family dwelling units. The urbanized center of Lewiston/Auburn greatly influenced the County's 39% multi-family housing stock composition. More rural communities typically contain a small percentage of multi-family housing units due to a historical lack of demand and the constraints to developing such housing.

### **Distribution of Housing Units by Type** **1990-2000**

	1990		2000	
	#	% of Total	#	% of Total
Single-family	1,135	66.6	1,439	72.8
Mobile home	432	26.5	387	19.6
Multi-family	140	7.8	144	7.3
Seasonal	149	8.7	147	7.5
TOTALS	1,707	100.0	1,977	100.0

Source: 199 & 2000 Census

Since 1990 the percentage of total housing units consisting of the traditional single-family home has increase. This shift was caused by a decrease in the number of mobile or manufactured homes. Multi-family dwellings increased minimally between 1990 and 2000 through the conversion of large single-family homes.

**Distribution of Housing Units by Type**  
**Turner, 1990 and 2000**

	# 1990	# 2000	% Change 1990-2000
<b>Single-family</b>	<b>1,135</b>	<b>1,439</b>	<b>+26.7</b>
<b>Mobile home</b>	<b>432</b>	<b>387</b>	<b>- 10.4</b>
<b>Multi-family</b>	<b>140</b>	<b>144</b>	<b>+ 2.8</b>
<b>Seasonal</b>	<b>149</b>	<b>147</b>	<b>+ 1.3</b>
<b>TOTAL</b>	<b>1,707</b>	<b>1,707</b>	<b>+22.6</b>

**SOURCE: 1990-2000 Census**

**Owner/Renter Patterns**

Traditionally rural communities typically have a much larger percentage of owner occupied dwelling units than renter occupied dwelling units. This is due to the large percentage of the overall housing stock consisting of the single-family home. In 1990, 82% of all housing units were owner occupied and 18% were renter occupied. This trend has not changed since 1980. Renter occupied housing units were greater in Turner than other surrounding communities in 1990.

**Distribution of Occupied Housing**  
**Units by Tenure**  
**2000**

	Owner		Renter		
	#	%	#	%	Total
<b>Turner</b>	<b>1,448</b>	<b>82.0</b>	<b>320</b>	<b>18.0</b>	<b>1,768</b>
Buckfield	562	84.0	106	16.0	668
Greene	1,313	88.0	181	12.0	1,492
Leeds	624	85.0	85	15.0	709
Livermore	749	89.0	93	11.0	842
Androscoggin Cty.	26,631	63.0	15,397	37.0	45,960

SOURCE: 1990 Census

NOTE: These numbers do not include vacant units.

## Housing Conditions

The Comprehensive Planning Committee did not undertake a detailed housing conditions survey, the reason being that although scattered substandard housing exists in Turner, it was not deemed a significant planning issue. However, several indicators of housing conditions from the 1990 Census were examined.

One indicator of the overall physical condition of a community's housing stock can be its age. However, caution must be exercised when age is considered as an indicator of physical condition. Many of Turner's older homes are in excellent condition and are assets to the community. The older dwelling units may be in need of energy efficiency and/or electrical upgrading.

In 1990, 30% of the total occupied housing supply was constructed earlier than 1960 and 70% had been constructed between 1960 and 1990. Sixty percent of the town's occupied housing units have been constructed since 1970.

### Date of Construction of Year-Round Housing Units 2000

Year	Number	Percent
1990-2000	497	25.1%
1980-1989	423	21.4%
1970-1979	331	16.7%
1960-1969	168	8.5%
1940-1959	143	7.2%
1939 or earlier	415	21.0%

SOURCE: 2000 Census

Another indication of housing conditions relates to the completeness of plumbing facilities. In 1990, 1.9% or 33 dwelling units lacked complete plumbing facilities for exclusive use of their residents. Overall, the indicators point toward the Town's housing stock being in good condition. Although structurally substandard dwelling units are found in Turner, there is not a significant community problem with substandard housing.



## **Housing Costs**

The cost of purchasing or renting a home has increased significantly in recent years throughout Maine. Increased housing costs are also evident in Turner. Numerous factors have led to these increased costs; including land costs, construction cost and market demand for housing in Turner. Turner's attractiveness for residential development has been a factor in increased housing costs over the past 10 years.

The real estate transfer tax declaration forms provide sale prices of all homes sold; new or existing and mobile homes. Turner's average sale price of homes in 1989 was \$95,400 and had risen to \$110,900 by 2000. Over the past six years the average home selling price has increased by 27%

### **Average Sale Prices of Homes 1989-2000 Turner, Maine**

<b>Year</b>	<b># of Sales</b>	<b>Average Sale Price</b>
1989	33	\$ 95,400
1996	31	\$ 87,300
1997	25	\$ 84,700
1998	31	\$ 98,900
1999	37	\$ 94,600
2000	40	\$110,900

SOURCE: Maine State Housing Authority

## **Rental Rates**

A detailed rental rate survey was not conducted as an element of the comprehensive plan. However, based upon discussions with several individuals, rental rates generally fall into the \$300-400 per month range. The Maine State Housing Authority had, in 1988, established fair market rents in the non-urban areas of Androscoggin County which includes Turner as \$338 and \$399 per month for one bedroom and two bedroom apartments, respectively.

## **Vacancy Rates**

Turner's vacancy rate for year-round dwelling units has been estimated to be approximately one percent of the total year-round housing stock. Rental units in Turner are limited and current vacancy rate of less than one percent have also estimated. A vacancy rate of 5% is generally seen as necessary to provide housing opportunities within a community. The high rate of home ownership and lack of vacant housing, make it difficult for new families and/or workers to reside in Turner.

## **Affordable Housing**

Increases in land costs, construction costs and financing costs, coupled with market conditions, has created a significant affordable housing problem in the souther portion of Maine. The general "rule of thumb" states that housing should be able to be rented or purchased for a reasonable percentage of a household's income. These generally accepted percentages are 28% of gross monthly income for mortgage payments and 30% of gross income for rental payments (including utilities). Affordability is typically expressed as a percentage of income, thus what is affordable to a household earning \$50,000 a year will not be to a household earning \$30,000 or less.

Affordable housing under the Comprehensive Planning and Land Use Regulation Act has been defined as decent, safe and sanitary dwellings, apartments or other living accommodations for low and moderate income households.

The common definition defines "very low income households" as those households with an income no greater than 50% of the median income for a four-person household, "low income households" as those households with an income no greater than 80% of the median income for a four-person household and "moderate income households" as those households with an income no greater than 120% of the median income for a four-person household.

The affordable housing needs in Turner can be qualified but to quantify the specific number of needed affordable units for the current and future years is extremely difficult. A major factor in determining affordable housing need is the income of current or perspective households residing or wishing to reside in Turner. To determine affordable housing needs, the estimated median family income of \$42,000 for 2001 was utilized. Based upon that data, the following table has been developed to represent affordable housing costs for very low, low and moderate income families.

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**Affordable Sales Price of Homes and Rental Units**  
**For Very Low, Low and Moderate Income Families**  
**2001**

	<b>Family Income</b>	<b>Affordable Gross Rent (mo)</b>	<b>Affordable Sales Price</b>
Very Low	up to \$21,000	\$525	\$37,100
Low	\$21,000-\$33,600	\$525-\$840	\$83,600
Moderate	\$33,600-\$63,000	\$840-\$1575	Up to \$192,000

SOURCE: Maine State Housing Authority

Based upon information derived from the real estate sales data, which indicated the average sale price of homes in Turner as \$110,900 in 2000 housing costs are above the affordability range of many current and perspective residents that are in the very low and low income ranges. Although current rental rates are generally in the \$500 per month range in Turner, their non-availability makes it difficult for those wishing to rent in Turner.

### **Future Housing Demand**

Turner's population has been projected to increase to approximately 6,000 people by the year 2013. Based upon an estimated household size of 2.45 persons, some 400 new housing units will be needed over the 10-year period.

### **Future Housing Mix**

Not only is an estimation of total new housing necessary in the comprehensive plan but also the type of housing, owner and rental. Over the next ten years, an increased demand for rental property will develop in Turner.

## **NATURAL RESOURCES**

### **Findings and Trends 1990-2002**

- ❖ **Although most prime farmland soils is used for production agriculture, over the past ten years there has been conversion of agricultural use to residential use.**
- ❖ **The Crystal Pond watershed has seen the greatest amount of subdivision development of any lake watershed in Turner.**
- ❖ **Invasive aquatic plants are a new threat to the quality and economic value of the towns ponds.**

### **Introduction**

The natural resources base of a community plays an important role in overall community development. Natural resources can enhance or limit the growth potential of a community. They are significant factors in the planning for a community's future. Various natural resources can also enhance the quality of life within community.

### **Topography**

Topography relates to the general land form of an area. Often a locale may be referred to as mountainous, hilly or flat. Knowledge of the topographic characteristics of a community is important because of its influence on development, views and aesthetics.

There are two factors that are important when topography is considered: relief and slope. Relief reflects the height of land above sea level and surrounding areas. It identifies significant or dominant physical features that form natural barriers that hinder development or valley corridors that permit easy access. Slope, on the other hand, measures the amount of rise or fall in feet for a given horizontal distance. It is a significant aspect of land form which presents various limitations to development and other land use activities. As slopes become steeper, construction

is more expensive, roads and services are more difficult and expensive to construct and maintain, and the potential for environmental degradation increases.

Turner's general topography is a series of ridges running in a north-south direction with a broad flat plain in the north-central portion of the community known as "The Plains."

The highest point in Turner is Teague Hill on the western border of the Town with an elevation of 827 feet above sea level. The lowest points are found along the Androscoggin River at approximately 260 feet above sea level. Local relief or the difference in elevation between the lowest and highest points is approximately 525 feet.

Slopes of greater than 15% do not cover a significant portion of Turner. They generally run in narrow north-south bands.

## **Soils**

Soils are extremely important to community development. They are the underlying material upon which roads, buildings, sewage and waste disposal occur. Development upon or in soils that are unsuitable for proposed uses will likely increase development and construction costs, annual maintenance costs and cause environmental degradation.

Current soil mapping conducted by the United States Department of Agriculture, Soil Conservation Service indicates two main soil associations. They are the Adams-Hinckley-Ninigret Association and the Charlton-Sutton-Paxton Association. The Adams-Hinckley-Ninigret association are deep, excessively drained to moderately well drained, nearly level to moderate steep, coarse and moderately coarse textured soils. Charlton-Sutton-Paxton association are deep, medium-textured and moderately coarse textured, well drained and moderately well drained, nearly level to moderately steep soils, on hills and ridges.

Because Turner relies upon subsurface disposal systems for all sewage disposal soils are important to current and future environmentally safe development.

Soils potentials for low density development have been developed by the Soil Conservation Service and mapped as an element of the comprehensive plan. Soils potentials for low density development is a rating system to rate soils as to their potential for low density development. Basically, a local committee of knowledgeable contractors considers the type of corrective measures needed to overcome soil limitations for single-family homes with subsurface waste disposal and paved roads in a typical subdivision development. The committee addresses local costs associated with these corrective measures (such as fill, site preparation, blasting, etc.). The best soil, the one that has the least limitations for low density development is assigned a value of

100. All other soils have index points subtracted from the 100 depending on the degree of site modification needed to make the soil satisfactory for subsurface waste disposal, house building and roads. The result is a listing of the soils in the county arranged according to their potential for low density development. This approach to soil interpretation allows local people to determine costs and corrective measures needed to overcome such limitations.

It emphasizes local criteria to meet local needs. Soil potentials allow the relative quality of a soil of a particular use to be compared to other soils in the area.

Based upon the soils potential rating system and identifying soils within a three category classification system, very high to high potential, medium potential, and low to very low potential the general suitability of soils for development have been determined.

Approximately 40% of land area in Turner has a soils potential rating of low to very low for low density residential development. These areas include areas of soils with high water tables and excessive slopes. Twenty percent (20%) of the land area has soils rated as high to very high for low density residential development. Concentrations of these soils are generally located from the intersection of Upper Street and Poplar Hill Road along Upper Street to Pearl Road; north of Turner Village along the General Turner Hill Road, North of Route 219 to the Livermore town line and in the vicinity of Little Wilson Pond.

The remainder of the Town's land area, approximately 40%, has a potential rating of medium.

Although this soils potential rating should not be used for specific development planning, it provides insight into areas which are more suitable than others for low density residential development.

### **Prime Farmland Soils**

Prime farmland soils, as defined by the United States Department of Agriculture, Soil Conservation Service, are the best "farmlands" nationwide. Criteria for designation as "Prime Farmland" are tied directly to soil properties and not land use, except for urban land. If the land is urban or built-up, it cannot be prime farmland. Prime farmland, however, can be land in cultivation, forest, pasture or idle, and it can be remote or inaccessible. The exact number of acres of prime farmland soils has not been determined, however, a conservative estimate is that 20% of the land area of Turner is covered by Prime Farmland Soils. As would be expected, a large percentage of these soils are utilized by Turner's farmers for crop production. The remainder of prime farmland soils are wooded or have been developed for residential uses.

Significant areas of prime farmland soils are located along Upper and Lower Streets, along the



shores of the Nezinscot River from Turner Center to the Androscoggin River, the Plains and along the North Parish Road.

Over the past ten years there has been some conversion of prime farmland from agricultural uses to residential and commercial uses. While there are still large areas of prime farmland used for production agriculture conversions has occurred along General Turner Hill Road, East Hebron Road, Blake Road, Howes Corner area, Route 4 and Turkey Lane.

## **Forest Resources**

Forests provide many resource values including wood, wildlife habitat, water quality protection, fish habitat, clean air, ecological values, recreation, existence values and avian species habitat. The existence of these values happens to coincide with maintaining the rural character of the town. In fact, it is often the mosaic of fields, farms and forests young and old that creates the naturally diverse landscape. Most of the land in Turner, some 28,000 acres are forested at this time.

Soils in Turner are mostly well suited for timber production as they are for agriculture. Soils range from well drained through moderately well drained to poorly drained. Glacial outwash exists in the low land flats. Soil texture varies on topography and geographic location but most soils are sandy loams or loamy sand.

The forest types are mostly pine, oak/northern hardwood consistent with the temperate transitional type. Harvesting and/or silviculture activities totaled more than 6,300 acres from 1991 through 1999. Most cutting was selection harvest with only 1% of the harvest clear cuts. Forest in Turner were impacted by the ice storm of 1998. In fact, in some areas of town there was a severe impact. Nearly 35% of the total acres harvested between 1991 and 1999 was after the ice storm.

In 2002, there were 25 parcels for a total of 1,990 acres of forest land enrolled in the Tree Growth Program in Turner. This represents only approximately 7% of the forest land. Management incentive programs as well as increased interest in land trusts will continue.

Parcel size often is the limiting factor for woodlot management. In Turner, there are several larger tracts of intact forest that are suitable for management. Current uses include wildlife, water, recreation and wood. Forest management also includes management of several other values both socially and economically. Often it is the integration of these values that is challenging. In addition, most forested areas are regulated by individual landowner values and harvesting practices. Anywhere from ten acres up can be managed under current tree growth tax law. Smaller acreage certainly can produce many forest values as well, but management for timber production and other forest resource values for acreage less than 10 is less common. However, groups of landowners could come together and form management agreements across

ownership boundaries. These larger managed areas can support numerous values including economic, cultural, wildlife, recreation, avian and ecological goals in the landscape. Forestry is a key component to create a mosaic of various successional or serial stages.

Small parcels can be managed as well for individual landowner values. Several wildlife and avian species can be promoted on these smaller lots as well as promoting individual tree species over others. The backyard maple producer makes plenty of maple syrup for family and friends.

Development can impact forest in many ways. In particular, as lot sizes get smaller and smaller over time, less management will occur. Forests will mature and be naturally pruned. This increases downed debris and disease. Wildlife species that depend on a mosaic of patches at various stages will shift to preferred habitats during certain time of the year.

Wood land is an important economic asset to Turner. It is not limited by any means. Over time the challenge will be keeping the land working in order to maintain forest values.

## **Wetlands**

Wetlands are important natural resources because they store large amounts of water helping to reduce flooding. In addition, wetlands provide habitat for many species of game and non-game wildlife. Filling of wetlands can significantly increase flood levels and add to the loss of wildlife habitat.

National Wetland Inventory mapping by the U.S. Fish and Wildlife Service and the Maine State Planning Office has identified 336 forested and non forested wetlands in Turner. Of this number, 56 are 10 acres and greater. Using a geographic information system the State Planning Office characterized each wetland for its ability to provide a chosen function and value at a significant level. The functions and values assessed included hydrological function (flood flow alteration), a biogeochemical function (sediment retention), a biological function (plant and animal habitat and fin fish habitat) and cultural value (education and research). Based on the characterization the following table present the number of wetlands in each function category.

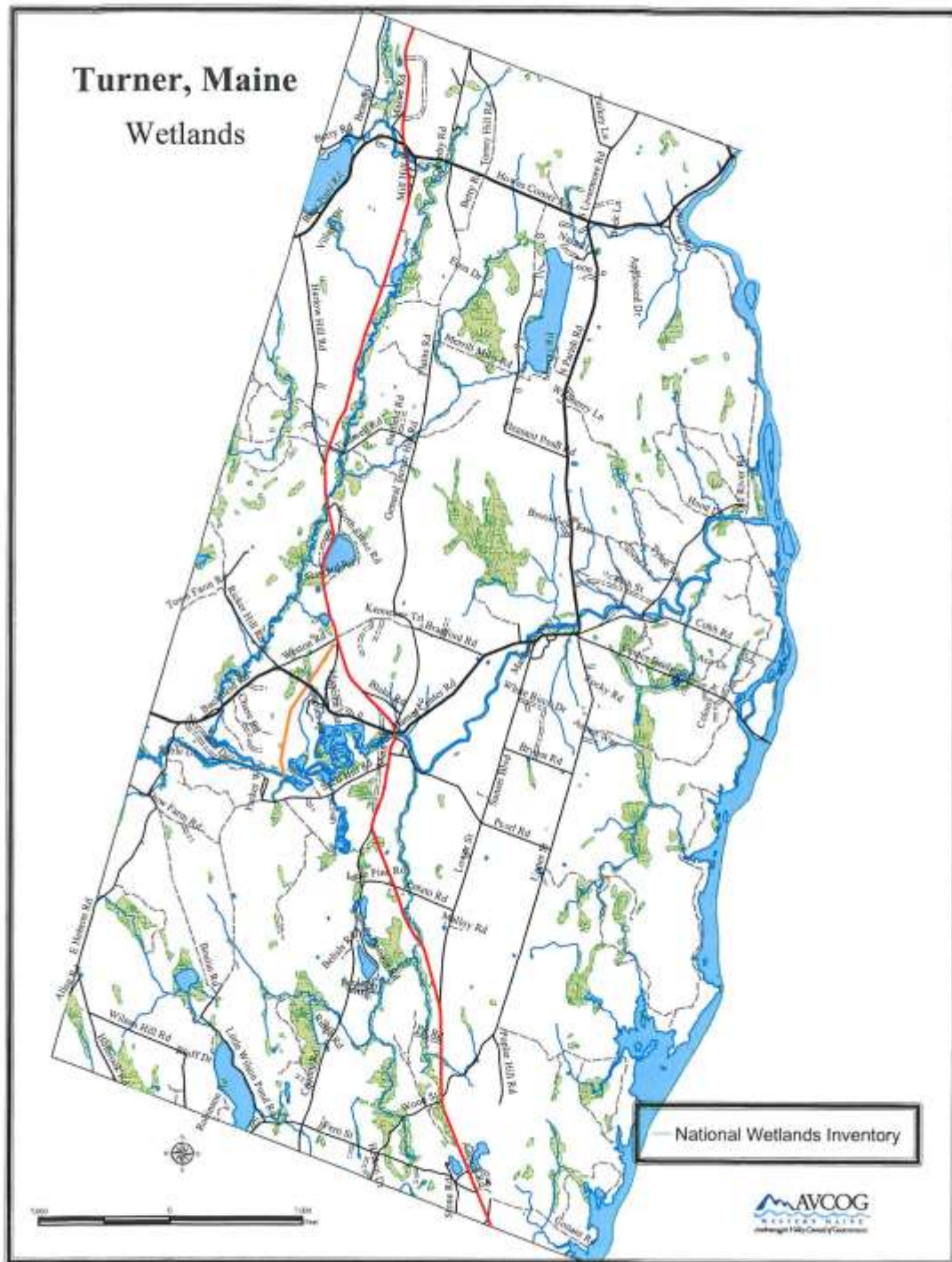
### **Wetland Functions**

<b>Function</b>	<b>Number of Wetlands Scoring 'Yes'</b>
Cultural	6
Freshwater Fish Habitat	111
Flood flow Control	3
Wildlife Habitat	231
Sediment Retention	35

A second element of the State Planning Office evaluation of wetlands was the tallying of the number of each wetland functions. Based on the valuation the greatest score possible was five. The following table presents the result of the total scores.

### **Wetland Function Scores**

<b>Total Score</b>	<b>Number of Wetlands</b>
0	64
1	190
2	51
3	30
4	1
5	0



## **Surface Waters**

Turner's surface waters include the Androscoggin and Nezinscot Rivers, 13 ponds and lakes totally or partly located in the community and a number of streams and brooks. In earlier times, these surface waters were important to Turner's manufacturing economy. However, today they are not major factors in the local manufacturing economy. They are, however, significant local natural resources utilized recreationally and are important factors in Turner's overall character.

### **Androscoggin River**

The Androscoggin River forms the eastern border of Turner. The Gulf Island Dam in Auburn, constructed in 1925-27, creates the largest impoundment, the Gulf Island Pond, along the river. Approximately, one half of Turner's eastern border is along Gulf Island Pond.

The Androscoggin River has a highly regulated flow management system. A number of headwater lakes are manipulated to store water during periods of high runoff and to release water to the river stream during periods of low runoff. This flow management system was established to enhance the river's suitability for power production and manufacturing processes. Through flow regulation, spring flows are reduced and summer flows are increased significantly above what would naturally occur.

Prior to the damming and industrialization of the Androscoggin, it was a rough and rugged river system. With an average drop of eight feet per mile, it was a raging torrent during periods of high runoff. At times of minimal runoff, the river resembled a brook at various points along its path to the sea. Prior to the changes in the river system created by man, it was naturally pure; however, even then, the river experienced siltation and contamination from organic debris.

The pulp and paper industry anchored along the Androscoggin River during the mid-1890's. The continued expansion of this industry had long-term impacts upon the economy of the river basin and the quality of its waters. Mills were constructed at Berlin, New Hampshire, Livermore Falls and Rumford; they discharged raw liquors from the sulfite pulping process to the river.

As the pulp and paper industry and the economy grew, increased demands were placed upon the river to assimilate industrial and domestic wastes.

In the early 1940's, the public would not tolerate the condition of the river which gave off hydrogen sulfide gases and discolored exposed metal and paint. In a report presented to the Maine Sanitary Water Board in February, 1942, it was stated that, "the pollution responsible for the objectionable conditions of the river is derived from industrial wastes and municipal sewage discharges without treatment". It was further noted that "few streams in the United States of comparable size showed evidence of such extreme pollution". It was estimated that the industrial discharge to the river was equivalent to that from a population of 2,411,500 people.

Since the 1940's, both industries and municipalities have constructed treatment plants which treat waste before they are discharged to the river. The river is classified as "C" as it flows past Turner. The State classification system for fresh surface waters describe the "C" classification as follows:

Class C waters shall be of such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; and navigation; and as a habitat for fish and other aquatic life.

The dissolved oxygen content of Class C water shall be not be less than 5 parts per million or 60% of saturation, whichever is higher, except that in identified salmonid spawning areas where water quality is sufficient to ensure spawning, egg incubation and survival of early life stages, that water quality sufficient for these purposes must be maintained. Between May 15th and September 30th, the number of *Escherichia coli* bacteria of human origin in these waters may not exceed a geometric mean of 142 per 100 milliliters or an instantaneous level of 949 per 100 milliliters. The department shall promulgate rules governing the procedure for designation of spawning areas. Those rules shall include provision for periodic review of designated spawning areas and consultation with affected persons prior to designation of a stretch of water as a spawning area.

The Androscoggin River is one of Maine's major industrial rivers. However, the river, in Turner, has been found to have a significant recreational potential and, as water quality improves, an even greater potential.

The Lower Androscoggin River Recreation Study and Management Plan found that the ten-mile section of the overall study corridor which begins at Gulf Island Dam and proceeds upstream to approximately two miles above the Greene-Turner Bridge, exhibits the greatest overall recreational potential within the study corridor. The large impoundment of water, some 2,000 surface acres, created by Gulf Island Dam, has a positive impact upon several recreational activities evaluated. Shoreline characteristics within this ten-mile segment are conducive as well to the majority of recreational activities evaluated.

Physical characteristics which create a high potential for the majority of the activities evaluated within the ten-mile section are many. The large impoundment of water is conducive to canoeing, power boating and boat fishing. The large islands enhance the potential for canoe camping and provide for wildlife habitat. Numerous large coves or bays are also positive influences upon canoeing, fishing, hunting and nature study due to their biological factors, which attract fish and wildlife. Shorelines within this section are primarily undeveloped which is also a positive factor to the potential of many activities evaluated.

## **Nezinscot River**

The Nezinscot River flows in an easterly direction bisecting Turner approximately in half and joins the Androscoggin at Keene's Mills. The Nezinscot has a total drainage area of 180 square miles. Its sources are located in Hartford and Sumner.

The Nezinscot River is currently a Class B river under the State classification of fresh surface waters system. Class B waters shall be such quality that they are suitable for the designated uses of drinking water supply after treatment; fishing; recreation in and on the water; industrial process and cooling water supply; hydroelectric power generation, except as prohibited under Title 12, section 403; and navigation; and as habitat for fish and other aquatic life. The habitat shall be characterized as unimpaired.

The dissolved oxygen content of Class B waters shall be not less than 7 parts per million or 75% of saturation, whichever is higher, except that for the period from October 1st to May 14th, in order to ensure spawning and egg incubation of indigenous fish species, the 7-day mean dissolved oxygen concentration shall not be less than 9.5 parts per million and the 1-day minimum dissolved oxygen concentration shall not be less than 8.0 parts per million in identified fish spawning areas. Between May 15th and September 30th, the number of *Escherichia coli* bacteria of human origin in these waters may not exceed a geometric mean of 64 per 100 milliliters or an instantaneous level of 427 per 100 milliliters.

Discharges to Class B waters shall not cause adverse impact to aquatic life in that the receiving waters shall be of sufficient quality to support all aquatic species indigenous to the receiving water without detrimental changes in the resident biological community. Recent water quality analysis has indicated elevated levels of bacteria.

The Nezinscot River was a major factor in the development of Turner due to its value as a power source. Although no power is generated along the Nezinscot River, a dam at Turner Village still exists.

In 1998, the selectmen appointed the Nezinscot River Dam Committee to consider options for the dam including its removal. After study and community input it was decided to retain the dam and to plan for minor structural improvements.

Today, the river is used primarily as a recreational resource. The river below the Turner Village dam has become a popular Brown Trout fishery as well as a white water boating area. Canoeing above the dam is popular as well. Floodplains along the river's banks are used agriculturally.

## Streams and Brooks

There are a number of streams and brooks that drain portions of Turner. They include the following:

Bradford Brook  
House Brook  
Lively Brook  
Martin Stream

Meadow Brook  
Pickerel Pond Outlet  
Red Brook  
Skillings Corner Brook

All of these brooks and streams are a Class B under the State Fresh Surface Waters classification system.

## Lakes and Ponds

Turner has all or a portion of 13 ponds within its boundaries. Several of these ponds are of medium size and both seasonal and year-round residential development is located along their shorelines. These include Bear Pond, Crystal (Beals) Pond, Little Wilson Pond and Pleasant Pond. A portion of Turner is also within the Lake Auburn watershed; Lake Auburn is an important cold water fishery and is the water supply for the Cities of Lewiston and Auburn. In addition, Gulf Island Pond on the Androscoggin River is a major water body which was formed in 1925 when Gulf Island Dam was constructed..

**Surface Waters Characteristics**

<b>Name</b>	<b>Surface Area (acres)</b>	<b>Maximum Depth (feet)</b>
Bear Pond	328	28
Black (Snake) Pond	12	36
Crystal (Beals) Pond	35	39
Lard Pond	14	14
Lily Pond	25	
Little Wilson	110	56
Mud Pond	12	
Mud Pond (Lake Auburn Watershed)	25	21
Pleasant Pond	192	68
Round Pond	12	39
Sandy Bottom	25	14



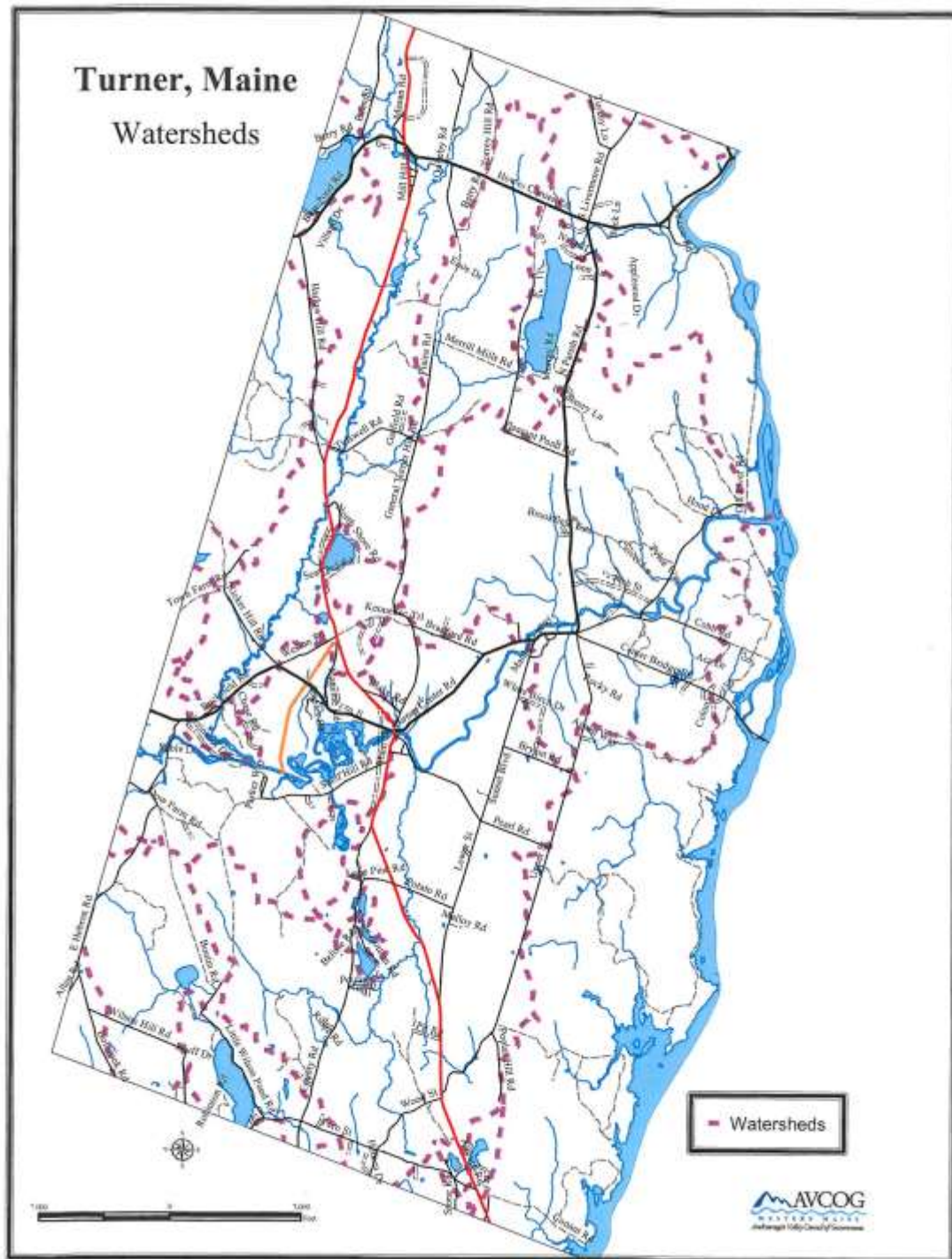
Various amounts of information are available on the quality of waters in Turner's ponds. The Maine Department of Environmental Protection, through its Volunteer Lake Water Quality Monitoring Program, collects water clarity and related chemical data for many of the lakes in Maine including several in Turner. Each lake monitored through this voluntary program is given a Trophic State Index (TSI) number. The TSI scale is based on the range of Chlorophyll occurring in lakes in Maine. Chlorophyll, a green pigment and major chemical involved in photosynthesis, was chosen because it is a good estimator of algae. The lake with the lowest chlorophyll a level has a TSI near zero representing very low productivity of algae.

Lakes in Maine are classified by statute (Title 38, §465-A). All great ponds and natural ponds and lakes less than 10 acres in size have a GPA classification. This classification requires values to be of such quality that they are suitable for drinking after disinfection and recreation in and on the water. In addition, there will be no direct discharges to GPA waters.

The land area that contributes water to a particular lake or pond is known as its watershed. Watershed boundaries can be identified by connecting points of highest elevation around a lake or pond and its tributaries. Rain and snow falling within this area eventually flow by gravity in surface runoff, streams and ground water to the lake or pond which is the lowest point in the watershed.

Studies over the past decade indicate phosphorus, which acts as a fertilizer to algae and other plant life in the lake, is a major threat to lake water quality. While Shoreland Zoning has provided some protection, the studies indicate phosphorus can be contributed in significant quantities from the entire watershed.

The quality of water in a lake depends on the condition of the land in its watershed. Phosphorus is abundant in nature, but in an undisturbed environment it is tightly bound by soil and organic matter for eventual use by plants. Natural systems conserve and recycle nutrients and water. Runoff from the forest is relatively low in quantity and high in quality. Water is stored in depressions and evaporates or seeps into the ground to become ground water, thereby preventing it from running over the land surface and exporting nutrients (i.e. phosphorus) from the system. Land development changes the natural landscape in ways that alter the normal cycling of phosphorus. The removal of vegetation, smoothing of the land surface, compaction of soils and creation of impervious surfaces combine to reduce the amount of precipitation stored and retained, dramatically increasing the amount of water running off the land as surface runoff. The increased runoff from disturbed land generally carries higher concentrations of phosphorus and may also exacerbate erosion and sedimentation problems.



A phosphorus analysis was conducted for Turner's ponds on which adequate data was available, and also on Lake Auburn. The following table is a listing of the lakes from the Department of Environmental Protection. It lists the name, the direct drainage area in Turner and percentage of the total watershed in Turner. It also lists the phosphorus load from land within Turner which would produce an increase in phosphorous concentration of 1.0 part per billion.

**1992 Vulnerability Listing**

	<b>Drainage Area In Turner (Acres)</b>	<b>% of Total in Turner</b>	<b>Watershed Phosphorus Load (#/ppb)</b>
Bear Pond	222	21.9	2.31
Blacksnake Pond	12	100	0.13
Crystal Pond	284	100	3.04
Lake Auburn	160	3.3	3.74
Lard Pond	106	100	0.85
Lily Pond	252	100	2.16
Little Wilson Pond	827	86.8	7.27
Mud Pond	1519	63	8.11
Mud Pond	44	52.4	0.39
Mud Pond	29	100	0.39
Pleasant Pond	570	100	8.48
Round Pond	24	100	0.35
Sandy Bottom Pond	59	100	0.74
The Basin	34	2.3	0.33

The first step in the methodology is to determine the degree of risk of a change in water quality which the Town is willing to accept for each lake. The next table is used to do this. It presents phosphorus coefficients for each Quality Category and or High, Medium, and Low levels of

protection, or degree of risk.

### Phosphorus Coefficient Selection

Water Quality Category	Lake Protection Level		
	High	Medium	Low
Good	1.0	1.5	2.0
Moderate/Stable	1.0	1.25	1.5
Moderate/Sensitive	0.75	1.0	1.25

The Comprehensive Plan recommended that all lakes and ponds be assigned a high lake protection level. The next table establishes the protection levels and per acre phosphorus loads as recommended and prepared by the Maine Department of Environmental Protection.

### Per Acre Phosphorus Loads

	Lake Protection Level	Phosphorus Loads	Per Acre Phosphorus Load (pounds)
Bear Pond	High	2.31	0.035
Blacksnake Pond	High	0.13	0.024
Crystal Pond	High	3.04	0.035
Lake Auburn	High	3.74	0.082
Lard Pond	High	0.85	0.034
Lily Pond	High	2.16	0.039
Little Wilson Pond	High	7.27	0.031
Mud Pond (1)	High	8.11	0.025
Mud Pond (2)	High	0.39	0.037
Mud Pond (3)	High	0.39	0.042
Pleasant Pond	High	8.48	0.045
Round Pond	High	0.35	0.038
Sandy Bottom Pond	High	0.74	0.037
The Basin	High	0.13	0.020

Source: Maine Department of Environmental Protection-2003

- (1) North of Little Wilson Pond
- (2) Mud Pond in Buckfield
- (3) North of Sandy Bottom Pond

An examination of subdivision approvals since 1988 indicated that Crystal Pond watershed had the greatest number of lots created of any lake watershed in Turner. Three subdivisions were approved with all or portions of their lots within the watershed. In each of the subdivision approvals buffers were required to limit phosphorus export. Other subdivisions have been approved in the Little Wilson, Mud Pond and Pleasant Pond Watersheds.

Individual lot development has been greater than subdivision lot development in most of the watersheds over the past ten years. This type of development is not required to consider phosphorus export under current land use ordinances.

Invasive aquatic plants are a new threat to the quality and recreation value to Maine's lakes and ponds. While some milfoils are native to Maine such as Slender Watermilfoil and *Myriophyllum tenellum* Bigelow. These are non invasive and contribute to a healthy lake environment. Invasive aquatic plants such as Eurasian Milfoil and Variable Watermilfoil are non native to Maine lakes and ponds and they take possession of a lake or pond, injure native plant communities, interfere with recreation and can depress property values. The spread of these invasive aquatic plants is most commonly by boats and gear.

## **Ground Water**

Ground water is water that is derived from precipitation that infiltrates the soil, percolates downward and fills the tiny, numerous spaces in the soil and rock below the water table. In Maine, from an average of 42 inches of precipitation each year, only 10 to 20% stays in the ground as ground water; the remainder runs off into streams or is returned to the atmosphere. Wells draw water from permeable layers or zones in the saturated soil and rock that are called aquifers. Two major types of aquifers occur in Maine: sand and gravel aquifers and bedrock aquifers. Wells in sand and gravel aquifers can yield up to 2,000 gallons per minute (gpm) while wells in fractured bedrock generally yield less.

A sand and gravel aquifer is a water bearing geologic formation consisting of ice contact, outwash and alluvial sediments left by the melting glaciers and subsequent melt water rivers and streams that were once part of this area of Maine. The sand and gravel deposits range from ten to better than one hundred feet thick.

Sand and gravel aquifers are generally large continuous sand and gravel deposits that extend

along the river valley. The aquifer deposits fill the valley between the hills on either side of the river. In most cases, the flow path of the ground water through the aquifer is from the valley

walls towards the river, which acts as a drain to the ground water system. Water moves between the sand grains at a rate that is determined by the sizes of the pores (called the porosity) and the steepness of the flow path (called the hydraulic gradient). The flow rates of ground water through the sands and gravels found in the area average from 10 to 500 feet per day, depending on the coarseness of the material the water is traveling through.

Sand and gravel aquifers can be contaminated from any substances that seep into the ground directly or are carried into the ground after dissolving in water. As water infiltrates from the ground surface and goes down through the unsaturated zone above the water table, the soil, sands and gravel act as a filter and remove some of the contaminants. The degree of filtration depends on the thickness of the unsaturated zone above the water table.

Once contaminants enter the water table, they may travel thousands of feet over time. In many Maine aquifers, the water table is generally close to the surface (within 20 feet) so that natural removal of contaminants by the soil is not nearly complete before the leachate containing the pollution reaches the ground water.

The slow rate of ground water movement causes this resource to be particularly sensitive to contamination. Once contaminants enter the ground water, they do not flush out of the system readily and residual contaminants are often left on the particles of sand or gravel to leach slowly into the surrounding ground water. Often hundreds of years are necessary for an aquifer to clean itself through natural means.

The Maine Geological Survey has mapped the location of significant sand and gravel aquifers in Turner. An extensive sand and gravel aquifer runs the entire length of Turner in a north/south direction. It generally follows Route 4 ranging from several hundred feet wide to over a mile wide at the "Plains". Within this major aquifer are several high yield sand and gravel deposits that have the ability to produce 50 or more gallons of water per minute from properly constructed wells. These areas of high yield are generally located in South Turner from Round and Lard Ponds north to Black and Mud Ponds. The area north of the Snell Hill Road to the Nezinscot River; adjacent to Crystal Pond and from North Turner to the Livermore town line along Martin Stream.

Information obtained from various sources including well drilling logs indicates various thickness of the sand and gravel aquifer as well as well yields. In some areas of the aquifer, the sand and gravel deposits are up to 70 feet in depth and the water table is a little as five feet from the surface. Several shallow gravel packed wells are reported to produce up to 60 gallons per minute.

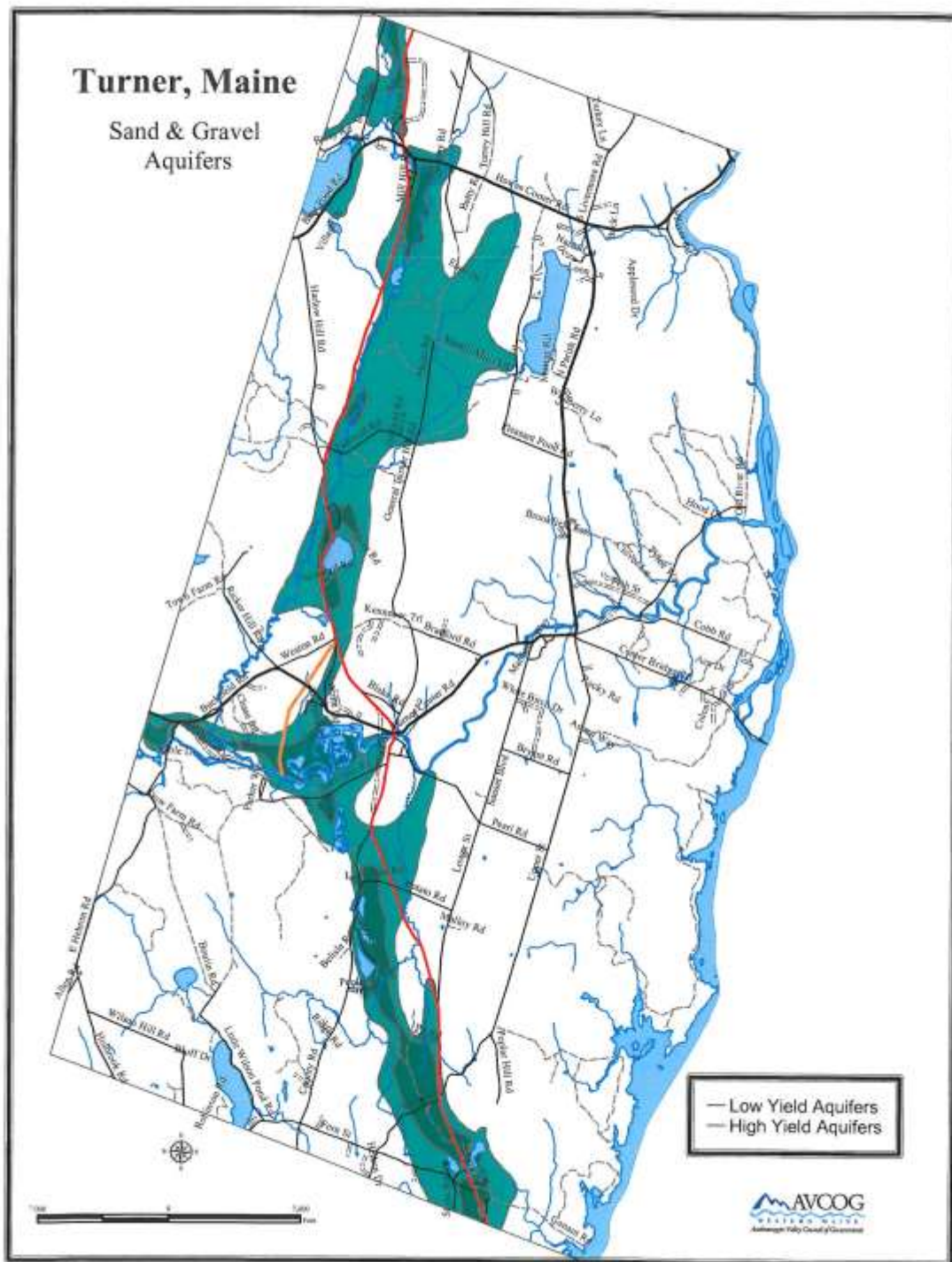
The Town's former landfill was thought to be located on a portion of the mapped sand and gravel aquifer. Test wells exist and no reports of contamination has been reported. In addition much of the current commercial development is located atop the aquifer, particularly in South and North Turner.



## **Bedrock Aquifers**

Most of the private individual wells in Maine are drilled into bedrock. The wells penetrate through water bearing cracks or fractures in the bedrock. These water bearing fractures are bedrock aquifers. Most domestic wells penetrate relatively small fractures and, therefore, only produce small amounts of water. However, there are areas where the volumes are adequate to provide municipal water supplies.

Over the past several years, it has been found that bedrock aquifers are highly susceptible to contamination. The fracture system in the rock is generally extensive and interconnected over large distances. Since the water is confined to the narrow fractures, it may move very quickly over the large distances especially when supply is being pumped out.



The type and depth of soil above the bedrock as well as the extent of recharge area to the bedrock determine the degree (less cover) of contamination. Underground petroleum and other chemical products storage has the most significant potential to contaminate bedrock aquifers.

Underground tanks are that much closer to the water table and, in some cases, may have been placed in the water table.

Unlike sand and gravel aquifers bedrock aquifers have not been mapped. Data collected from local well drillers provide information including depth of wells, length of well casing and volume of water. Analysis of this information points towards areas of town where low yield bedrock wells are common. Also, there are general locations that point towards wells producing more than 30 gallons per minute. However, the amount of data does not allow for the designation of high yield bedrock aquifer areas.

## **Wildlife Habitat**

Wildlife should be considered a natural resource similar to surface waters or forest land. Our wildlife species are a product of the land and, thus, are directly dependent on the land base for habitat. Therefore, if a habitat does not exist or an existing habitat is lost, various types of species will not be present. Although there are many types of habitat important to our numerous species, there are four which are considered critical. They include wetlands and surface water, riparian areas (shorelands of lands, ponds, rivers and streams), and deer wintering areas, large habitat blocks as well as other unique and/or critical habitats.

Every wetland has wildlife value. Small wetlands can be as important as larger ones. They provide habitat for most species of waterfowl, aquatic fur bearers and deer. The Maine Department of Inland Fisheries and Wildlife have identified 20 significant areas of waterfowl and wading bird habitat in Turner. These habitats are characterized as both seasonal and behaviorally as: breeding habitat, migration and staging habitat and wintering habitat.

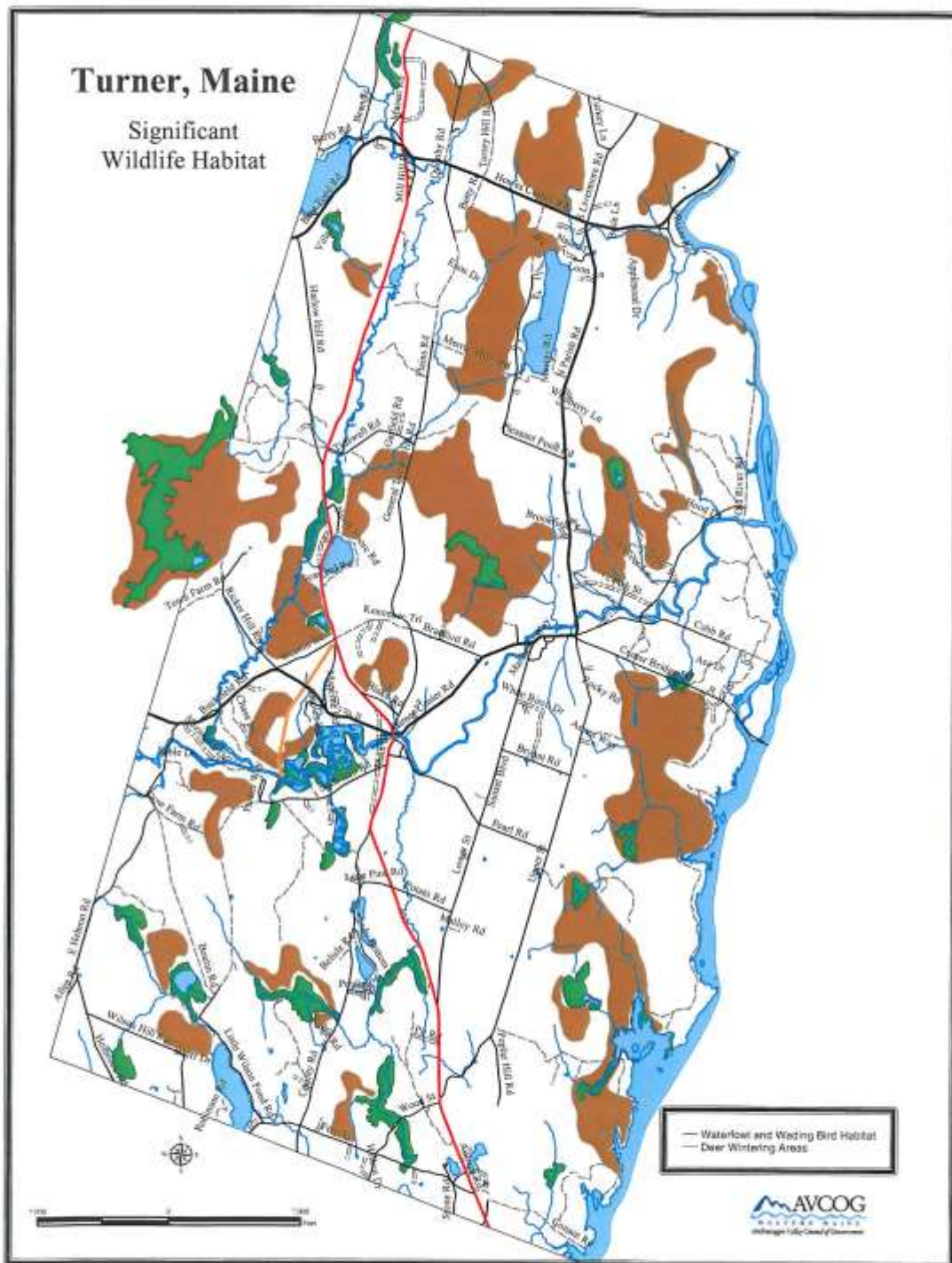
The areas along watercourses, or riparian habitat, support high levels of wildlife and plant species. These areas provide travel lanes for wildlife and are a transition zone between various habitat types. While much of this area is offered some protection under shoreland zoning there are many miles of streams and wetlands that do not fall under the shoreland zoning regulations.

Deer wintering areas may represent only 10% of the total deer range, but, without such areas, deer will not survive in any but the smallest numbers. These wintering areas ideally consist of forested stands with a dense softwood canopy interspersed with mixed standards of hardwoods and softwoods. The dense softwood core areas provide shelter for deer by reducing snow accumulation and wind within the stand. The mixed hardwood and softwood cover provides food close to the core area. Oak, birch and red, sugar, mountain and striped maple are preferred foods and should be retained and cultivated whenever possible. Hemlock, cedar and balsam fir provide both cover and food. Although many types of human activity are not compatible with deer yards, good timber management can be beneficial.

The Maine Department of Inland Fisheries and Wildlife has mapped 21 Deer Wintering Areas in Turner. Several of these cover a significant amount of area including west and north of Pleasant Pond, between North Parish and General Turner Hill Roads and between Upper Street and the Androscoggin River.

Large habitat blocks provide habitat for plants and animals not included in riparian or high value habitats. Large blocks are relatively unbroken areas of habitat that include forest, grassland/agricultural land and wetlands. Unbroken means that the habitat is crossed by few roads and has relatively little development and human habitation. Animals that have large home ranges such as bear, bobcat, fisher and moose among other need large undeveloped habitat blocks. Blocks of 1 to 19 acres are home to species typical of urban and suburban species like raccoons, skunks and squirrels. Moose, bear, goshawks and bald eagles need blocks of 500 to 2,500 acres.

Turners landscape and land ownership patterns have worked to maintain several large block of undeveloped land. These include the area between Upper Street and the Androscoggin River, between County Road and the Turner/Hebron line, between North Parish Road and Plains Road, North Parish Road and the Androscoggin River, and Route 4 and Buckfield.



## **Floodplains**

A floodplain is the flat expanse of land along a river or shoreline that is covered by water during a flood. Under the Federal Insurance Program, the 100-year floodplain is called the flood hazard area. During a flood, water depths in the floodplain may range from less than a foot in some areas to over 10 feet in others. However, regardless of the depth of flooding, all areas of the floodplain are subject to the requirements of the Flood Insurance Program. Floodplains along rivers and streams usually consist of floodway, where the water flows, and a flood fringe, where stationary water backs up. The floodway will usually include the channel of a river or stream as well as some of the land area adjacent to its banks.

The areas of flooding include areas along the Androscoggin and Nezinscot Rivers, Martin Stream and the smaller Brooks. During major flood events portions of Turner Villager are flooded. Undeveloped floodplains have been placed in a resource protection district which limits most structural development.

Turner participates in the National Flood Insurance Program which allows property owners that are located in the 100-year floodplain to purchase flood insurance. In 2002, there were 17 flood insurance policies issued in Turner with a total coverage of \$1,041,000. Since 1978, there has been \$536.00 paid in claims on the flood insurance policies.

## RARE, ENDANGERED AND SIGNIFICANT NATURAL FEATURES

### Findings and Trends 1990-2002

- ❖ The purchase of the Androscoggin River Lands by the State has conserved significant natural areas adjacent to the Androscoggin River.
- ❖ There are several large tracts of undeveloped lands with high recreation value in Turner.
- ❖ Several rare and/or endangered botanical features have been identified on the Androscoggin River Lands.

### Introduction

The Maine Natural Areas Program has compiled data on Maine's rare, endangered or otherwise significant plant and animal species, plant communities, and geological features. While this information is available for preparation and review of environmental assessments, it is not a substitute for on-site surveys. The quantity and quality of data collected by the Natural Areas Program are dependent on the research and observations of many individuals and organizations.

### Rare or Exemplary Botanical Features

Rare or exemplary botanical features reported by the Natural Areas Program in Turner include the following:

Scientific Name	Common Name	Last Seen	Maine Status
<i>Clematis occidentalis</i>	Purple Clematis	1907	Special Concern
<i>Cynoglossum</i>	Northern Wild Comfrey	1915	Endangered
<i>Isotria verticillata</i>	Large Whorled Pogonia	1938	Possibly Extirpated
<i>Phegopteris</i>	Broad Beach Fern	1997	Special Concern
<i>Subularia aquatica</i>	Water Awlwort	1989	Special Concern
<i>Utricularia resupinata</i>	Small Purple Bladderwort	1989	Endangered

## **Androscoggin River Corridor**

The Androscoggin River forms the eastern border of Turner. The Gulf Island Dam in Auburn, constructed in 1925-27, creates the largest improvement, the Gulf Island Pond, along the river.

The Androscoggin River is one of Maine's major industrial rivers. However, the river corridor, in Turner, has been found to have a significant recreational potential and, as water quality improves, an even greater potential.

The Lower Androscoggin River Recreation Study and Management Plan found that the ten-mile section of the overall study corridor which begins at Gulf Island Dam and proceeds upstream to approximately two miles above the Greene-Turner Bridge, exhibits the greatest overall recreational potential within the study corridor. The large impoundment of water, some 2,000 surface acres, created by Gulf Island Dam, has a positive impact upon several recreational activities evaluated. Shoreline characteristics within this ten-mile segment are conducive as well to the majority of recreational activities evaluated.

Physical characteristics which create a high potential for the majority of the activities evaluated are many. The large impoundment of water is conducive to canoeing, power boating and boat fishing. The large islands enhance the potential for canoe camping and provide for wildlife habitat. Numerous large coves or bays are also positive influences upon canoeing, fishing, hunting and nature study due to their biological factors, which attract fish and wildlife. Shorelines within this section are primarily undeveloped which is also a positive factor to the potential of many activities evaluated.

In the late 1980's more than 2,000 acres of land was purchased by the Land for Maine's Future Fund along the Androscoggin in Turner.



## NATURAL HAZARDS/TECHNOLOGICAL HAZARDS/CHEMICAL SPILLS

### Findings and Conclusions

❖ **Turner is susceptible to natural and technical hazards. These include flooding, summer and winter storms, forest fires and chemical/oil spills.**

- ❖ Since April 1987 the Town of Turner has received approximately \$247,000 from the Federal government for natural disaster relief.
- ❖ Since April 1987 the Town of Turner has received approximately \$247,000 from the Federal government for natural disaster relief.

### Introduction

Turner is vulnerable to both natural and technological hazards. Natural hazards most likely to occur include flooding, severe winter and summer storms, forest fires, drought, dam failure and earthquakes. Technological hazards would relate to chemical/oil spills on highways and other major accidents. These hazards put lives and property at risk. As the cost of disasters continue to raise, the need to act before a disaster occurs to reduce the potential losses becomes more and more evident.

Since April 1987 the Town of Turner has received approximately \$247,000 from the Federal government for natural disaster relief. The largest single payment was for \$142,000 for cost associated with the Ice Storm of 1998.

Hazard mitigation can be defined as sustained actions taken to reduce or eliminate long-term risk to people and property from hazards and their effects.

### Flooding

Flooding, or a temporary overflow of water onto lands not commonly covered by water, is the most frequent natural hazard in Turner. The two primary areas with flood potential are the Androscoggin and Nezinscot Rivers. Structure damage from flooding is most likely to occur along the Nezinscot River in Turner Village. The floodplain along the Androscoggin River for the most part is non- developed.

In 2002, there were 17 flood insurance policies in force in Turner with a total coverage of \$1,041,000. Since 1978, there have been \$536.00 paid in claims on flood insurance policies.

Consequential effects of flooding in Turner could include the following:

- \* Damage or destruction of structures and property within floodplains.
- \* Damage to public infrastructure, including streets and bridges.
- \* Forced shutdowns of affected businesses and industries.
- \* Possible loss of life.

## **Severe Winter Storms**

The climate of Turner is classified as Humid Continental with cool summers. Minimum winter temperatures may drop to -20 or -30° F. However, daytime temperatures generally range from 0° to 30° F. Summers are pleasant but cool with daytime temperatures in the low 70s.

Average annual precipitation, including the water equivalent of snow, is approximately 45 inches. Annual snow fall averages some 80 inches, with the greatest amounts falling in January and February.

Blizzards, sleet, and ice storms can threaten Turner at any time from December through April. The most recent catastrophic winter storm to hit the area was the Ice Storm of January 1998. More than 1½ inches of ice collected on utility lines, causing them to break from the weight of the ice or to be broken by ice-laden trees falling across them. Blizzards carry with them their own problems. Lasting from 12 to 24 hours, with some dropping snow for up to 72 hours, blizzards often interrupt electrical and telephone service and cause roads to become impassible as the result of snow accumulation and drifting. Business closings can occur due to road conditions and loss of power. Structural failures are possible as the result of snow loads on roofs.

Consequential effects of a severe winter storm could include the following.

- \* Disruption of transportation.
- \* Disruption and delays in public safety emergency response services.
- \* Disruption or cancellation of essential community services.
- \* Loss of electrical power, telephone service and the essential living conveniences they provide.
- \* Disruption or forced shutdown of business and industry.
- \* Increased health risks associated with the combined effects of cold, overexertion and the increased chance of injury through falls and accidents.
- \* Damage to public and private infrastructure.
- \* Structural failure.
- \* Critical demand for public works activities.

## **Severe Summer Storms**

Severe summer storms can be violent weather phenomena producing high winds, heavy rains, lightning and hail that cause injuries and damage to property. While the entire state is vulnerable to one or more severe summer storms each year, the effects are usually felt the strongest in the western mountains and foothills of Maine. Storms tend to follow the course of the Androscoggin River valley passing through Turner.

Consequential effects of a severe winter storm could include the following.

- \* Power and communication outages
- \* Fires caused by lighting
- \* Flash flooding
- \* Road closings
- \* Structural damage
- \* Crop Damage

## **Forest Fires**

Turner has more than 30,000 acres of forest land, and therefore, forest fires are a major concern. During dry periods the danger of forest fires increases. The last large forest fire in Turner was likely in 1931 on the "Plains." The last major forest fires in Maine were in 1947 destroying more than 200,000 acres and hundreds of homes. Much of the forest land in Turner is difficult to access by road making access to fires difficult. In addition with the number of homes now located in forested locations the losses associated with a major forest fire would be great.

Causes of forest fires include debris burning, arson, lighting, machine use and campfires.

Consequential effects of a severe winter storm could include the following.

- \* Loss of property and life
- \* Loss of the value of trees as a resource to area industry
- \* Loss of wildlife habitats
- \* Increased erosion and sedimentation

## **Drought**

Maine has recently been in drought conditions. The year 2001 was the driest year in Maine in 107 years of record keeping. Even normal precipitation for several months would not relieve the drought conditions. A drought is defined as a twelve-month period during which precipitation is less than 85% of normal as defined by the National Weather Service (44 inches is the average precipitation level per year). The Palmer Drought Index is used for the purpose of activating the Drought Emergency Plan. That index is comprised of evapotranspiration, recharge, runoff, loss and precipitation.

Consequential effects of a drought could include the following.

- \* Dry or low domestic wells/loss of drinking water
- \* Economic loss to businesses
- \* Increased danger of forest fires
- \* Crop damage or loss

### **Dam Failure**

Dam failure is the spontaneous release of water from the loss of structural integrity of a barrier constructed to hold back the flow of water causing rapid flooding, loss of life, damage or destruction of property and forcing the evacuation of people and essential resources. There has not been a catastrophic dam failure or breach in Turner. However in 1806, the Keen's dam was destroyed and in the early 1990s the Pleasant Pond dam was damaged. While dam failure could occur at any time the probability is greater during flood events.

Turner Village Dam was constructed in its current configuration sometime around 1886 to provide power for mills in Turner Village and is the largest dam in Turner. The town acquired the dam in 1955. The town in recent years has studied the needed repairs. Much of the inundation area is cropland.

Consequential effects of a dam breaching in Turner include the following.

- \* Severe damage to structures and property within the inundation area.
- \* Damage and loss of utilities.

### **Earthquake**

Earthquakes are caused by modern stress released occasionally along zones of weakness in the earth's crust. The resulting movement causes a shaking and/or shifting of the earth's crust. This movement and shifting may cause objects to fall, glass to break, and structural failure. Earthquakes occur without warning.

Earthquakes occur most commonly west of the Rocky Mountains. However, all states are vulnerable to earthquakes. The largest modern time earthquake in the United States, measuring 9.2 on the Richter Scale, occurred in 1964 in Alaska. On average, one earthquake with a magnitude of 8.0 and higher occurs somewhere in the world each year.

Between 1747 and 1999, the largest earthquake recorded in Maine was near Eastport in 1904. That earthquake has been estimated to have had a Modified Mercalli intensity of VII. An earthquake of that intensity can damage weak masonry and cause chimneys to fall. The largest accurate measurement of an earthquake locally was in June of 1973 from an earthquake on the Quebec border near northern Oxford County. That earthquake was measured at magnitude 4.8 on the Richter Scale. Most earthquakes in Maine are of small magnitude and too small to feel. No significant damage has been caused by an earthquake in Maine, although the largest reported

earthquakes in Maine caused damage to chimneys and broken glass near the epicenter. During the last 100 years, Oxford County has experienced the effects of a number of earthquakes in the 2.0 to 3.4 magnitudes.

The greatest danger to life from a significant earthquake is from falling objects, broken glass and structural failure. Dam failures may also occur as a result of a significant earthquake. Should a severe earthquake of magnitude of 6.0 and greater strike, there would be a great need for search and rescue of persons trapped in damaged or collapsed structures and fire fighting.

Consequential effects of an earthquake in Turner include the following.

- \* Danger to life from falling objects, broken glass and structural failure.
- \* Loss of power and telephone service.
- \* Damage to structures and property.

### **Technological Hazards/Chemical Spills**

In 1999, more than 2,700 reports of spills of oil and hazardous materials were investigated by the Maine Department of Environmental Protection. There have been 230 spills reported in Turner since 1983. The largest spill was in 1999 and involved 2,000 gallons of gasoline.

The potential for an oil or hazardous material spill in Turner is high. This is due to the number of trucks traveling Route 4 carrying such materials.

Consequential effects of a technological hazard/chemical spill in Turner include the following.

- \* Disruption of traffic movement
- \* Threats to health
- \* Damage to property
- \* Environmental degradation