

## Chapter 4 - Land Use Characteristics

This chapter presents information on both the types and location of land uses on a countywide basis. The process identifies both urban built-up land uses such as residential and commercial, along with natural land cover types like forests and wetlands. As a result the final map presented in this chapter is a hybrid that combines land cover and land use.

### ***Land Division Patterns***

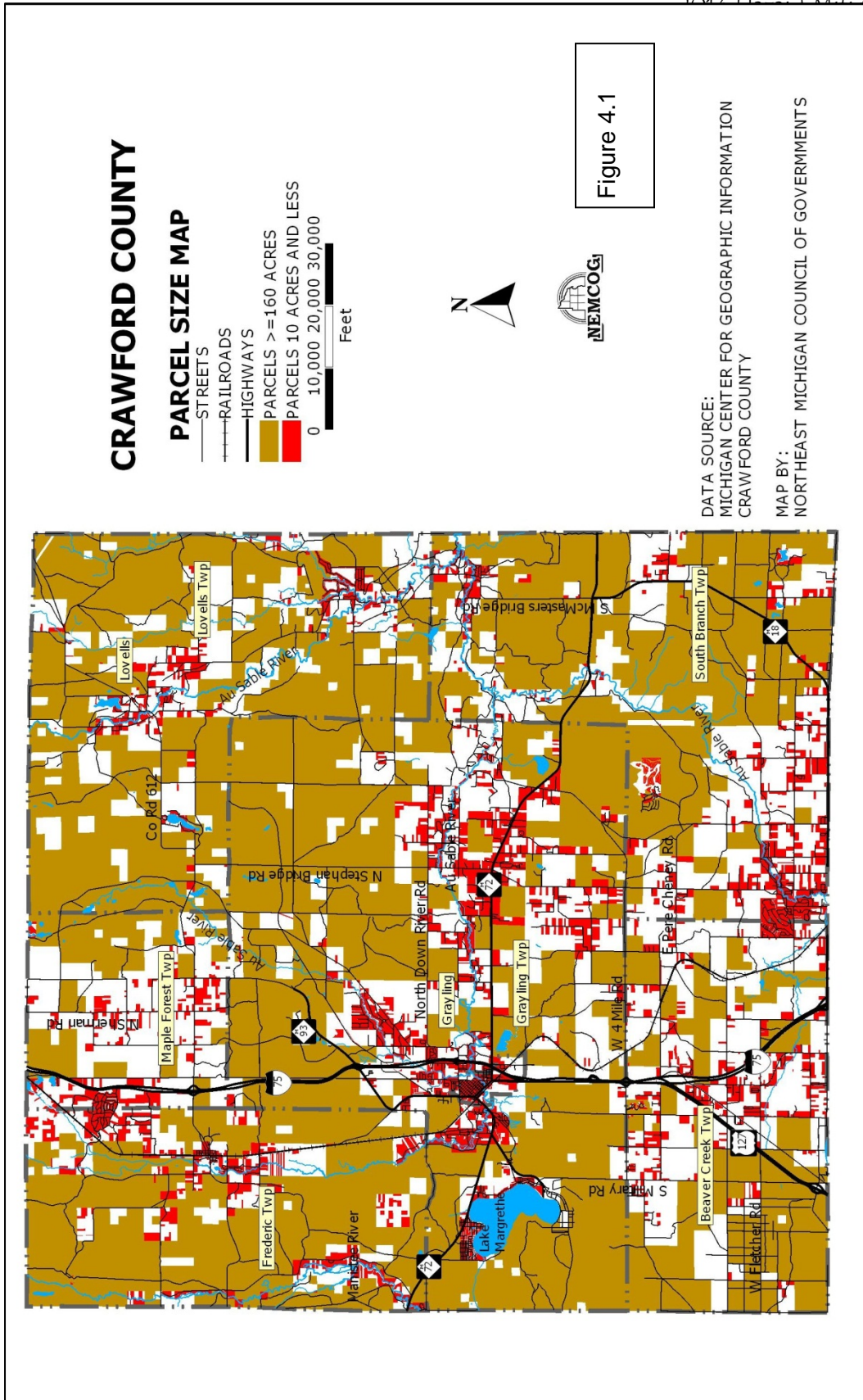
As development occurs, larger tracts of land are generally broken down into smaller parcels. Therefore, studying the existing pattern of land divisions is one way to analyze the status of land use and development. Most of the private ownership is in tracts that are 10 acres and smaller. Large tracts of private ownership, typically hunt/fish clubs, are scattered throughout the County. Subdivisions and small tracts are located near rivers, around lakes along major highways, within recreational developments and clustered around the community of Grayling. Figure 4.1 shows the distribution of parcels 160 acres or larger, and parcels 10 acres or less.

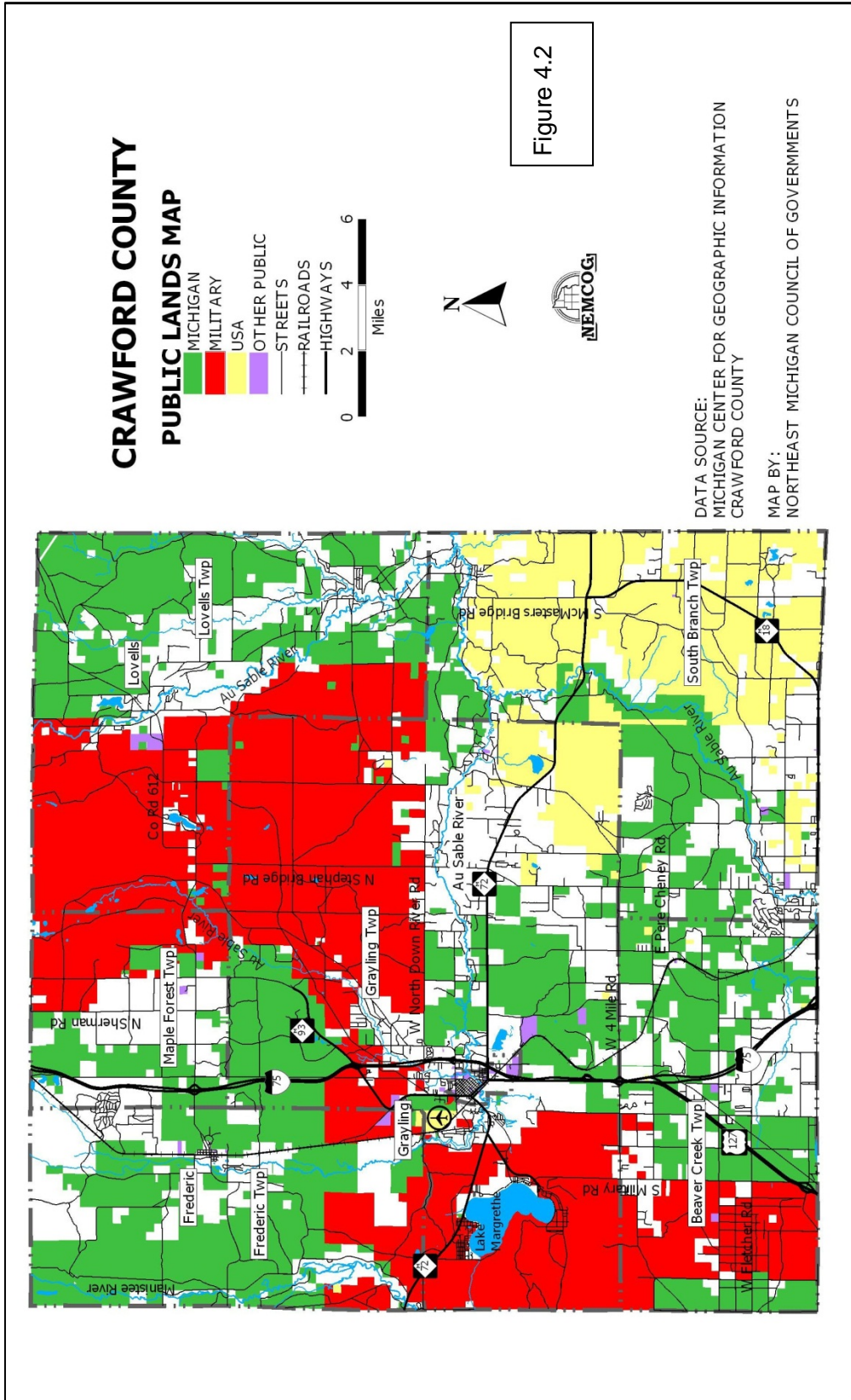
A key factor that determines community character and the location of potential future development areas is the amount of land public ownership. Table 4.1 and Figure 4.2 show the breakdown of public land ownership in Crawford County. Excluding water, all public lands (including that owned by cities, townships, the county, as well as federal and state properties) make up over 70 percent of the county's total land area.

Table 4.1 Crawford County Land Ownership		
Public Lands	Acres	Percent
State of Michigan	116,734	32
Military	97,294	27
USA	41,433	12
Other Public	1,246	>1
Water	3,031	>1
Source: NEMCOG		

### ***Land Use***

One of the features that attract people to Crawford County is the rural character of the area. Data from 1992 satellite imagery shows that 86.3 percent of the County's 360,294 total acreage is forested, with another 7.1 percent non-forest. Agriculture, wetlands and surface water each claim an additional 1.1 percent (Table 4.1 and Figure 4.1). Just a little over three percent of the County's land is used for urban-type purposes, including commercial, industrial, recreational and residential (see Table 4.2 and Figure 4.3)





With the economic downturn in 2007, minimal development has occurred in the county. Therefore, no significant changes in development have occurred since the previous plan was completed.

Data for the land/cover use inventory was taken from the Michigan Land Cover Dataset (MLCD), which was produced as part of the National Land Cover Dataset (NLCD). The NLCD was compiled from Landsat satellite imagery in 1992 as a cooperative effort between the U.S Geological Survey (USGS) and the U. S. Environmental Protection Agency (US EPA) to produce consistent land cover data for the US. It is important to note this approach utilizes lower resolution satellite imagery and computer generated image interpretation to compile the generalized land cover map. The approach did not involve field checking and manual boundary adjustments. Due to the scale, low density urban development and development in dense forestland was not delineated. The computer generated map offers a general view of land use in the county, adequate for general planning purposes. The computer generated land use for Crawford County consists of the following ten classes:

<b>Table 4.2 Crawford County General Land Use</b>			
Land Use Type	Acres	Square Miles	% of Total Area
Agricultural	3,957	6.18	1.1%
Commercial/Industrial/Transportation	2,679	4.18	0.7%
Extractive/Transitional	8,278	12.93	2.3%
Lowland Forest	43,959	68.68	12.2%
Non-Forest Upland	25,719	40.18	7.1%
Recreational	460	0.71	0.13%
Residential	472	0.73	0.13%
Upland Forest	266,861	416.97	74.1%
Surface Water	4,005	6.25	1.1%
Wetlands	3,904	6.10	1.1%
<b>Total</b>	<b>360,294</b>	<b>562.95</b>	<b>100%</b>

Residential

According to the MLCD, 0.14 percent (472 acres) of the County's total land area was used for residential purposes in the early 1990s. As noted in Chapter 2, the number of housing units in the County increased over 15 percent between 1990 and 2000. This increase in housing units indicates a likely increased percentage of land in residential use. The most popular areas for residential development tend to be along the banks of the County's water resources.

Residential usage is concentrated in and around the City of Grayling, Frederic Township, around the north and east shore of Lake Margrethe, along the Manistee River in Frederic Township, along the Au Sable River in Grayling Township and along the South Branch of the Au Sable River in South Branch Township. For the most part, residential development in the County consists of single-family dwellings. However, single family duplexes, multi-family units, condominiums, mobile homes and mobile home parks are also listed in this category.

Commercial/Industrial/Transportation

Commercial land uses include primary/central business districts, shopping center/malls, secondary/neighborhood business districts, including commercial strip development, as well as industrial development, transportation, oil and gas, communication and utility facilities, and all

highways. The MLCD identified 2,679 acres, or 0.7 percent of Crawford County's in this land use category. Commercial/Industrial facilities are found primarily in the City of Grayling and in Frederic Township, with expansion noted in areas along M-72, along I-75 and in Beaver Creek Township around the junction I-75 and US 27.

#### Extractive/Barren

This category includes quarries, strip mines and gravel pits as well as land in transition (forest clear cuts, transition between agriculture and forest lands, and changes due to natural causes such as fire or flooding). Areas of bare rock, sand or clay with little green vegetation are also included in this class, which makes up 2.3 percent (8278 acres) of Crawford's land area.

#### Recreational

Land devoted specifically for recreational purposes amounted to approximately 0.13 percent, or about 460 acres in Crawford County. Land uses included in this category are public parks and campgrounds, golf courses, schools, churches and public buildings.

#### Agricultural

With only 3,957 acres classified as farmland, agriculture operations make up a relatively small portion (1.1%) of the County's land use. The largest concentration and majority of the agricultural land use is located in Maple Forest Township with smaller areas located in Beaver Creek Township and South Branch Township. Agriculture land is used predominately as pastureland hay and growing crops such as beans, oats, and barley. A small amount of land is used for livestock such as cattle, milk cows and hogs.

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#### Non-Forested Uplands

Non-forested land is defined as areas supporting early stage of plant succession consisting of plant communities characterized by grasses or shrubs. Non-forest land makes up 7.1 percent or 25,719 acres of the County's land area. Typical grass species are quack grass, Kentucky bluegrass, upland and lowland sedges, reed canary grass and clovers. Typical shrub species include blackberry and raspberry briars, dogwood, willow, sumac and tag alder. Also included in this category are the lands used by the National Guard at camp Grayling for artillery and bombing ranges.

#### Upland Forest

Upland forests make up 266,861 acres or 74.1 percent of the County's surface area. While some of this land may have been converted to other uses since 1990, it is still by far the largest single land cover/use in the County. The predominant species on much of these lands is jack pine but other species such as white, red, scotch pines, sugar and red maple, elm, beech, yellow birch, cherry, basswood, white ash, and aspen can also be found.

#### Lowland Forest

The County's land use inventory shows that 43,959 acres or 12.2 percent of the County's surface area consists of lowland forests. Lowland forests are defined as those containing ash, elm and soft maple, along with cottonwood and balm-of-Gilead. Lowland conifers, such as cedar, tamarack, black and white spruce and balsam fir stands are also included. Lowland forests are mostly found close to the rivers and lakes in the county.

#### Wetlands

As can be noted from Table 4.1, 3,904 acres or 1.1 percent of the County's land area was identified as wetlands. Wetlands are those areas between terrestrial and aquatic systems where the water table is at, near, or above the land surface for a significant part of most years. The hydrologic regime is such that it permits the formation of hydric soils or it supports the growth of hydrophytic vegetation. Examples of wetlands include marshes, mudflats, wooded swamps and floating vegetation situated on the shallow margins of bays, lakes, rivers, ponds, streams. These wetland categories include shrub wetlands, fresh-water marshes, wet meadows, open bogs, emergent wetlands and aquatic bed wetlands.

#### Surface Water

Crawford County is home to many small lakes and several major rivers. Surface water makes up 1.1 percent (4,005 acres) of the County's land use types. The combination of wetlands types, lowland forests and surface water makes up a significant portion (14.6 percent) of the County's surface area. Therefore, protecting the county's water and wetland resources should be a major priority in land use planning.

### ***Planning & Zoning***

Crawford County Planning Commission completed a master plan in 2009 and has initiated an update in 2013. Crawford County has no zoning enforced at the county level. Beaver Creek, Maple Forest, Frederic, South Branch, Grayling and Lovells Townships and the City of Grayling have exercised their authority under state statutes to administer their own planning and zoning. These three communities have a zoning administrator, planning commission and zoning board of appeals that administer their zoning. The planning commissions are responsible for overseeing the master plan, recreation plan and zoning ordinance. The Township Boards and County Board are the governing bodies responsible for managing finances and making policy decisions. None of the communities have planning and zoning staff and rely on planning commissions to oversee planning and zoning activities.

Planning and Zoning are the principal tools that local communities have to manage growth, preserve community character, protect property values and enhance the economic viability of the area. Planning helps establish and focus the desired future of the community and zoning ordinances are used as one of the primary ways to implement the community master plan and achieve the goals of the community.

A key element of the community master plan is the future land use plan. This is the culmination of the planning process that entails an analysis of existing conditions, public input and goal setting, and finally establishing the community's desired future. The community-wide future land use plan includes a map that depicts where the community envisions types and densities of development. As well, the plan may address important resource areas to protect. Accompanying text describes future land use categories, compatible uses, incompatible uses and development densities. Special issue areas may include utility service areas, roads, open space development and waterfront development. The future land use plan is a policy document designed to guide land use decisions over a given planning horizon, usually 20 years. By comparison, the zoning ordinance and zoning map is a local law that regulates how property can be developed today.

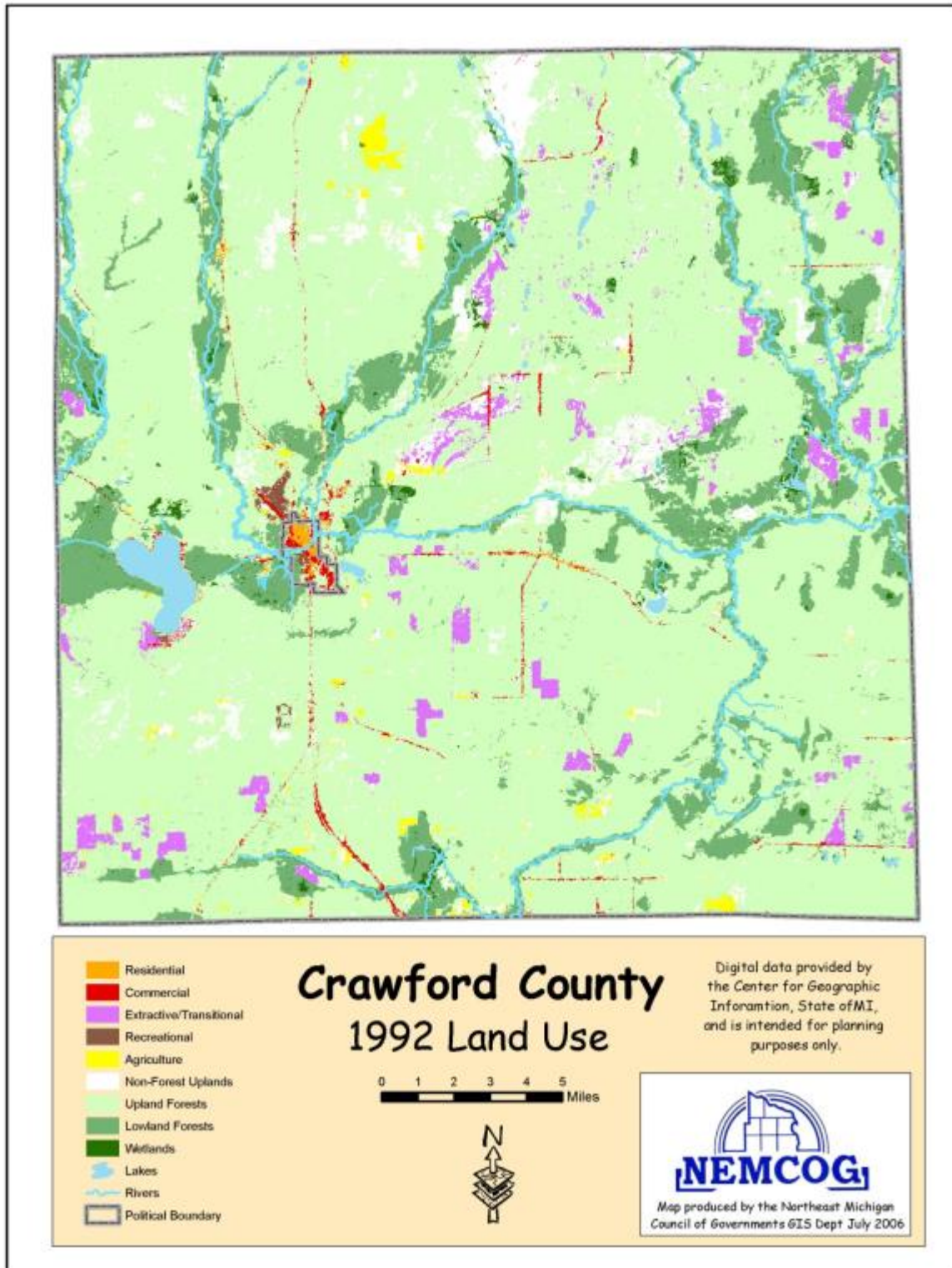
*Land-use planning and zoning are governmental functions critical to public safety. However, because these functions are political as well, they are subject to intense differences of opinion and to public controversy. Therefore, they tend to lag behind development until the problem becomes aggravated. Being political they are also subject, even after enactment into law, to pressures for variances and modifications. With few exceptions, they cannot be made retroactive and, consequently, older developments are not much affected by them. Where land-use planning and zoning have been enforced, however, they have achieved significant degrees of fire safety (Oreg. St. Dep. For. 1978b, San Bernardino County Bd. Sup. 1974).*

While building codes provide guidance on how to build in hazardous areas, planning and zoning activities direct development away from these areas, especially floodplains and wetlands. They do this by designating land uses that are compatible to the natural conditions of the land, such as open space or recreation in a flood plain, or by simply allowing developers more flexibility in arranging structures on a parcel of land through the planned development approach.

Capital improvement plans guide major public expenditures for communities for the next 5 to 20 years. Capital expenditures may include creating access roads and fire breaks, hazardous fuels reduction projects including community vegetation management, vegetation removal, and vegetation clearing and/or thinning, and retrofitting existing public structures against wildfire, etc.

Master plans, including the future land use plan, are implemented through zoning, capital improvement programs and recreation planning. Zoning is the primary tool used by most communities to implement their master plan. Zoning regulates the type, intensity and location of development in a community. As such, zoning provides communities a means to implement hazard mitigation strategies for land use development, which may include standards for private/public road construction; driveway standards; requirements for developments (such as subdivisions, condominium, commercial, recreational and industrial) to have two egress ingress roads; and house addresses to be displayed on 911 signs at the driveway end. Another important zoning tool available to communities is the Planned Unit Development (PUD). Use of PUDs provides flexibility to both the community and developer to incorporate Firewise development standards. In high risk areas, PUD standards should include use of defensible zones, fuel breaks, road and driveway design, signage for street identification, ingress and egress roads, underground utilities and vegetative maintenance for managing dangerous fuel loads in high fire risk areas.

Figure 4-3





**Figure 4.4, Crawford  
Co. Hazard Map**

