Appendix A – Scenery Management System

Landscape Character, Scenic Attractiveness, Scenic Integrity and Desired Future Condition for the Huron National Forest

Landscape Character:

General:

In the Scenery Management System, landscape character is defined as the combination of physical, biological and cultural attributes that give a geographic area its visual and cultural image. Landscape character contains those features that make each landscape identifiable or unique. Landscape character represents distinct landscape attributes of landform, vegetation, surface water features and cultural features that exist throughout the area being described.

The landscape character of the 694,098-acre Huron National Forest, located on the east side of northern Lower Michigan, has been shaped and influenced by natural as well as cultural influences. Landforms observed today are the results of glacial action and subsequent postglacial erosion and continuing soil formation processes. More distinctively, landscape character for the Forest can be described within the context of specific ecological sub-subsections associated with the Forest land-base and the landtype associations that make up these sub-subsections. Descriptions for sub-subsections associated with the Forest generally speak to a range of glacial landforms that include glacial outwash plains, ice-contact ridges, till plains and moraines and lake plains.

Landform and Vegetation:

Glacial Outwash Plain:

Over 50 percent of the Forest is identified as glacial outwash plain with soils ranging from the more dominant excessively drained sands to very poorly drained organic soils. Along with landscape position, soil structure, drainage and climate conditions, fire has been a major influence on historical vegetation patterns for the outwash plains. Historically, large stand-replacing "wildfires were common and often spread for many miles, especially where plains were expansive and without natural fire breaks such as steep ridges or less flammable hardwood dominated till plains" (Corner et al. 1999). These wildfires were a natural part of the ecosystem and had a major effect on vegetation types occupying specific landscape positions.

Several events have had an effect on alteration in vegetation patterns for the glacial outwash plains, and to a lesser degree, other ecological regions. Starting in the 1800s, disturbances such as logging, agriculture, drainage alteration, forest planting by the Civilian Conservation Corps, fire suppression and other forest management practices have significantly altered the pre-Euro-American plant cover and composition.

Pre-Euro-American vegetation of the well-drained outwash plains varied, but was predominantly xeric conifer forest with extensive pine barrens on the most fire-prone sites. The ground cover would have been thick sod, comprised of native grasses, sedges and forbs. Scattered red pine may have occurred within some of the barrens. On the less fire-prone sites, the forest was comprised of white pine and other conifers or oak while deciduous forests of American beech and sugar maple were found on the least fire-prone sites.

Today, conifer forests are still the dominant vegetation found on the outwash plains. However, it now occurs more extensively as row-planted red or jack pine plantations with less of the naturally occurring pine barrens historically found on the same landscapes. Overall hardwood acreage remains close to the same, but aspen/white birch, which were not readily present in the mid 1800s, have dramatically increased in acreage.

Also within the outwash plains, a lesser amount of the area includes poorly drained soils. Prior to the mid to late 1800s, these areas were dominated by conifer swamps. Dry-mesic conifers and northern hardwoods were also common on upland inclusions. Today, aspen/white birch is the most common forest type found within these wetlands with a substantial decrease in conifer swamps. In contrast, hardwood swamps have increased significantly.

Ice-Contact Ridges:

Ice-contact ridges, a characteristic landform, cover the least amount of Forest compared to the other landforms discussed. "These features occur as very large, sandy ridges and are often surrounded by outwash plain. Prior to the late 1800s vegetation was characterized by American beech/sugar maple forest, dry-mesic forest such as white pine/red pine or white pine/American beech/red maple, and dry conifer forest of jack pine. Ridges with excessively drained sandy soils or those surrounded by large, fire-prone, outwash plains, from which wildfires readily spread, often supported coniferous forests. In contrast, ridges with more favorable soil conditions or those more isolated from fire-prone outwash plains by lakes, large streams or wetlands, tended to support deciduous forest types" (Corner et al. 1999).

Current vegetation type on ice-contact ridges remains similar to what it was in the mid to late 1800s. However, coniferous forest has been greatly reduced in overall extent while the aspen/white birch forest type has increased dramatically. Attempts at agriculture for these areas were largely unsuccessful, resulting in a small percentage that remains in abandoned fields.

Till Plains and Moraines:

The northeast part of the Huron National Forest, as well as other scattered areas, is characterized by till plains and steep moraine topography. Prior to the late 1800s, vegetation for both was dominantly American beech/sugar maple forest, especially the till plains. Although this forest type is still common, these till plains and moraines have been fragmented into numerous cover types with the most common being cropland, old field, aspen/white birch and conifer forest.

Lake Plains:

Broad, flat lake plains are representative of the Forest closest to Lake Huron. Tuttle Marsh Wildlife Area is the largest block of National Forest System lands located in the lake plains.

Surface Water Features:

Major water features associated with the Huron National Forest include Lake Huron, the Au Sable National Scenic River, lesser streams, a few inland lakes and numerous wetlands. While the boundary of the Huron National Forest abuts Lake Huron, little Forest ownership exists along the shoreline of this Great Lake. The Au Sable River drainage incorporates six impoundments forming Mio, Alcona, Loud, Cooke, Five Channels and Foote Dam Ponds. For these water features, National Forest System ownership is high and little development occurs, resulting in mostly natural appearing shorelines. Except for a few isolated lakes, such as Wakeley and Mack Lake, most of the remaining larger lakes have shorelines that are predominantly in private ownership and residential and/or commercial development is more prominent.

Land Use Patterns and Cultural Features:

In combination with natural features found within the Forest, several small towns or population centers exist that include: Luzerne, Mio, McKinley, Curran, Curtisville, South Branch, Glennie and Barton City, which have an influence on Forest landscape character. Development and greater private ownership around these areas is in contrast to the more natural appearing environment of the forested setting found elsewhere within the Forest boundary. Away from these population centers, the Forest remains in a fairly large, contiguous block with occasional in holdings of other ownership.

Other contrasting elements include occasional Forest recreation developments, utility rights-of-ways, hydroelectric dams, gas and oil wells, and on-going timber harvesting activities. The Huron National Forest includes several paved highways; an abundance of county roads, lower standard forest access roads, and a significant number of two-track roads, resulting in a landscape highly dissected by roads and recreational trails. High recreation use on the Forest is associated with these population centers, recreational facilities, roads and trails.

Notable scenic features on the Huron National Forest include the Au Sable National Scenic River, River Road National Scenic Byway, Lumberman's Monument Visitor Center, Wakeley Lake Wildlife Area, and Tuttle Marsh Wildlife Management Area.

Scenic Attractiveness:

Scenic Attractiveness measures the scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, water characteristics, vegetation pattern, and cultural land use. Scenic attractiveness is classified as:

- Distinctive (Class A) – landscapes whose attributes and patterns combine to provide unusual, unique or outstanding scenic quality.

- Typical (Class B) - landscapes that provide ordinary or common scenic quality.

- Indistinctive (Class C) – landscapes having low scenic quality.

The broad Forest characteristics and attributes described under Landscape Character all combine to establish different levels of scenic quality for the Huron National Forest. However, these attributes can better be defined and applied to provide for delineation and mapping of Scenic Attractiveness levels. Past methods relied more on developing a matrix of indicators defining landform, vegetation, water and cultural characteristics representative of the different classes. Aerial photos and topographical maps were used as tools to determine boundaries. However, other related resource maps and utilization of GIS technology provides a more consistent and ecological based way to complete identification of Scenic Attractiveness.

Landtype associations, because they use similar attributes related to landform, vegetation and water in their ecological make-up, often provide a good measure for identifying Scenic Attractiveness levels at a Forest-wide scale. Application for each National Forest depends on the appropriate mix and interpretation of the landtype associations for their ability to be representative of scenic quality.

Evaluation for the Huron National Forest found that using landtype association groupings that form the Fire Regime classes within the Forest serve as a suitable starting point to delineate the Scenic Attractiveness levels. Fire Regime classes are identified in six classes (Figure A-1 on page A-5, Example of the Fire Regime Classes (FRCs) for the Huron National Forest). See also Figure A-2 on page A-6, General Landscape Locations of Fire Regime Classes for the Huron-Manistee National Forests, which illustrates landscape location/position and vegetation composition associated with the Fire Regime classes.

Figure A-1. Example of the Fire Regime Classes (FRCs) for the Huron National Forest.

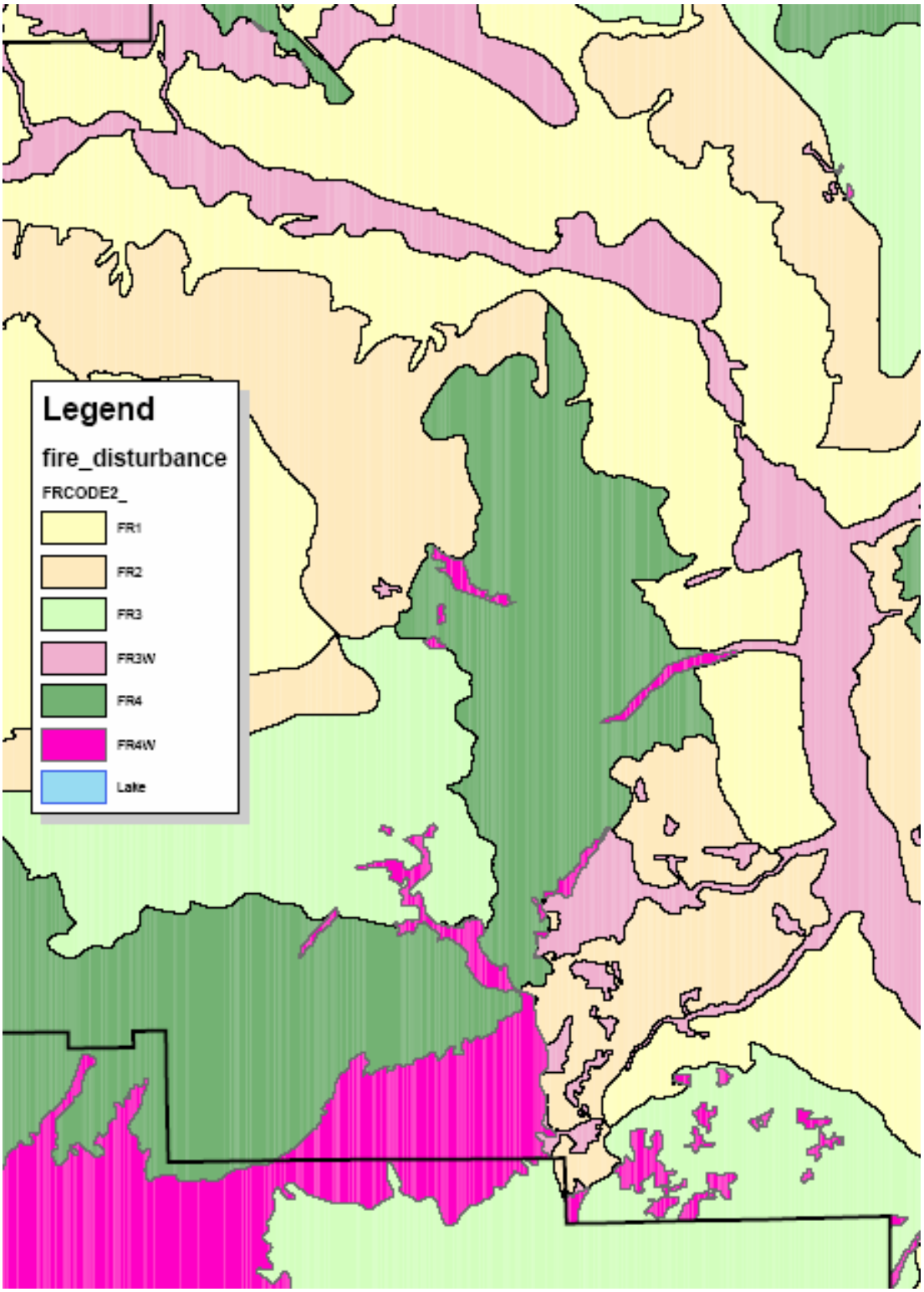
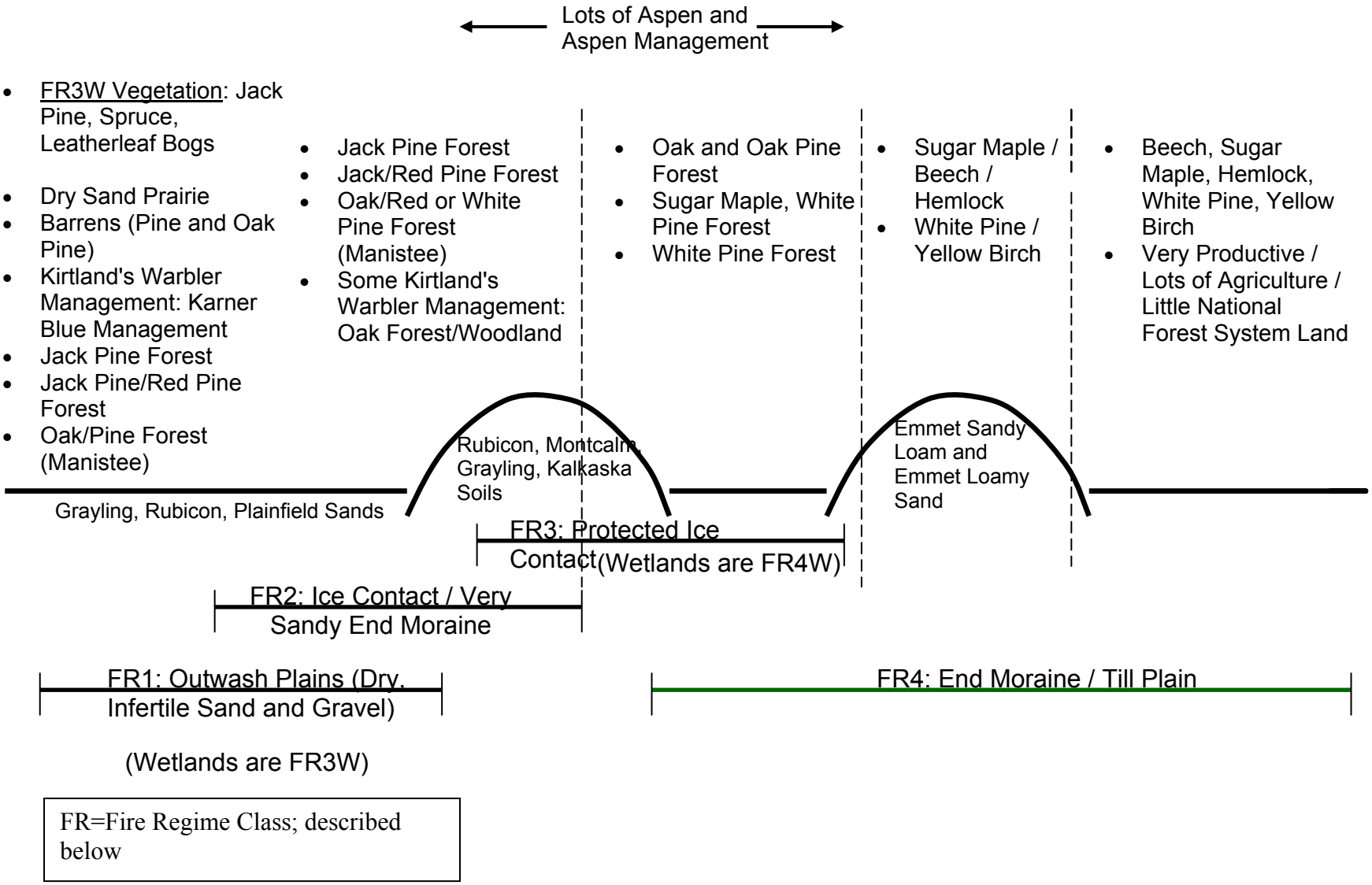


Figure A-2. General Landscape Locations of Fire Regime Classes (FRCs) for the Huron-Manistee National Forests.



The following briefly describes the landscape ecosystem fire regimes based on Fire Regime classes (Cleland, USFS 2003):

- Fire Regime class 1 represents landscape ecosystems historically experiencing frequent, large catastrophic stand-replacing fires. These ecosystems typically occur within very dry, flat outwash plains underlain by coarse-textured sandy soils. The dominant forest types, prior to the mid to late 1800s, were short-lived jack pine forests and pine barrens.

- Fire Regime class 2 represents landscape ecosystems historically experiencing large, catastrophic stand-replacing fires at lower frequencies, hence longer fire rotations, than the FR1 category. These ecosystems typically occur within dry outwash plains and ice-contact landforms underlain by sandy and loamy sand soils. The dominant forest types, prior to the mid to late 1800s, were white-red pine and mixed red-white-jack pine forest.

- Fire Regime class 3 represents landscape ecosystems historically experiencing relatively infrequent stand-replacing fires at much longer fire rotations than the FR1 or FR2 categories. These ecosystems typically occur within dry-mesic ice-contact, glacial lakebed, and morainal landforms underlain by loamy sand to sandy loam soils, and commonly occur within close proximity to fire-prone ecosystems. The dominant forest type, prior to the mid to late 1800s, was long-lived mixed hemlock-white pine forest with minor elements of northern hardwood forests. Frequent ground-fires prevented succession to fire-sensitive hardwoods.

- Fire Regime class 3W represents landscape ecosystems historically experiencing relatively infrequent stand-replacing fires. These ecosystems typically occur within wetlands embedded within or adjacent to fire-prone landscapes. The dominant forest types, prior to the mid to late 1800s, were wetland conifers including spruce, fir, and tamarack. Fire regimes and fuel formation were likely caused by interactions of insect and disease and large-scale blow-downs, as well as periods of drought.

- Fire Regime class 4 represents landscape ecosystems historically experiencing very infrequent stand-replacing or community maintenance (ground) fires. These ecosystems typically occur within mesic (moist) moraines and glacial lakebeds underlain by fine-textured sandy loam to heavy clay and silt loams soils. The dominant forest types, prior to the mid to late 1800s, were long-lived, fire-sensitive northern hardwood and hardwood-hemlock forests including sugar maple, basswood, and white ash.

- Fire Regime class 4W represents landscape ecosystems historically experiencing very infrequent stand-replacing or community maintenance (ground) fires. These ecosystems typically occur within wetlands embedded within or adjacent to fire-sensitive, hence fire protected landscape ecosystems (FR4). The dominant forest types, prior to the mid to late 1800s, were wetland hardwoods and mixed hardwood-conifer forests including black and green ash, silver maple, elm, and cedar.

To determine initial Scenic Attractiveness level assignments, Fire Regime classes are further grouped to most closely represent the inherent variety and scenic interest that are found in those classes.

Fire Regime class 1 and Fire Regime class 2 are grouped and are illustrative of Indistinctive Scenic Attractiveness (Class C). They are typical of flatter terrain with shorter-lived conifer species providing little interest and variety in the landscape, such as the jack pine forests on the Mio Ranger District.

Fire Regime class 3 and Fire Regime class 4 are grouped and are illustrative of Typical Scenic Attractiveness (Class B). They contain stands of relatively long-lived tree species with various species mix. The terrain is also typically more variable than with the previous classes.

Fire Regime class 3W and Fire Regime class 4W are grouped with the water elements and are representative of Distinctive Scenic Attractiveness (Class A). The water bodies are the major rivers of the Forest (Au Sable for example) as well as some major lakes and certain large wetlands.

Refinement and completion of Scenic Attractiveness at the Forest-wide scale was completed through refinement for specific areas that are identified through review and field knowledge of resource managers. Table A was used to accomplish the field review and designate changes to the Fire Regime starting points. An example of the resulting existing Scenic Attractiveness levels for the Huron National Forest is shown in figure A-3 on page A-10, Example, Scenic Attractiveness Level Map for Part of the Huron National Forest.

The following matrix (Table A-1) was used to modify the Fire Regimes beginning product to the final Scenic Attractiveness maps:

Table A-1. Matrix Used to Modify the Fire Regimes Beginning Product to the Final Scenic Attractiveness Maps.

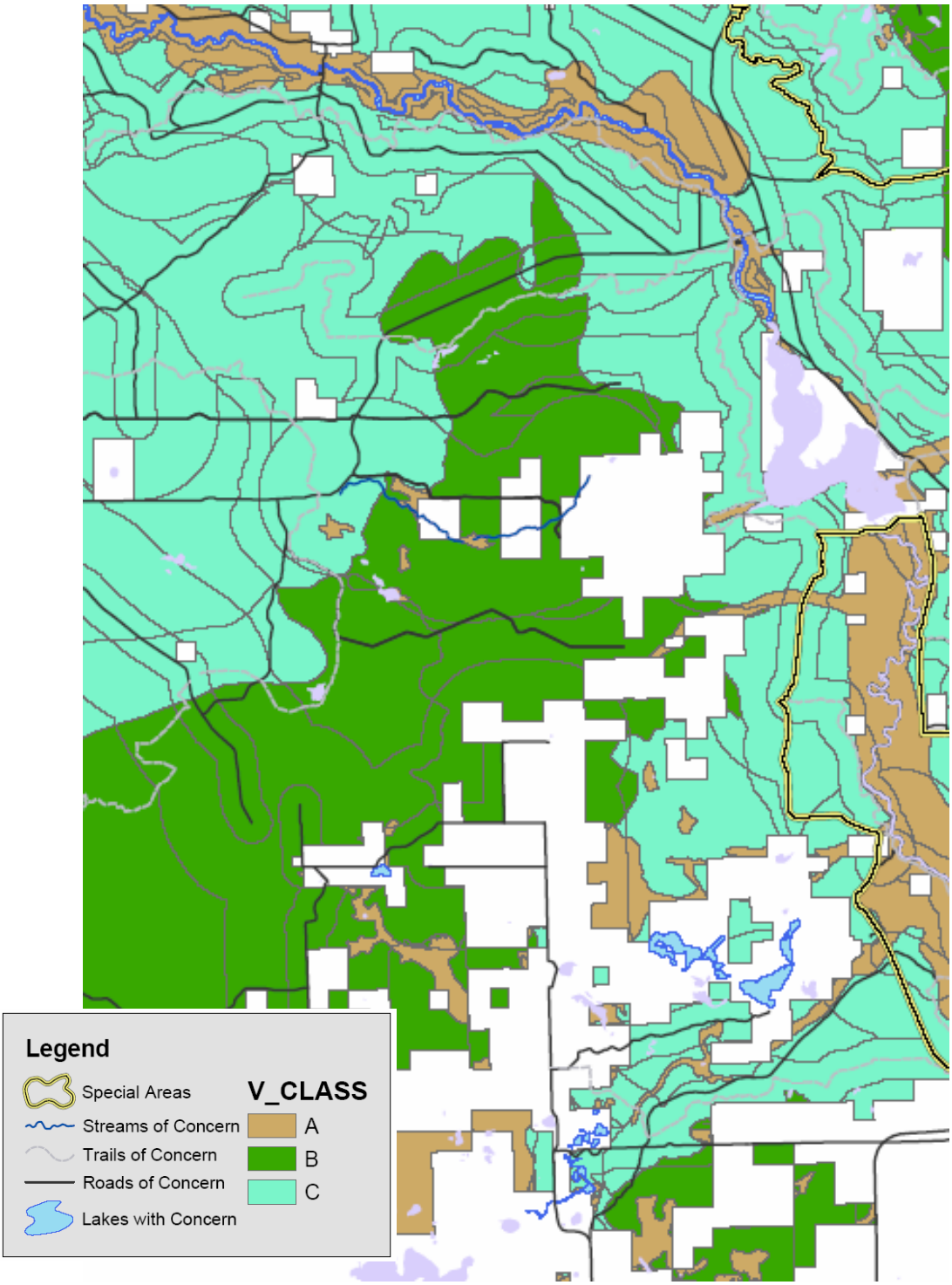
ELTPs 1/	**12, 10, 14, 18 Distinctive (Class A)**	**7, 8, 9, 11, 15, 16, 17, 13 Typical (Class B)**	**1, 2, 3, 4, 5, 6 Indistinctive (Class C)**
LANDFORM	High, rolling hills, definite ridges and river valleys, slopes generally over 20 percent; sand dunes (active or inactive). Strong edge contrast and spatial definition, pronounced spatial variety.	Low, rolling hills, wide valleys, no perceivable ridges or stream valleys. Slopes generally 12-20 percent. Edge contrast and spatial definition are moderate. Moderate spatial variety.	Flat, no recognizable hills or ridges; slopes under 12 percent. Weak edge contrast or spatial definition. Little spatial variety.
GEOLOGY	Characterized by presence of terminal moraines.	Characterized by presence of ground moraines and pitted outwash plains.	Characterized by outwash plains and lake basin areas.

Table A-1. Matrix Used to Modify the Fire Regimes Beginning Product to the Final Scenic Attractiveness Maps (Continued).

ELTPs 1/	12, 10, 14, 18 Distinctive (Class A)	7, 8, 9, 11, 15, 16, 17, 13 Typical (Class B)	1, 2, 3, 4, 5, 6 Indistinctive (Class C)
VEGETATION	A highly varied vegetative pattern. Many variations of color and texture. Vegetative type changes are sharply defined and tend to dominate the visual field.	A moderately varied vegetative pattern with some variation in color and texture. Edges are weakly defined.	Uniform vegetative patterns with little variety in color or texture. Vegetative edge contrasts tend to be minimal.
WATER	**Lakes:** Area greater than 50 acres with rolling, steep or diverse shoreline topography, little shoreline development.	Area 15 to 50 acres; some irregularities in shoreline topography; some moderate shoreline development (such as cabins and docks) may be present.	Less than 15 acres, includes small ephemeral lakes, mucky shorelines. Large, but highly developed lakes also included.
	Rivers and Streams: rocky-cobble bottom; generally undeveloped shoreline, diverse shorelines.	Sandy bottom; slow, smooth water speed; some shoreline development.	Murky, slow-moving; sand or muck bottom; no bank topography; may not be developed.
	Wetlands: Open water, diverse shorelines with features that tend to dominate the visual field.	Shallow basins, surface water may not be present, shrubby cover or open.	Large amounts of dead or dying vegetation; no pattern apparent; no readily visible edge. Features tend to be minimal in visual field.
SOCIO-CULTURAL EFFECTS	More solid ownership greater than 50 percent net. Large Tracts. No local communities, few non-forest uses; summer residences may occur in this class.	Intermingled ownership 30-50 percent net. Larger tracts (average 120+ acres). Few local communities. Some varied uses (such as farming).	Intermingled less than 30 percent net ownership. Small tracts. Many local communities and varied non-forest uses.
	FR3W, FR4W	FR3, FR4	FR1, FR2

1/ ELTP=Ecological Landtype Phases. Descriptions of the Ecological Landtype Phases can be found in the Field Guide, Ecological Classification and Inventory System of the Huron-Manistee National Forests, Cleland et al. 1993.

Figure A-3. Example, Scenic Attractiveness Level Map for Part of the Huron National Forest.



Scenic Integrity and Desired Future Condition:

Scenic Integrity is an indication of the state of naturalness or, conversely, the state of disturbance created by human activities or alteration. It is stated in degrees of deviation from the existing landscape character. The highest Scenic Integrity ratings are given to those landscapes that have little or no deviation from the character valued by forest users for aesthetic appeal. Landscape character with a high degree of Scenic Integrity has a sense of wholeness or being complete. In its purest definition, integrity means perfect condition. In the Scenery Management System process, Scenic Integrity is managed in degrees ranging over five levels from Very High to Very Low. Scenic Integrity Levels are:

- Very High – Landscapes are unaltered with no deviation from the landscape character. Landscape character is fully expressed.

- High – Landscape appears unaltered. Deviation is subtle and not evident. Landscape character is largely expressed

- Moderate – Landscape appears slightly altered. Deviations are evident but not dominant. Landscape character is moderately expressed.

- Low – Landscape appears moderately altered. Deviations begin to dominate. Low expression of landscape character.

- Very Low – Landscape appears heavily altered. Deviations may be strongly dominant. Very low expression of landscape character.

The Scenery Management System Handbook also makes reference to Unacceptably Low Integrity. This is considered a condition and is not to be used as a scenery management goal. For this level, landscape character is extremely altered. Deviations are also extremely dominant to the point that landscape character is unrecognizable.

Refer to the Scenery Management System Handbook, Chapter 2, for additional explanation and discussion of Scenic Integrity.

For application on the Huron National Forest, Scenic Integrity is evaluated from existing travelways and use areas, using typical on-the-ground observer positions. These should represent the same features to which Concern Levels were assigned for visibility mapping.

Scenic Integrity may be evaluated and addressed at four different levels, all interrelated. The four levels are:

- Historic
- Existing
- Interim
- Long term

Historic or past state of integrity

This level is important to the Huron National Forest. It serves as a reference point in determining Desired Future Condition for long-term management. Regarding ecosystem management, there are vegetation types or patterns that existed in pre-Euro-American time that are not present today. The Desired Future Condition may be to restore these vegetation patterns where site conditions are appropriate to do so. Pre-Euro-American patterns are generally described in vegetation circa 1800 map series for counties affecting the Forest and are based on an interpretation of the General Land Office surveys for Michigan.

Existing or current state of integrity

Existing Integrity levels become important as they provide the baseline to develop and transition to long-term scenic goals.

Knowledge of the existing levels will be a key element in determining the ease at which long-term Scenic Integrity Goals established for the Huron National Forest can be achieved. If significant alteration of the existing landscape will occur in order to restore landscapes to desired vegetation types different than what exist, and the current state of integrity is moderate to high, important management decisions may need to be made. These would relate to the need to structure an acceptable timeline with appropriate guidelines that provides for temporary but lower Scenic Integrity levels.

While evaluation of existing Scenic Integrity can best be made through detailed field analysis closer to the project level, certain resource maps and tools can provide a general indication of the current Scenic Integrity level condition on the Forest for general planning purposes. For the Huron National Forest, two map resources are available that when combined provide a general indication of existing Scenic Integrity. These are the Management Areas and the Age-class Distribution maps. See page A-14, Process for Mapping Existing Scenic Integrity Levels – Huron National Forest.

Interim or short-term minimum level necessary to reach a long-term character goal

As suggested above, interim or short-term goals may become essential to achieve long-term goals for certain restoration projects on the Forest, especially for achieving prairie, pine barren and oak savannah restoration. Potentially, short-term and interim integrity levels could drop to low or even very low for a period of time in order to achieve long-term goals.

It is important to note that once the long-term goal is reached, it may actually change the current landscape character and scenic attractiveness to a higher level. Once achieved, on-going management should maintain the ability to perpetuate the vegetation within the parameters of the assigned Scenic Integrity level goal.

Long-term level of integrity achievable when the desired management condition is reached

These objectives correspond to the Scenic Integrity assignments established in the Revised Forest Plan Standards and Guidelines for Scenic Resources.

Table A-2. Long-Term Scenic Integrity Objectives.

Scenic Class	Management Area 2.1 - Roaded Natural Rolling Plains and Morainal Hills	Management Area 4.2 - Roaded Natural Sandy Plains and Hills	Management Area 4.3 - Roaded Natural Wetlands	Management Area 4.4 - Rural
1	High	High	High	High
2	High	Moderate	High	Moderate
3	Moderate	Low	Moderate	Low
4	Low	Low	Low	Low
5	Low	Low	Low	Low
6	Low	Low	Low	Low
7	Low	Low	Low	Low

Management Area	Scenic Integrity Objective
5.1 Wilderness	Very High
6.1 Semiprimitive Nonmotorized Areas	High
6.2 Semiprimitive Motorized Areas	Moderate
7.1 Concentrated Recreation Areas	High
8.1 Wild and Scenic Rivers	High
8.2 Research Natural Areas	1/
8.3 Experimental Forests	2/
8.4 Special Areas	High
9.1 Candidate Research Natural Areas	Very High
9.2 Wild and Scenic Study Rivers	High

1/ Determined by establishment record for Research Natural Area.
2/ Managed same as the management area it would be if it were not Experimental Forest. Projects submitted to North Central Research Station for approval.

Process for Mapping Existing Scenic Integrity - Huron National Forest

Existing Scenic Integrity is defined as the current state of the landscape, considering previous human alterations. Existing Scenic Integrity serves multiple purposes in forest planning, project implementation, and monitoring.

Initially, Existing Scenic Integrity can provide important benchmarks for Forest Plan decision-making. It is the baseline for addressing and assigning short and long-term Scenic Integrity levels.

Existing Scenic Integrity can be used in describing the existing landscape character and in the writing of the affected environment section of the Final Environmental Impact Statement.

See list of benefits – Page 2-7 / Scenery Management System Handbook, available in the Planning record.

Mapping:

Level 1 - Use Management Areas as a general descriptor for describing probable Existing Scenic Integrity levels:

Current management Standards and Guidelines outline management practices that result in on-the-ground effects that influence Scenic Integrity. For the Huron-Manistee National Forests, there is a correlation established using Landtype Association structure and Recreation Opportunity System Classes that are indicative of how the management area is managed and probable visual condition of the land base. As an example, the semiprimitive nonmotorized management direction associated with Management Areas 6.1, 6.2, 6.3, including minimal proposed shelterwood and clearcut activities, is indicative of an existing Moderate to High Integrity Level (Probably a higher percentage of High).

Toward the opposite end of the spectrum, Management Area 4.2 would include the full range of Scenic Integrity levels but tend toward a much higher percentage of Low and Very Low due to the type of vegetation and how it has been managed over time, as well as the percentage of the land base proposed for shelterwood and clearcut activity in the 1986 Forest Plan as amended. The frequency of roads, the type use and condition of the roads could also be an influence on Existing Scenic Integrity.

Management Area 5.1, Wilderness, would have most of the landscape in a Very High Existing Scenic Integrity.

Level 2 - Use vegetation disturbance or age-class distribution as a more specific indicator Existing Scenic Integrity:

A vegetation disturbance map outlining age classes in the 0–10, 11–25, 26–75, and greater than 76 year age classes can be used as an indicator of more specific areas that are Low / Very Low, Low to Moderate, Moderate to High, and High respectively. There may be instances where a lower age class is indicative of a vegetation or character type that is in more of a natural condition and therefore should be identified as having a higher Existing Scenic Integrity level. The opposite condition could also occur where there are stand characteristics that may cause a lower Scenic Integrity in the higher age class stands. These are situations that can be further refined by review of the land base from the current Forest colored (infrared) orthophotos or from land managers familiar with the land base.

For this level, a specific Existing Scenic Integrity value can be applied to a unit, such as a compartment or other established land management unit, to create a graphic representation of the

current condition. This would incorporate overlaying the compartment map with the disturbance pattern map and assigning an Existing Scenic Integrity value based on interpretation of the age class (See values suggested previously). The next step would then be to further evaluate compartment assignments to other known modifiers, such as utilities, and have a review by District or knowledgeable field staff for edits. Final Scenic Integrity values would be based on all factors or attributes.

Level 3 - Complete Level 2 but have a high involvement, participation and input from District or other knowledgeable field staff during the process. Also use recent orthoquads to scan the entire Forest land base to assist in interpretations:

Assign values to compartments or other established land management units.

General Considerations

Two factors need to be taken into consideration and could have an influence in application of Existing Scenic Integrity for the Huron-Manistee National Forests. One is the high frequency of roads. Even though vegetation or other conditions may indicate a high Scenic Integrity, the Forest map and road frequency are indicative that a road of some standard will be present within ½ mile of the area, causing some indication of disturbance. This may or may not be a factor depending on the size of the land base being evaluated and the attributes chosen to assign Scenic Integrity values.

The other consideration is the fragmentation and number of small isolated units found on the forests, particularly on the Manistee National Forest. While vegetation or other attributes may indicate a high Scenic Integrity level on Forest lands, there is a probability the unit is surrounded by land that is influenced by urban, agriculture, and other factors, thus creating a landscape condition different than the unit being assigned the Scenic Integrity level value. This could have an influence on interpretations made regarding long-term value assignments.

Landscape Character, Scenic Attractiveness, Scenic Integrity and Desired Future Condition for the Manistee National Forest

Landscape Character:

General:

In the Scenery Management System, landscape character is defined as the combination of physical, biological and cultural attributes that give a geographic area its visual and cultural image. Landscape character contains those features that make each landscape identifiable or unique. Landscape character represents distinct landscape attributes of landform, vegetation, surface water features and cultural features that exist throughout the area being described.

The landscape character of the 1,331,671-acre Manistee National Forest, located on the west side of northern Lower Michigan, has been shaped and influenced by natural as well as cultural influences. Landforms observed today are the results of glacial action and subsequent postglacial erosion and continuing soil formation processes. Landscape character for the Forest can be described within the context of specific ecological sub and sub-subsections associated with the Forest land-base, and more specially, by landtype associations that make up these broader ecological units.

Landform and Vegetation:

Newaygo Outwash Plain:

The Manistee National Forest lies primarily in the Newaygo Outwash Plain. This subsection occupies the central area of the Forest from the north to the south boundary and contains soils ranging from excessively drained sands to ponded mucks and peats. The topography of the outwash landtypes is level to gently rolling. Steep, broken-end moraines and rolling to strongly undulating till plains are also a component of the landscapes within this subsection.

Within the Forest boundary, lake plain can also be found in the very northern part of the Newaygo Outwash Plain Subsection. As will be noted under water features, some of the Forest's most significant rivers are found in the narrow outwash channels in this subsection and the Manistee subsection to the west.

The Manistee subsection is associated with the most western areas of the Forest and is located along the Lake Michigan shoreline. This subsection is quite diverse and includes several glacial landforms. Within the National Forest, the outwash plains and the poorly drained, mucky, glacial lake plains are the dominant landforms found. The outwash within the subsection is located in the southwest part of the Forest. Areas of till plain with broad, gently rolling topography are also found within this subsection on the Forest.

To the east of the Newaygo Outwash Plain Subsection lies the Cadillac Sub-subsection. On the Manistee National Forest, this sub-subsection is very dominant to moraine ridges where the topography is steep and broken with slopes ranging from 6 to 40 percent. Outwash plain occupies most of the remaining Forest area in this subsection.

Vegetation characteristics prior to the mid to late 1800s and current vegetation characteristics vary considerable within the content of the dominant glacial landforms.

Glacial Outwash Plain:

The excessively drained outwash plains were typically conifer forest that ranged from forest dominated by red or jack pine to mixtures of white pine with other conifers or oak. Large expanses of open oak/pine and pine barrens were common throughout these dry, sandy plains but were most concentrated in Lake County and the eastern half of southern Newaygo County. "Large, open grasslands were also relatively common in the southeast quarter of Newaygo County, but did not occur elsewhere in the subsection. The establishment and perpetuation of conifer forest, savannahs, and grasslands were tied to catastrophic wildfires, which were commonplace on the outwash plains south of the Manistee River." (Corner et al. 1999c)

Since the logging era, much of the conifer forests on the dry outwash plain have been converted to hardwood stands dominated by oak. While conifer forests are still relatively common, northern hardwoods are the dominant vegetation type. Aspen/white birch, which was practically nonexistent prior to the mid to late 1800s, now covers a small portion of the outwash plains.

The open savannahs and grasslands that existed prior to the mid to late 1870's, in general, are absent today and are a focus of restoration efforts. These areas were attractive to settlers because they required relatively little clearing for cultivation. Some of the large grasslands in the Newaygo and Big Prairie areas may have had deep A1 soil horizons. The soils, where rich, quickly were depleted due to the loss of biomass in the soil. The result today is that much of these areas are in abandoned fields or converted to other land uses.

In the mid to late 1800s, conifer swamps dominated those portions of the outwash plains that are poorly drained. Other types included mesic hardwoods, white pine forests, or mixed pine/oak forests. Current types have seen an increase in hardwood swamps with a dramatic decrease in conifer swamps.

Lake Plains:

Glacial lake plain is scattered along the entire Lake Michigan coast, both as a flat, sandy plain and as steep coastal dunes. A unique area, the Nordhouse Dunes is located on Lake Michigan south of the city of Manistee. Generally, Lake Plain landforms supported forests of beech and sugar maple, with hemlock, white pine and associations of these two species. Wetlands, which covered a portion of the lake plain, were forested with lowland conifers. Much of the upland areas today contain second growth forests or have seen conversion to other land uses.

Moraine Ridges:

The majority of the steep moraines were covered by American beech/sugar maple forests prior to the mid to late 1800s. "Dry-mesic conifer forest, such as white pine, white pine/red pine or white pine/American Beech/red maple forests were also relatively extensive on moraines. These forest types generally occurred where soils were relatively droughty, nutrient-poor sands. These conifer forests often occurred where moraines were directly adjacent to droughty outwash plains and were thus exposed to wildfires originating on the plains" (Corner et al. 1999).

Various types of hardwood forests remain as the dominant vegetation type on these landforms within the forest, but are mostly second growth forest with a relatively high component of oak. Aspen/white birch now occurs on a considerable portion of the area compared to the mid to late 1800s. Significant portions of moraine ridges have also seen conversion to agricultural use and some are now in abandoned fields.

Surface Water Features:

Several major rivers flow through the Manistee National Forest. These include the Manistee, Little Manistee, Big Sable, Pere Marquette, Pine, White and Muskegon Rivers.

To a great extent, these streams within the Forest area have trenched deeply into outwash sands, creating steep, easily eroded banks, especially in the Newaygo Outwash Plains Subsection.

Scattered lakes occur throughout the Forest, with the primary concentration within the Newaygo Outwash Plain Subsection. Some of the largest water bodies found are those created by impoundments such as Tippy Dam Pond on the Manistee and Pine Rivers, and Hardy Dam Pond on the Muskegon River. Wetland and swampy areas occupy a considerable amount of the Forest land base, usually a component of the many smaller streams that dot the landscape. A major water feature of the Manistee National Forest includes several miles of ownership along the shoreline of Lake Michigan.

Land Use Patterns and Cultural Features:

In combination with natural features found within the Forest, several small towns or population centers exist, such as Newaygo, White Cloud and Baldwin, which have an influence on Forest landscape character. Commercial and residential development, along with adjacent areas in greater private ownership, is in contrast to the more natural appearing environment of the forested setting found elsewhere within the Forest boundaries. Although there are significantly large blocks of Forest ownership, lands in private or other ownership are intermingled and create a fragmented ownership pattern. Land use patterns on private holdings include a much higher amount of land in agriculture, old-field and Christmas tree plantations.

Other contrasting elements include numerous Forest recreation developments, utility rights-of-ways, oil and gas wells, and ongoing timber harvesting activities. The Manistee National Forest includes several paved highways; an abundance of county roads, lower standard forest access roads, and a significant number of two-track roads, resulting in a landscape highly dissected by

roads and recreational trails. High recreation use on the Forest is associated with these population centers, recreational facilities, roads and trails.

Notable scenic features on the Manistee National Forest include the Pere Marquette National Scenic River, Pine National Scenic River, Manistee National Scenic River, Nordhouse Dunes, Newaygo Prairies and Loda Lake Wildflower Sanctuary.

Scenic Attractiveness:

Scenic Attractiveness measures the scenic importance of a landscape based on human perceptions of the intrinsic beauty of landform, water characteristics, vegetation pattern and cultural land use. Scenic attractiveness is classified as:

- Distinctive (Class A) – landscapes whose attributes and patterns combine to provide unusual, unique, or outstanding scenic quality.

- Typical (Class B) - landscapes that provide ordinary or common scenic quality.

- Indistinctive (Class C) – landscapes having low scenic quality.

The broad Forest characteristics and attributes described under Landscape Character all combine to establish different levels of scenic quality for the Huron National Forest. However, these attributes can better be defined and applied to provide for delineation and mapping of Scenic Attractiveness levels. Past methods relied more on developing a matrix of indicators defining landform, vegetation, water and cultural characteristics representative of the different classes. Aerial photos and topographic maps were used as tools to determine boundaries. However, other related resource maps and utilization of Geographic Information System technology provides a more consistent and ecological based way to complete identification of Scenic Attractiveness.

Landtype associations, because they use similar attributes related to landform, vegetation and water in their ecological make-up, often provide a good measure for identifying Scenic Attractiveness levels at a Forest-wide scale. Application for each National Forest depends on the appropriate mix and interpretation of the landtype associations for their ability to be representative of scenic quality.

Evaluation for the Manistee National Forest found that using landtype association groupings that form the Fire Regime classes within the Forest serve as a suitable starting point to delineate the Scenic Attractiveness levels. Fire Regime classes are identified in six classes (Figure A-4 on page A-21, Example of the Fire Regime Classes (FRCs) for the Manistee National Forest). See also Figure A-5 on page A-22, General Landscape Locations of Fire Regime Classes for the Huron-Manistee National Forests, which illustrates landscape location/position and vegetation composition associated with the Fire Regime classes.

Figure A-4. Example of the Fire Regime Classes (FRCs) for the Manistee National Forest.

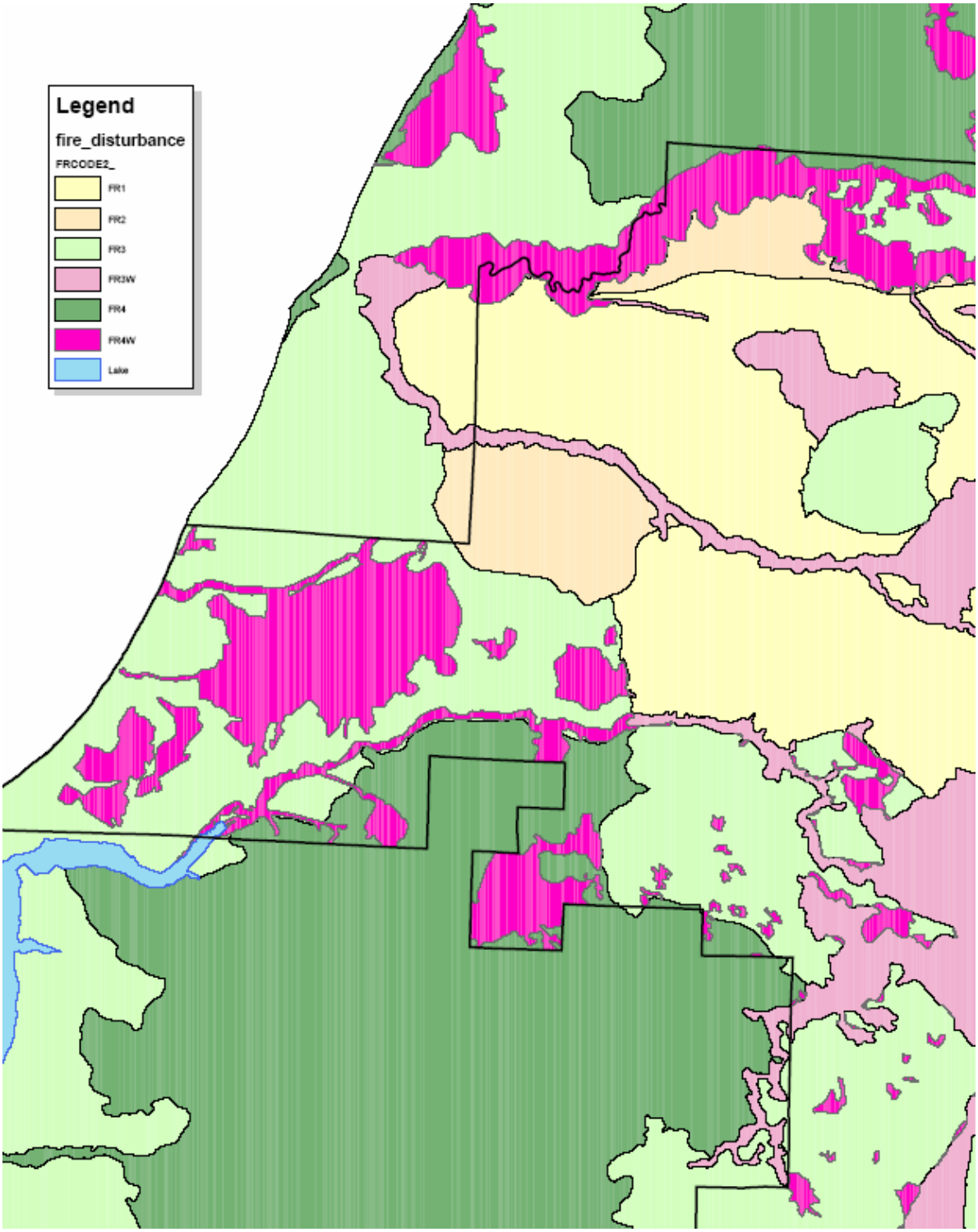
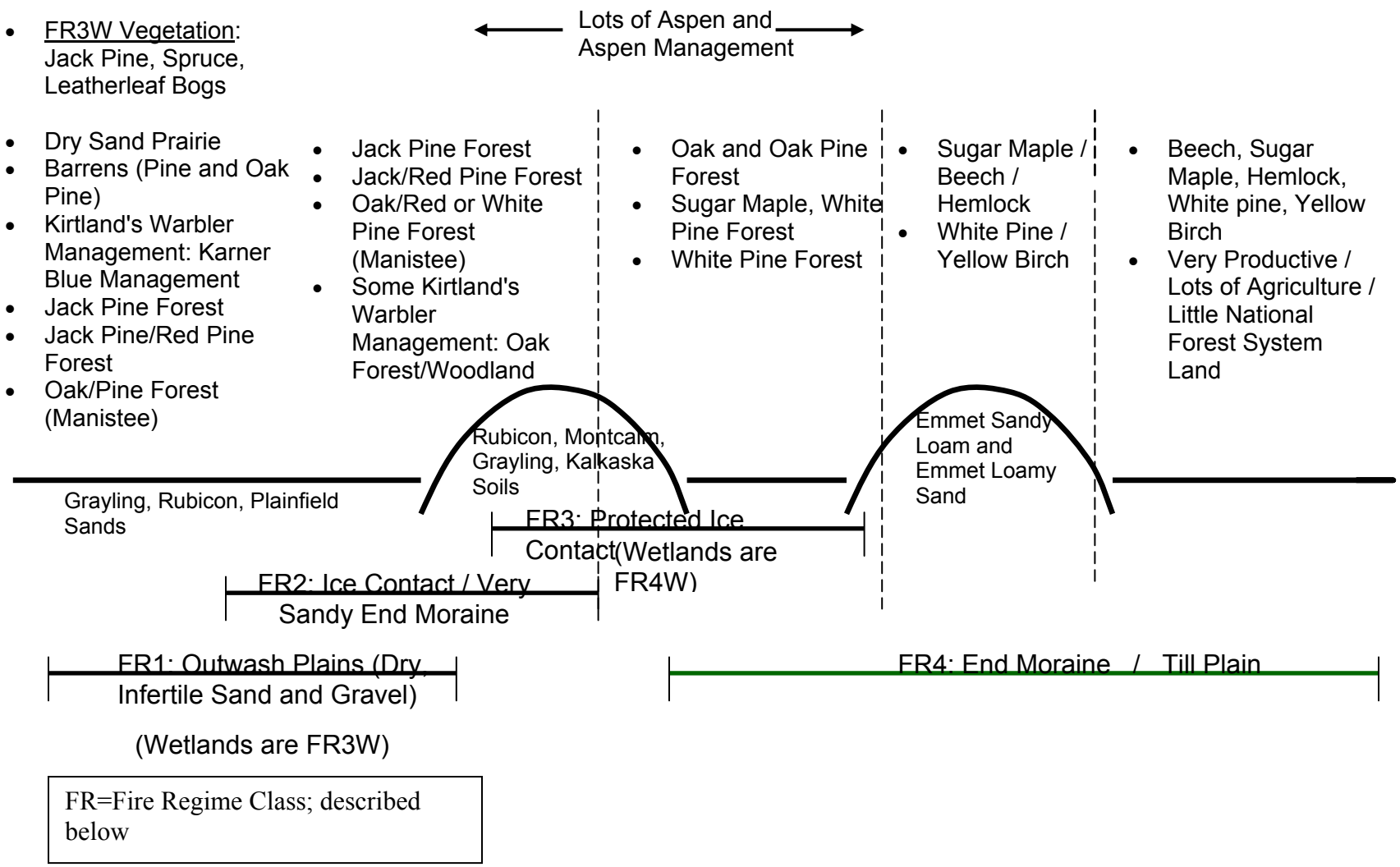


Figure A-5. General Landscape Locations of Fire Regime Classes (FRCs) for the Huron-Manistee National Forests.



The following briefly describes the landscape ecosystem fire regimes based on Fire Regime classes (Cleland USFS 2003):

- Fire Regime class 1 represents landscape ecosystems historically experiencing frequent, large catastrophic stand-replacing fires. These ecosystems typically occur within very dry, flat outwash plains underlain by coarse-textured sandy soils. Prior to the mid to late 1800s the dominant forest types were short-lived jack pine forests and pine barrens.

- Fire Regime class 2 represents landscape ecosystems historically experiencing large, catastrophic stand-replacing fires at lower frequencies, hence longer fire rotations, than the Fire Regime 1 category. These ecosystems typically occur within dry outwash plains and ice-contact landforms underlain by sandy and loamy sand soils. The dominant forest types prior to the mid to late 1800s were white-red pine and mixed red-white-jack pine forest.

- Fire Regime class 3 represents landscape ecosystems historically experiencing relatively infrequent stand-replacing fires at much longer fire rotations than the Fire Regime 1 or Fire Regime 2 categories. These ecosystems typically occur within dry-mesic ice-contact, glacial lakebed, and morainal landforms underlain by loamy sand to sandy loam soils, and commonly occur within close proximity to fire-prone ecosystems. The dominant forest types prior to the mid to late 1800s were long-lived mixed hemlock-white pine forest with minor elements of northern hardwood forests. Frequent ground-fires prevented succession to fire-sensitive hardwoods.

- Fire Regime class 3W represents landscape ecosystems historically experiencing relatively infrequent stand-replacing fires. These ecosystems typically occur within wetlands embedded within or adjacent to fire-prone landscapes. The dominant forest types prior to the mid to late 1800s were wetland conifers including spruce, fir, and tamarack. Fire regimes and fuel formation were likely caused by interactions of insect and disease and large-scale blow-downs, as well as periods of drought.

- Fire Regime class 4 represents landscape ecosystems historically experiencing very infrequent stand-replacing or community maintenance (ground) fires. These ecosystems typically occur within mesic (moist) moraines and glacial lakebeds underlain by fine-textured sandy loam to heavy clay and silt loams soils. The dominant forest types, prior to the mid to late 1800s, were long-lived, fire-sensitive northern hardwood and hardwood-hemlock forests including sugar maple, basswood and white ash.

- Fire Regime class 4W represents landscape ecosystems historically experiencing very infrequent stand-replacing or community maintenance (ground) fires. These ecosystems typically occur within wetlands embedded within or adjacent to fire-sensitive, hence fire protected landscape ecosystems (Fire Regime class 4). The dominant forest types, prior to the mid to late 1800s, were wetland hardwoods and mixed hardwood-conifer forests including black and green ash, silver maple, elm and cedar.

To determine initial Scenic Attractiveness level assignments, Fire Regime classes are further grouped to most closely represent the inherent variety and scenic interest that are found in those classes.

- Fire Regime class1 and Fire Regime class 2 are grouped and are illustrative of Indistinctive Scenic Attractiveness (Class C). They are typical of flatter terrain with shorter-lived conifer species providing little interest and variety in the landscape.

- Fire Regime class 3 and Fire Regime class 4 are grouped and are illustrative of Typical Scenic Attractiveness (Class B). They contain stands of relatively long-lived tree species with various species mix. The terrain is also typically more variable than with the previous classes.

- Fire Regime class 3W and Fire Regime class 4W are grouped with the water elements and are representative of Distinctive Scenic Attractiveness (Class A). The water bodies are the major rivers of the Forest, Manistee River for example, as well as some major lakes and certain large wetlands.

Refinement and completion of Scenic Attractiveness at the Forest-wide scale is completed through refinement for specific areas that are identified through review and field knowledge of resource managers. Table A-2 was used to accomplish the field review and designate changes to the Fire Regime starting points. An example of the resulting existing Scenic Attractiveness levels for the Manistee National Forest is shown in figure A-6 on page A-26, Example, Scenic Attractiveness Level Map for the Manistee National Forest.

The following matrix (Table A-3) was used to modify the Fire Regimes beginning product to the final Scenic Attractiveness maps:

Table A-3. Matrix Used to Modify the Fire Regimes Beginning Product to the Final Scenic Attractiveness Maps.

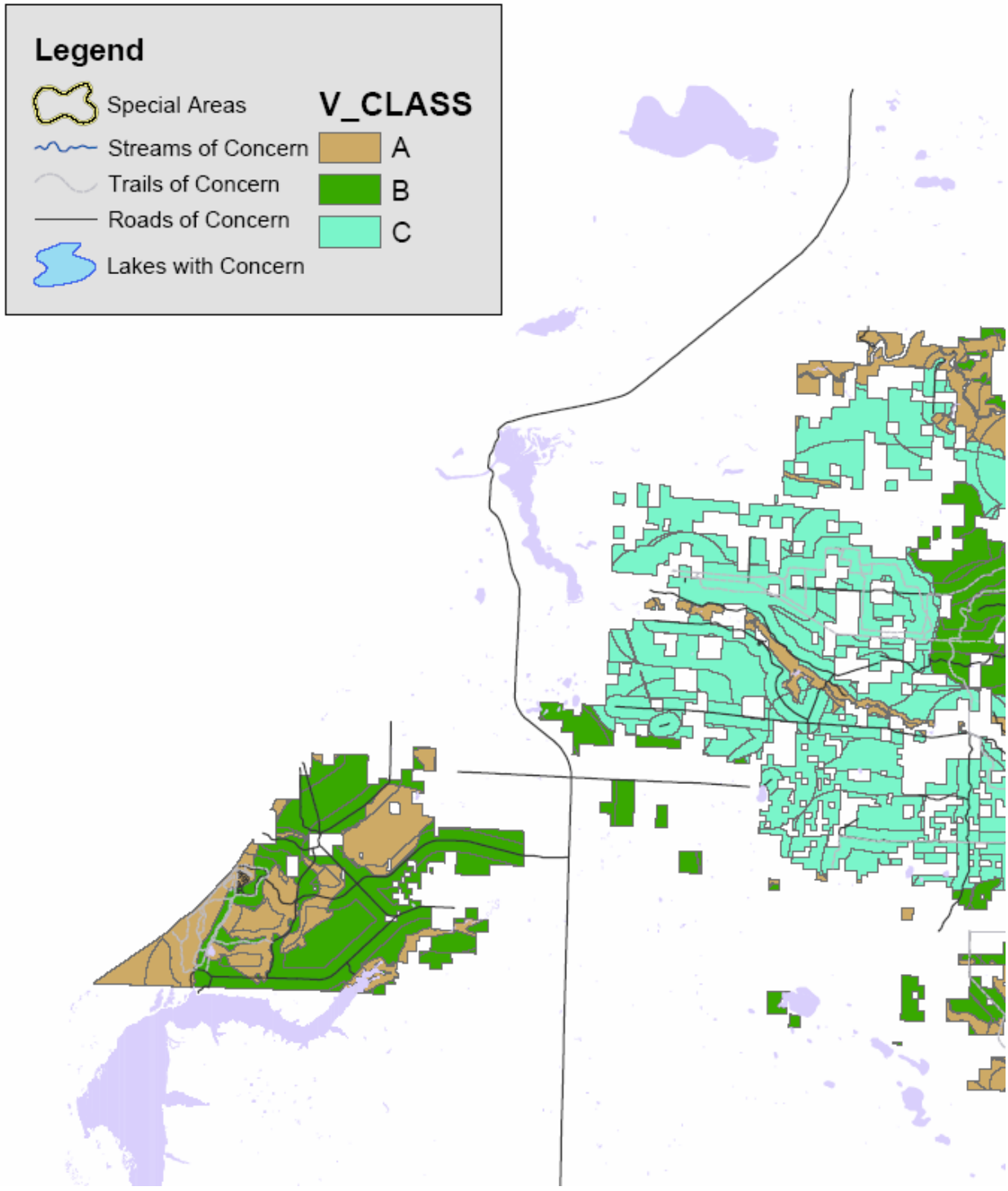
ELTPs 1/	**12, 10, 14, 18 Distinctive (Class A)**	**7, 8, 9, 11, 15, 16, 17, 13 Typical (Class B)**	**1, 2, 3, 4, 5, 6 Indistinctive (Class C)**
LANDFORM	High, rolling hills, definite ridges and river valleys, slopes generally over 20 percent, sand dunes (active or inactive). Strong edge contrast and spatial definition, pronounced spatial variety.	Low, rolling hills, wide valleys, no perceivable ridges or stream valleys. Slopes generally 12-20 percent. Edge contrast and spatial definition are moderate. Moderate spatial variety.	Flat, no recognizable hills or ridges; slopes under 12 percent. Weak edge contrast or spatial definition. Little spatial variety.

Table A-3. Matrix Used to Modify the Fire Regimes Beginning Product to the Final Scenic Attractiveness Maps (Continued).

ELTPs 1/	12, 10, 14, 18 Distinctive (Class A)	7, 8, 9, 11, 15, 16, 17, 13 Typical (Class B)	1, 2, 3, 4, 5, 6 Indistinctive (Class C)
GEOLOGY	Characterized by presence of terminal moraines.	Characterized by presence of ground moraines and pitted outwash plains.	Characterized by outwash plains and lake basin areas.
VEGETATION	A highly varied vegetative pattern. Many variations of color and texture. Vegetative type changes are sharply defined and tend to dominate the visual field.	A moderately varied vegetative pattern with some variation in color and texture. Edges are weakly defined.	Uniform vegetative patterns with little variety in color or texture. Vegetative edge contrasts tend to be minimal.
WATER	**Lakes:** Area greater than 50 acres with rolling, steep or diverse shoreline topography, little shoreline development.	Area 15 to 50 acres; some irregularities in shoreline topography; some moderate shoreline development, such as cabins and docks, may be present.	Less than 15 acres, includes small ephemeral lakes, mucky shorelines. Large, but highly developed lakes also included.
	Rivers and Streams: rocky-cobble bottom; generally undeveloped shoreline, diverse shorelines.	Sandy bottom; slow, smooth water speed; some shoreline development.	Murky, slow-moving; sand or muck bottom; no bank topography; may not be developed.
	Wetlands: Open water, diverse shorelines with features that tend to dominate the visual field.	Shallow basins, surface water may not be present, shrubby cover or open.	Large amounts of dead or dying vegetation; no pattern apparent; no readily visible edge. Features tend to be minimal in visual field.
Socio-Cultural Effects	More solid ownership greater than 50 percent net. Large Tracts. No local communities, few non-forest uses; summer residences may occur in this class.	Intermingled ownership 30-50percent net. Larger tracts (average 120+ acres). Few local communities. Some varied uses (such as farming).	Intermingled less than 30 percent net ownership. Small tracts. Many local communities and varied non-forest uses.
	FR3W, FR4W	FR3, FR4	FR1, FR2

1/ ELTPs = Ecological Landtype Phases. Descriptions of the Ecological Landtype Phases can be found in the Field Guide, Ecological Classification and Inventory System of the Huron-Manistee National Forests, Cleland et al, 1993.

Figure A-6. Example, Scenic Attractiveness Level Map for Part of the Manistee National Forest.



Scenic Integrity and Desired Future Condition:

Scenic Integrity is an indication of the state of naturalness or, conversely, the state of disturbance created by human activities or alteration. It is stated in degrees of deviation from the existing landscape character. The highest Scenic Integrity ratings are given to those landscapes that have little or no deviation from the character valued by forest users for aesthetic appeal. Landscape character with a high degree of Scenic Integrity has a sense of wholeness or being complete. In its purest definition, integrity means perfect condition. In the Scenery Management System process, Scenic Integrity is managed in degrees ranging over five levels from Very High to Very Low. Scenic Integrity Levels are:

- Very High – Landscapes are unaltered with no deviation from the landscape character. Landscape character is fully expressed.

- High – Landscape appears unaltered. Deviation is subtle and not evident. Landscape character is largely expressed

- Moderate – Landscape appears slightly altered. Deviations are evident but not dominant. Landscape character is moderately expressed.

- Low – Landscape appears moderately altered. Deviations begin to dominate. Low expression of landscape character.

- Very Low – Landscape appears heavily altered. Deviations may be strongly dominant. Very low expression of landscape character.

The Scenery Management System Handbook also makes reference to Unacceptably Low Integrity. This is considered a condition and is not to be used as a scenery management goal. For this level, landscape character is extremely altered. Deviations are also extremely dominant to the point landscape character is unrecognizable.

Refer to the Scenery Management System Handbook, Chapter 2, for additional explanation and discussion of Scenic Integrity.

For application on the Manistee National Forest, Scenic Integrity is evaluated from existing travelways and use areas, using typical on-the-ground observer positions. These should represent the same features to which Concern Levels were assigned for visibility mapping.

Scenic Integrity may be evaluated and addressed at four different levels, all interrelated. The four levels are:

- Historic
- Existing
- Interim
- Long-Term

Historic or past state of integrity

This level is important to the Manistee National Forest. It serves as a reference point in determining Desired Future Condition for long-term management. Regarding ecosystem management, there are vegetation types or patterns that existed in pre-Euro-American time that are not present today. The Desired Future Condition may be to restore these vegetation patterns where site conditions are appropriate to do so. Vegetation patterns prior to the mid to late 1800's are generally described in vegetation circa-1800 map series for counties affecting the Forest and are based on an interpretation of the General Land Office surveys for Michigan.

Existing or current state of integrity

Existing Integrity levels become important as they provide the baseline to develop and transition to long-term scenic goals.

Knowledge of the existing levels will be a key element in determining the ease at which long-term Scenic Integrity Goals established for the Manistee National Forest can be achieved. If significant alteration of the existing landscape will occur in order to restore landscapes to desired vegetation types different than what exist, and the current state of integrity is moderate to high, important management decisions may need to be made. These would relate to the need to structure an acceptable timeline with appropriate guidelines that provides for temporary but lower Scenic Integrity levels.

While evaluation of existing Scenic Integrity can best be made through detailed field analysis closer to the project level, certain resource maps and tools can provide a general indication of the current Scenic Integrity level condition on the Forest for general planning purposes. For the Manistee, two map resources are available that when combined provide a general indication of existing Scenic Integrity. These are the Management Areas and the Age-class Distribution maps. See page A-30, Process for Mapping Existing Scenic Integrity Levels – Manistee National Forest.

Interim or short-term minimum level necessary to reach a long-term character goal

As suggested above, interim or short-term goals may become essential to achieve long-term goals for certain restoration projects on the Forest, especially for achieving prairie, pine barren and oak savannah restoration. Potentially, short-term and interim integrity levels could drop to low or even very low for a period of time in order to achieve long-term goals.

It is important to note that once the long-term goal is reached, it may actually change the current landscape character and scenic attractiveness to a higher level. Once achieved, on-going management should maintain the ability to perpetuate the vegetation within the parameters of the assigned Scenic Integrity level goal.

Long-term level of integrity achievable when the desired management condition is reached

These goals correspond to the Scenic Integrity assignments established in the Revised Forest Plan Standards and Guidelines for Scenic Resources.

Table A-4. Long-Term Scenic Integrity Objectives.

Scenic Class	Management Area 2.1 - Roaded Natural Rolling Plains and Morainal Hills	Management Area 4.2 - Roaded Natural Sandy Plains and Hills	Management Area 4.3 - Roaded Natural Wetlands	Management Area 4.4 - Rural
1	High	High	High	High
2	High	Moderate	High	Moderate
3	Moderate	Low	Moderate	Low
4	Low	Low	Low	Low
5	Low	Low	Low	Low
6	Low	Low	Low	Low
7	Low	Low	Low	Low

Management Area	Scenic Integrity Objective
5.1 Wilderness	Very High
6.1 Semiprimitive Nonmotorized Areas	High
6.2 Semiprimitive Motorized Areas	Moderate
7.1 Concentrated Recreation Areas	High
8.1 Wild and Scenic Rivers	High
8.2 Research Natural Areas	1/
8.3 Experimental Forests	2/
8.4 Special Areas	High
9.1 Candidate Research Natural Areas	Very High
9.2 Wild and Scenic Study Rivers	High

1/ Determined by establishment record for Research Natural Area.
2/ Managed same as the management area it would be if it were not Experimental Forest. Projects submitted to North Central Research Station for approval.

Process for Mapping Existing Scenic Integrity - Manistee National Forest

Existing Scenic Integrity is defined as the current state of the landscape, considering previous human alterations. Existing Scenic Integrity serves multiple purposes in forest planning, project implementation, and monitoring.

Initially, Existing Scenic Integrity can provide important benchmarks for Forest Plan decision-making. It is the baseline for addressing and assigning short and long-term Scenic Integrity levels.

Existing Scenic Integrity can be used in describing the existing landscape character and in the writing of the affected environment section of the Draft Environmental Impact Statement.

See list of benefits – Page 2-7 / Scenery Management System Handbook, available in the Planning Record.

Mapping:

Level 1 - Use Management Areas as a general descriptor for describing probable Existing Scenic Integrity levels:

Current management area Standards and Guidelines outline management practices that result in on-the-ground effects that influence Scenic Integrity. For the Huron Manistee National Forests, there is a correlation established using landtype associations structure and Recreation Opportunity Spectrum Classes that are indicative of how the management area is managed and probable visual condition of the land base. As an example, the semiprimitive nonmotorized management direction associated with management areas 6.1, 6.2, 6.3, including minimal proposed shelterwood and clearcut activities, is indicative of an existing Moderate to High Integrity Level (Probably a higher percentage of High).

Toward the opposite end of the spectrum, management area 4.2 would include the full range of Scenic Integrity levels but tend toward a much higher percentage of Low and Very Low due to the type of vegetation and how it has been managed over time, as well as the percentage of the land base proposed for shelterwood and clearcut activity in the 1986 Forest Plan, as amended. The frequency of roads, the type use, and condition of the roads could also be an influence on Existing Scenic Integrity.

Management area 5.1, Wilderness would have a probability of much of the landscape being in a Very High Existing Scenic Integrity.

Level 2 – Use vegetation disturbance or age-class distribution as a more specific indicator of Existing Scenic Integrity:

A vegetation disturbance map outlining age classes in the 0 – 10, 11 – 25, 26 – 75, and greater than 76 year age classes can be used as an indicator of more specific areas that are Low/Very Low, Low to Moderate, Moderate to High, and High respectively. There may be instances where a lower age class is indicative of a vegetation or character type that is in more of a natural condition and therefore should be identified as having a higher Existing Scenic Integrity. The opposite condition could also occur where there are stand characteristics that may cause a lower Scenic Integrity level in the higher age class stands. These are situations that can be further refined by review of the land base from the current Forest colored (infrared) orthophotos or from land mangers familiar with the land base.

Additional map overlays, resource data, and input by the appropriate resource managers could add additional attributes for refining Existing Scenic Integrity. These could include items such as utilities, recreation or other facilities, and urban influence (Overlay with Forest map).

For this level, a specific Existing Scenic Integrity value can be applied to a unit, such as a compartment or other established land management unit, to create a graphic representation of the current condition. This would incorporate overlaying the compartment map with the disturbance pattern map and assigning an Existing Scenic Integrity value based on interpretation of the age class (See values suggested previously). The next step would then be to further evaluate compartment assignments to other known modifiers, such as utilities, and have a review by District or knowledgeable field staff for edits. Assign final Scenic Integrity value based on all factors or attributes.

Level 3 – Complete Level 2 but have a high involvement, participation and input from District or other knowledgeable field staff during the process. Also use recent orthoquads to scan the entire Forest land base to assist in interpretations:

Assign values to compartments or other established land management units.

General Considerations

Two factors need to be taken into consideration and could have an influence in application of Existing Scenic Integrity for the Huron-Manistee National Forests. One is the high frequency of roads. Even though vegetation or other conditions may indicate a high Scenic Integrity level, the Forest map and road frequency are indicative that a road of some standard will be present within one-half mile of the area, causing some indication of disturbance. This may or may not be a factor depending on the size of the land base being evaluated and the attributes chosen to assign Scenic Integrity values.

The other consideration is the fragmentation and number of small isolated units found on the forests, particularly on the Manistee National Forest. While vegetation or other attributes may indicate a high Integrity level on Forest lands, there is a probability the unit is surrounded by land that is influenced by urban, agriculture, and other factors, thus creating a landscape condition different than the unit being assigned the Scenic Integrity level value. This could have an influence on interpretations made regarding long-term value assignments.