

1 **E. AGRICULTURAL, NATURAL, AND CULTURAL RESOURCES**

2
3 **Maps appropriate to this discussion of resources are listed below.**

- 4
- 5 Productive Agricultural Areas-Maps 3, 4, and 15
- 6 Topography-Map 7
- 7 Wetlands-Map 5
- 8 Floodplains-Maps 5 and 6
- 9 Forests-Map 11
- 10 Wildlife habitat-Map 18
- 11 State Natural and Wildlife Area-Map 10
- 12 Watersheds and Sub-watersheds-Maps 6, 7, and 18
- 13 Water Features (Rivers, Streams) and Associated corridors-Map 18
- 14 Environmentally Sensitive Areas/Environmental Corridors-Map 18
- 15 Groundwater Recharge-Map 19

16
17 **Farmland**

18

19 Productive agricultural areas include those that are underlain by prime or
 20 unique soils that allow the land to successfully produce food, forage, fiber,
 21 oilseed, and/or specialty crops. Prime farmland is land which has the best
 22 combination of both physical and chemical characteristics, such as soil quality,
 23 growing season, and moisture supply, which are needed to produce sustained
 24 high yields of crops when treated and managed according to acceptable farming
 25 methods. Unique farmland is land other than prime farmland that is used for the
 26 production of specific, high-value food and fiber crops such as apple orchards,
 27 cherry orchards, or cranberry production.

28

29 Menomonie Town has an abundant supply of Class I, Class II, and Class III soils.
 30 There are two areas in the Town with exceptionally productive farmland. One
 31 area is north of Gilbert Creek and west of Highway 25 to the Town line. Another
 32 area is approximately a quarter mile north of Irving Creek and south to the Town
 33 line. The western boundary line is County Road K with the eastern boundary
 34 extending to the River Road. (See maps 3, 4, and 15.)

Acreage of productive agricultural areas	
(2000 Assessment)	(2013 Assessment)
9305 acres	15,705

36
37 **Topography**

38

39 Dunn County is characterized predominantly by the topographical features of
 40 the western upland geographical province. The province includes narrow, steep-
 41 walled valleys and broad ridges. Much of the area has been in a driftless
 42 condition for at least the past 500,000 years. The land ranges from 750' above sea
 43 level to 1200' above sea level.

45 The Mt. Simon Sandstone Formation underlies the entire county and is about 250
46 feet thick. It consists of medium- to coarse-grained sandstone with some fine-
47 grained sandstone. The Formation yields moderate to large amounts of water to
48 wells. Since 2013 there has been a rapid increase in the number of high capacity
49 wells used for crop irrigation that tap into this groundwater. In addition this
50 formation contains highly desirable frac sand, the mining of which also requires
51 the use of significant amount of ground water. There has been a rapid
52 development of large industrial mines in the area, bringing with it both
53 opportunities and problems.

54
55 The Eau Claire Sandstone Formation, overlying the Mt. Simon, is present
56 throughout the county except in some areas along pre-glacial stream valleys
57 where erosion has greatly thinned or entirely removed it. The Eau Claire
58 Sandstone is about 100 to 150 feet thick and consists of medium- to fine-grained
59 sandstone and shale. It generally yields only small quantities of water to wells,
60 but moderate yields may be obtained where shale is absent from the formation.

61
62 The Galesville Sandstone Formation ranges in thickness from about 30 to 50 feet.
63 It is present under the southwestern part of the county and probably in the
64 bedrock hills elsewhere in the county. The Galesville Formation generally yields
65 moderate amounts of water to wells, but it is missing in most areas where soils
66 and topography indicate irrigation to be most feasible. The unit consists of
67 coarse- to fine-grained sandstone.

68
69 The Franconia Sandstone Formation, Trempeleau Formation, and Prairie du
70 Chien Group consists of sandstone, siltstone, and dolomite. These formations
71 occur in the western and southwestern parts of the county and in highland areas.
72 Moderate to small amounts of water can be obtained from the Franconia
73 Formation, but the Trempeleau Formation, and the Prairie du Chien Group yield
74 only small amounts.

75
76 Glacial deposits in highland areas of Dunn County are very thin, generally less
77 than 30 to 50 feet, but they are very thick in the buried bedrock valleys.
78 Apparently the pre-glacial Chippewa River flowed through a broad, deep
79 channel and was the principal river draining the area. Deep tributary river
80 valleys joining the pre-glacial Chippewa include the present Eau Galle River
81 Valley, the present Red Cedar Valley, approximately from Irvington to
82 Dunnville, and a river valley trending from a point about two miles northeast of
83 Knapp to North Menomonie and then southeastward to the Chippewa River.
84 These pre-glacial stream valleys contain 100 to 200 feet of glacial material over
85 much of their area.

86 87 **Groundwater**

88
89 Ground water moves by gravity from areas of recharge down the hydraulic
90 gradient to areas of discharge. Recharge occurs over the entire county (see Map
91 19 or the recharge map on the county website), and generally the hydraulic
92 gradient is from topographically high to topographically low areas. Therefore,
93 ground water is moving through the water-bearing rocks from the water divides

94 in the highland areas of Dunn County to the streams and lakes where it
95 discharges.

96
97 It is imperative to maintain high levels of quality in our ground water and to use
98 it in a sustainable manner. Well water samples from various locations in the
99 Town reveal, for the most part, very good water quality. In the 136 wells
100 sampled nitrate nitrogen levels range from a low of 0.10 parts per million to a
101 high of 17.00 parts per million. High-test sample contamination is found, in most
102 cases, within 200 feet of the well being sampled. In the Town 12 of 136 samples (
103 9%) taken from June 1991 through May 1999 were at or above 10.00 parts per
104 million (nitrate nitrogen). No data on water quality is available for comparison
105 in 2013. However, a five year study commissioned by Chippewa County in 2012
106 hopes to gather baseline information in parts of Dunn and Chippewa Counties
107 that can be used in modeling changes in ground water levels.
108 (www.co.chippewa.wi.us/government/land-conservation-forest-
109 [management/non-metallic-mines/chippewa-county-groundwater-study;](http://www.co.chippewa.wi.us/government/land-conservation-forest-)
110 [Chippewa County Groundwater Study](http://www.co.chippewa.wi.us/government/land-conservation-forest-))

111
112 To determine if the groundwater is being depleted, water levels in wells should
113 be measured once a month and the information should be retained by the Town.

114
115 Owners of high capacity wells should obtain water level measurements
116 monthly from the wells and provide the information to the Town.

117
118 To help keep groundwater from being contaminated, septage landspreading
119 should be discontinued. In major subdivisions central waste water treatment
120 systems should be used.

121
122

123 **Nutrient Management (NM) Policy** (source-Dunn County Website-2013)

124
125 Nutrient management planning has become as important as conservation
126 planning in regard to resource management. The primary reason for this
127 emphasis is the broader understanding of how excess nutrients in the soil lead to
128 surface and groundwater contamination. Excessive applications of nitrogen
129 fertilizer on cropland can lead to nitrates in groundwater.

130
131

132 **Environmentally Sensitive Areas**

133 It would be wise to consider the land and water below as absolutely connected to
134 the land and water above. Therefore, we propose that certain elements of the
135 Town be considered as major "environmentally sensitive areas."
136 "Environmentally sensitive areas" are significant bodies of land and water that
137 could be greatly damaged or eliminated by development. Inhabitants often
138 identify such areas as "scenic" or as key elements of their surroundings.
139 Environmentally sensitive areas that should be protected in the Town include
140 but are not limited to, the Red Cedar River, Wilson Creek, Irving Creek, Birch
141 Creek, Annis Creek, Coon Creek, and Gilbert Creek; the shorelands adjacent to
142 them; Paradise Valley; floodplains; woodlands; groundwater; and wetlands.

143 (Maps 5, 6, and 18) Extra caution needs to be considered in our environmentally
144 sensitive areas that are zoned commercial. Business' in these areas should be
145 aware of their sensitive nature and be up to date in using environmentally safe
146 business practices." An excellent source for anyone developing land is the
147 "National Heritage Inventory (NHI). It is an online mapping application that
148 helps a landowner learn what impacts development may have on their parcel.
149 See <http://dnr.wi.gov/topic/erreview/publicportal.html>

150

151 **Wildlife Habitat**

152

153 The preservation of wildlife habitat should be one of our primary concerns.
154 Wildlife habitat is generally recognized as any and all native flora and fauna and
155 insects, territorial and aquatic, and the soils, wetlands, streams and lakes on
156 which they depend. Lots to be set aside for development must be inventoried to
157 determine whether their development will have an unfavorable impact on our
158 natural resources.

159

160 The entire Town could be considered wildlife habitat. Of particular importance
161 are the environmentally sensitive areas such as floodplains, wetlands,
162 woodlands, and agricultural land, but even neighborhood green spaces provide
163 niches for many species.

164

165 In 2013, the Town has 1072 acres in the Wisconsin Managed Forest Law Program.
166 Of that total only 346 acres are open to public use.

167

168 **The Red Cedar Trail**

169

170 The Red Cedar State Trail is a major recreation and wildlife-viewing area. The
171 Red Cedar River is near enough to the Mississippi Flyway to attract large
172 numbers of birds, including migrating birds and shorebirds. Songbird
173 populations have been falling off sharply nationwide. Every effort should be
174 made to maintain corridor or ribbon areas surrounding streams or creeks so that
175 they can provide an adequate supply of seeds, animals, insects, and fruits.
176 Invasive growth, such as purple loosestrife, should be prevented. Numerous
177 hawks and eagles nest and hunt in the area. Wisconsin is now home to the third
178 largest eagle population in the United States. Map 10

179

180 The wildlife to be found in the Town of Menomonie includes but is not limited to
181 whitetail deer, wild turkey, gray squirrels, fox, raccoon, and rabbits. Waterfowl
182 is in abundance and usually includes wood ducks, mallards, bluebills, blue-
183 winged teal, sandhill cranes, Canada geese, and blue herons. Songbirds can be
184 found in many sites. Numerous bird species are present year round.

185

186 A comprehensive survey of the River, conducted in 1989-90, revealed that the
187 Chetek River, which drains into the Red Cedar, carries a high nutrient and algae
188 load. The River experiences extreme fluctuations of dissolved oxygen levels
189 potentially dangerous to fish and other aquatic life. Efforts are currently
190 underway to address some of the concerns of Lakes Menomin and Tainter.

191

192 **Wetlands** ("Hydric soils one acre or greater in size");

193

194 Wetlands recharge groundwater, act as a natural filtering system for nutrients,
195 such as phosphorus and nitrates, serve as a productive wildlife habitat, maintain
196 base flows for streams and creeks, and help control flood damage. Most wetland
197 areas have been identified on the attached surface feature map. These areas
198 contain hydric soils that are clearly indicated on the map (USDA/NCRS Soil
199 Survey.) Shorelands, floodplains, prairies and woodlands are all clearly defined
200 in the attachments. "Wetlands are defined by State Statute as "an area where
201 water is at, near, or above the land surface long enough to be capable of
202 supporting aquatic or hydrophytic (water-loving) vegetation and which has soils
203 indicative of wet conditions." The Town has approximately 257 acres (0.9%) of
204 wetlands. (Map 5)

205

206 **Floodplains** (Areas that are occasionally or frequently flooded)

207

208 Areas susceptible to flooding include Wilson, Gilbert, and Irving creeks, the three
209 main streams emptying into the Red Cedar River, and the portion of the river
210 south of County Highway "D". (Maps 6 and 19)

211

212 **Stream Setback**

213

214 Streams and their banks are used to help determine environmental corridors. A
215 75 foot setback is used on Map 18. There are approximately 1849 acres (7%) of
216 "stream setback" in the Town.

217 **Woodlands**

218

219 Dunn County contains a rich mix of plant and animal species common to the
220 northern hardwoods province, the northeast half of Wisconsin, and the prairie-
221 forest province, the southwest half. The northern hardwood (or northern mesic)
222 forest and the southern mesic forest contributed sugar maple, hemlock,
223 American beech, basswood, and yellow birch. The southern oak forest, oak
224 savanna, and prairies also appear.

225

226 A great white and red pine forest, perhaps owing its origin to Indian burning
227 practices, once covered the north central part of the county. Dunn County offers
228 rocky cliffs, richly thicketed mounds, rivers, creeks, sandbars, marshes, prairies,
229 savannas, and woodlands.

230

231 "Parcels of woodlands that are ten acres or greater in size."

232 Woodlands: 968 acres (from Land Cover analysis satellite imagery);

233 Plots of forest land greater than 20 acres: 3416 acres (33%).

234 36.3% of Town. (Map 11)

235

236 **Slopes steeper than 12%**

237

238 Areas of slopes 12% or greater should be considered sensitive areas. Protecting
239 such areas from development maintains high water quality because construction

240 on slopes of 12% or more can result in soils washing into nearby streams. The
241 slopes, the hills, and the mounds create much of the Town's rural character and
242 bear undeveloped woodland areas. Approximately 31% of the Town contains
243 slopes of 12% or steeper and 16% of the Town contains slopes of 20% or greater.
244 See Map 7.

245
246 Approximately 4,349 acres. (16%)(Map 7)

247 248 **Threatened and Endangered Species**

249
250 The DNR has identified all of the Threatened and Rare species in the Town of
251 Menomonie, especially along the Red Cedar River corridor. No information on
252 species location is being released to the public so that further degradation of the
253 habitat does not occur.

254 255 **Unusual land formations:**

256
257 Bluffs: Devil's Punchbowl
258 Weeping cliffs: Devil's Punchbowl; cliffs below Irvington.

259 260 **Parks**

261
262 The Town has set aside land for future parks.(Map 10) A superb park system is
263 in place in the City of Menomonie.

264 265 **AGRICULTURE**

266 267 **Goals**

- 268
- 269 1. Preserve and maintain farmlands.
 - 270 2. Encourage the agricultural uses of productive farmland.
 - 271 3. Encourage farming alongside developments.
 - 272 4. Encourage sustainable farming.
 - 273 5. Encourage the establishment of farms that don't put undue strain on the
274 environment and Town structure.
 - 275 6. Encourage housing developments that employ conservation design to
276 minimize loss of agricultural land.
 - 277 7. Encourage construction practices that do not detract from the visual
278 quality of the community.

279 280 **Objectives**

- 281
- 282 1. Cooperate with entities/organizations to support Community Based
283 Agriculture such as coop gardening.
 - 284 2. Cooperate with utility companies, transportation departments, and
285 governmental units to minimize the impact of utilities, roads, bridges, and
286 other structures on agricultural lands.
 - 287 3. Limit size of residential sites for major sub-divisions.

- 288 4. Raise awareness that odors, noise, and dust may be part of residing in an
 289 agricultural district.
 290 5. Agricultural Business development and Business/Commercial
 291 developments will be located in designated areas of the Town.
 292 6. Use “density based zoning” to guide use of land and development so it
 293 best fits the rural atmosphere of the Town.
 294

295 **NATURAL RESOURCES**

296
 297 **Goals**

- 298 1. Work to improve the quality of groundwater.
 299 2. Maintain a high degree of air quality.
 300 3. Develop ways to control light pollution.
 301 4. Regulate signage that detracts from the visual beauty of the countryside.
 302 5. Protect woodlands.
 303 6. Encourage native prairies and grasslands.
 304 7. Protect environmentally sensitive areas.
 305 8. Protect wildlife habitat.
 306 9. Protect surface and ground waters.
 307

308 **Objectives**

- 309
 310 1. Encourage Town Board to establish Parks and Recreation Committee to
 311 provide recreational opportunities for the community.
 312 2. Cooperate with landowners to create more access to recreational areas.
 313 3. Support the development of small parking areas and access trails for
 314 streams and natural resources.
 315 4. Maintain State guidelines on lighting.
 316 5. Lands for development should be assessed for possible impact on the
 317 environment. (The term generally used is “inventoried”.)
 318 6. To determine if the groundwater is being depleted the Town well should
 319 be used to measure the water level monthly. These measurements should
 320 be retained by the Town.
 321 7. Encourage the discontinuation of septage landspreading.
 322 8. Encourage the use of central sewage treatment systems in all major
 323 subdivisions.
 324 9. Develop ordinances that regulate light pollution.
 325 10. Develop ordinances that regulate signage.
 326
 327

328 **HISTORICAL/CULTURAL RESOURCES**

329
 330 This is a partial list. The Land Use Plan Commission has created an inventory of
 331 sites.
 332

Item	Section	
1	32	Grave of Andrew Bigford
2	32	Ridge Road Cemetery

3	32	Ford Cemetery
4	16	The Pinnacle (High Point)
5	26	Site of First Cemetery
6	26	Fort Pereault
7	15	1840s site of Andrew Tainter Lumber Camp
8	34	Site of Hoflands' Mill
9	9	Site of lower lumber mill run by Andrew Tainter
10	15	First white woman, Fanny Vail, to die in Dunn County
11	34	Grove Hill
12	28	Site of Burkhardt Brewery
13	27	Christian Fuss Brewery
14	32	Hill on Arnold Gerth Property -- Paleo Indian Camp
15	15	Turkey Tail Blades (spearpoints)
16	6,8,9,10,15 ,23,26,28	Yellowstone Trail route through Menomonie area
17	26	House designed by Gustav Stickley
18	27	"Tramp Jungle"
19	27	Site of Brickyards
20	25	Stout Road
21	25	Bullard Hill
22	24	Evergreen Cemetery
23	15	"Slipper Town" Road
24	22	Hellers Dam
25	25	Farm of Knapp and Stout Co
26	3	Devils Punch Bowl
27	18	Beaver Creek School
28	32	Blodgett School
29	2	Early Dunn County Post Office
30	33	Ford School
31	1	Site of large store
32	34	Froehlich Hatchery
33	23	First Water Tower located on Meadow Hill
34	9	Irvington School
35	11	Ideal School
36	17	St. John's Cemetery
37	20	Hudson Road School
38	30	Mamre Cemetery
39	6	Irvine Creek Cemetery
40	21	Hudson Road Dairy
41	36	Hitz Dairy
42	9	Irvington Store
43	34	Kolkind Dairy
44	33	Hofland Dairy
45	34	Paradise Valley
46	18	Tramway School
47	11	Hilltop Cemetery

333

334

335 **RECREATION**

336

337 The Red Cedar Trail: hiking; biking; cross country skiing - Map 10

338 Pinewood Golf Course

339 Twin Springs Campground

340 Irvington Campground

341 County designated bike routes-Map 14

342 Designated ATV and snowmobile routes-Map 10