

Technical Report No. 65

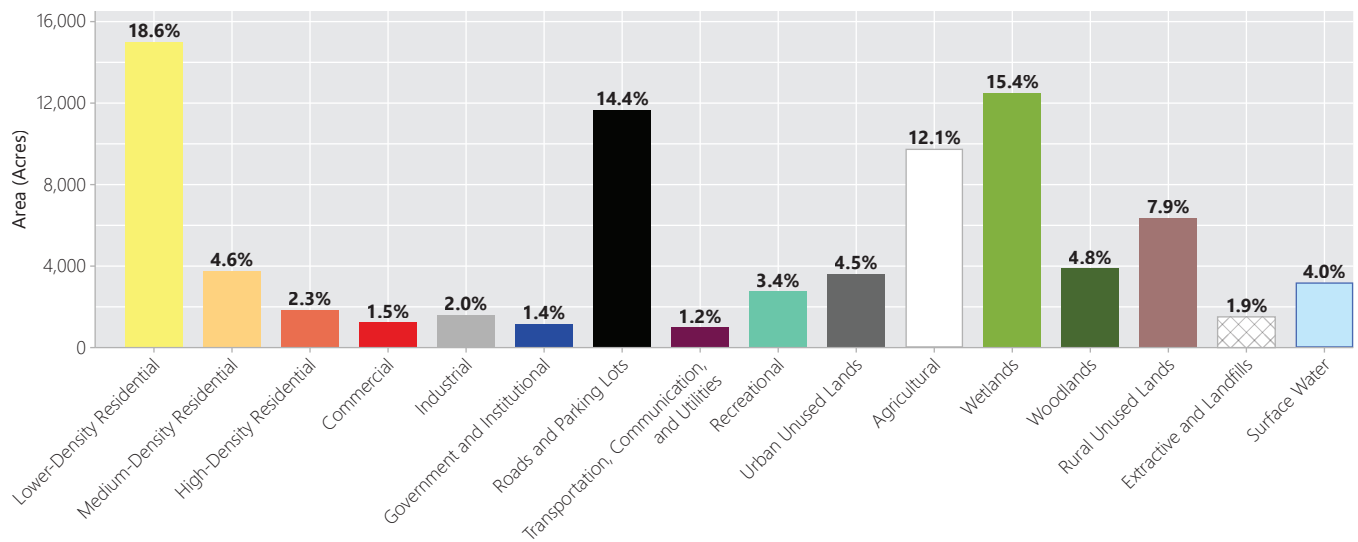
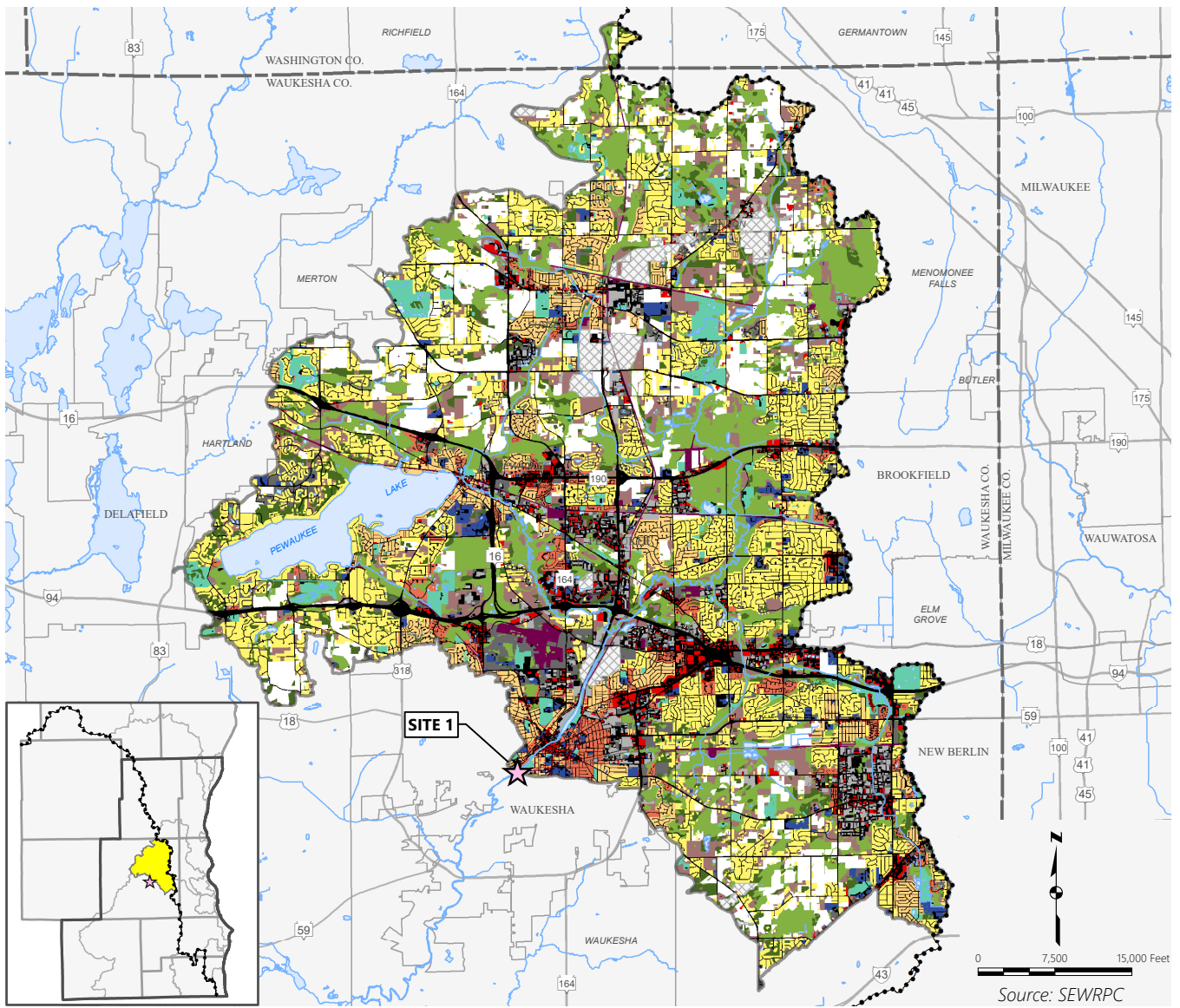
MASS BALANCE ANALYSIS FOR CHLORIDE IN SOUTHEASTERN WISCONSIN

Appendix B

DRAINAGE AREA CHARACTERISTICS FOR STREAM MONITORING SITES

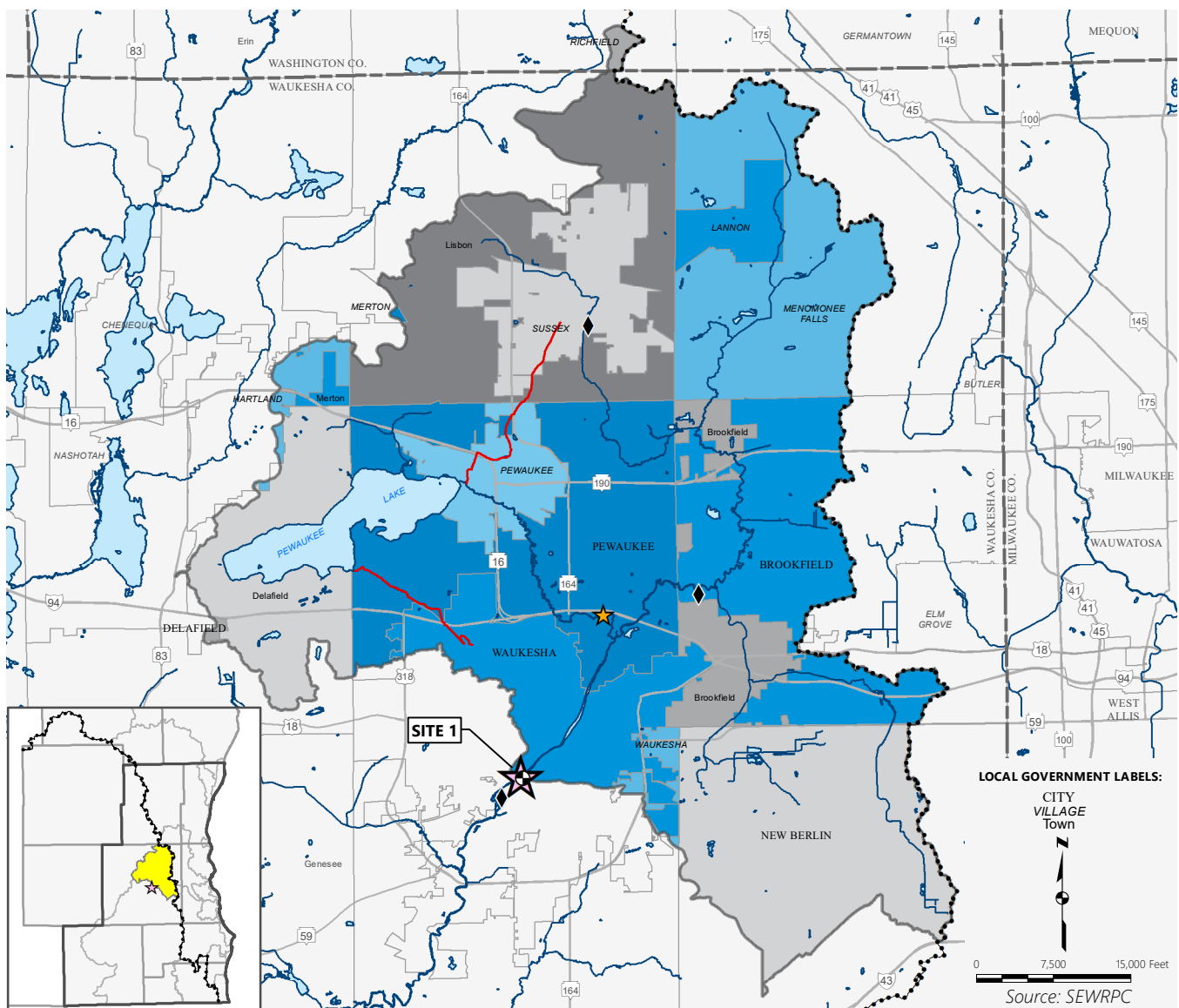
Map B.1

Site 1: Fox River at Waukesha Drainage Area – Existing Land Use



Map B.2

Site 1: Fox River at Waukesha Drainage Area

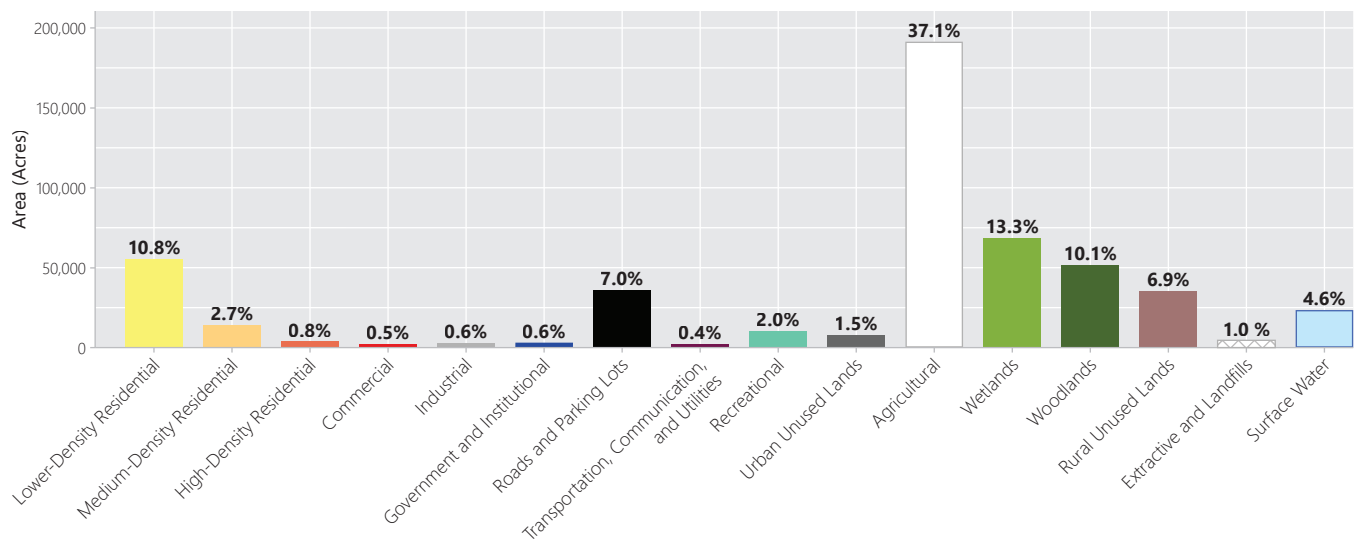
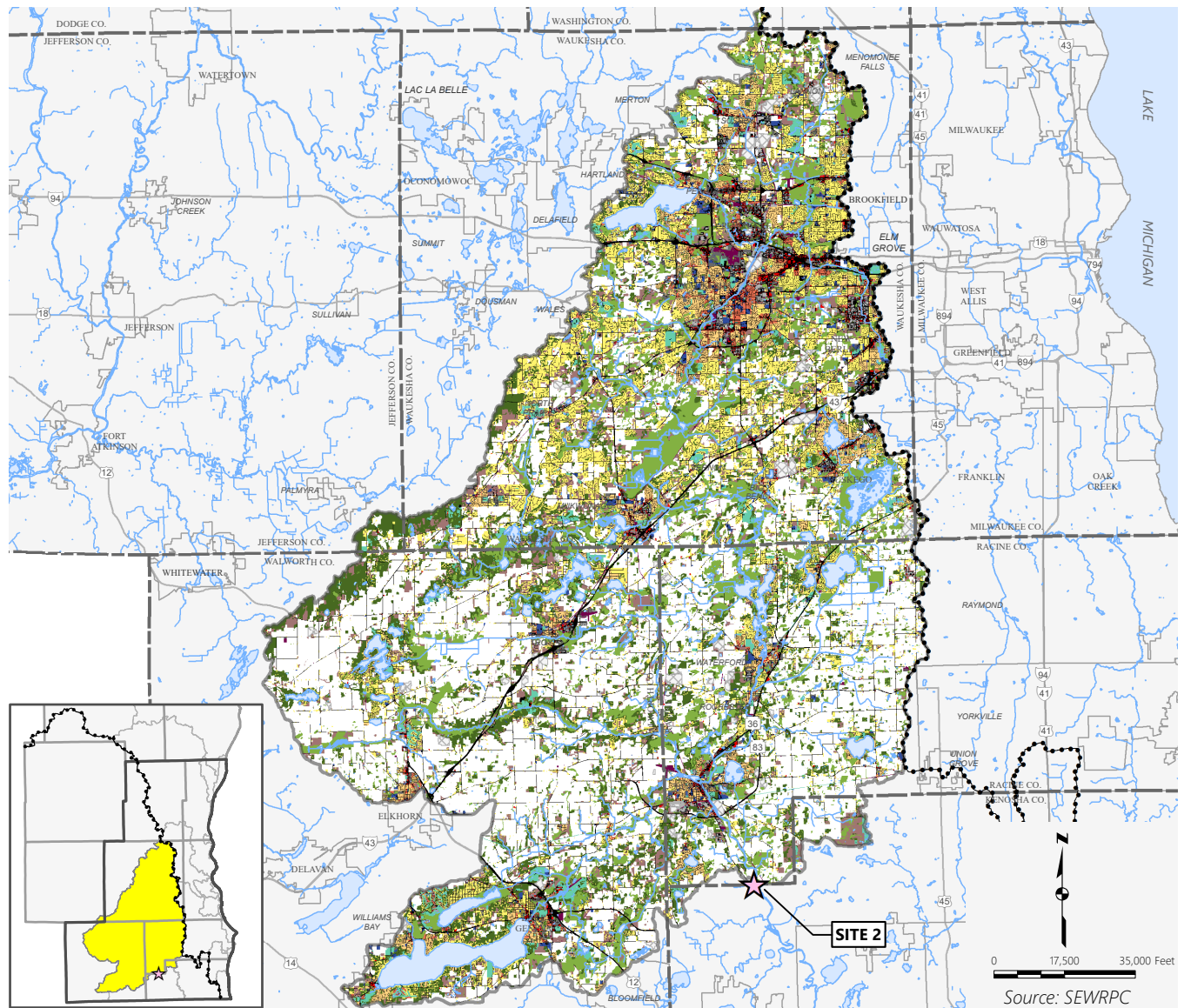


Facts at a Glance

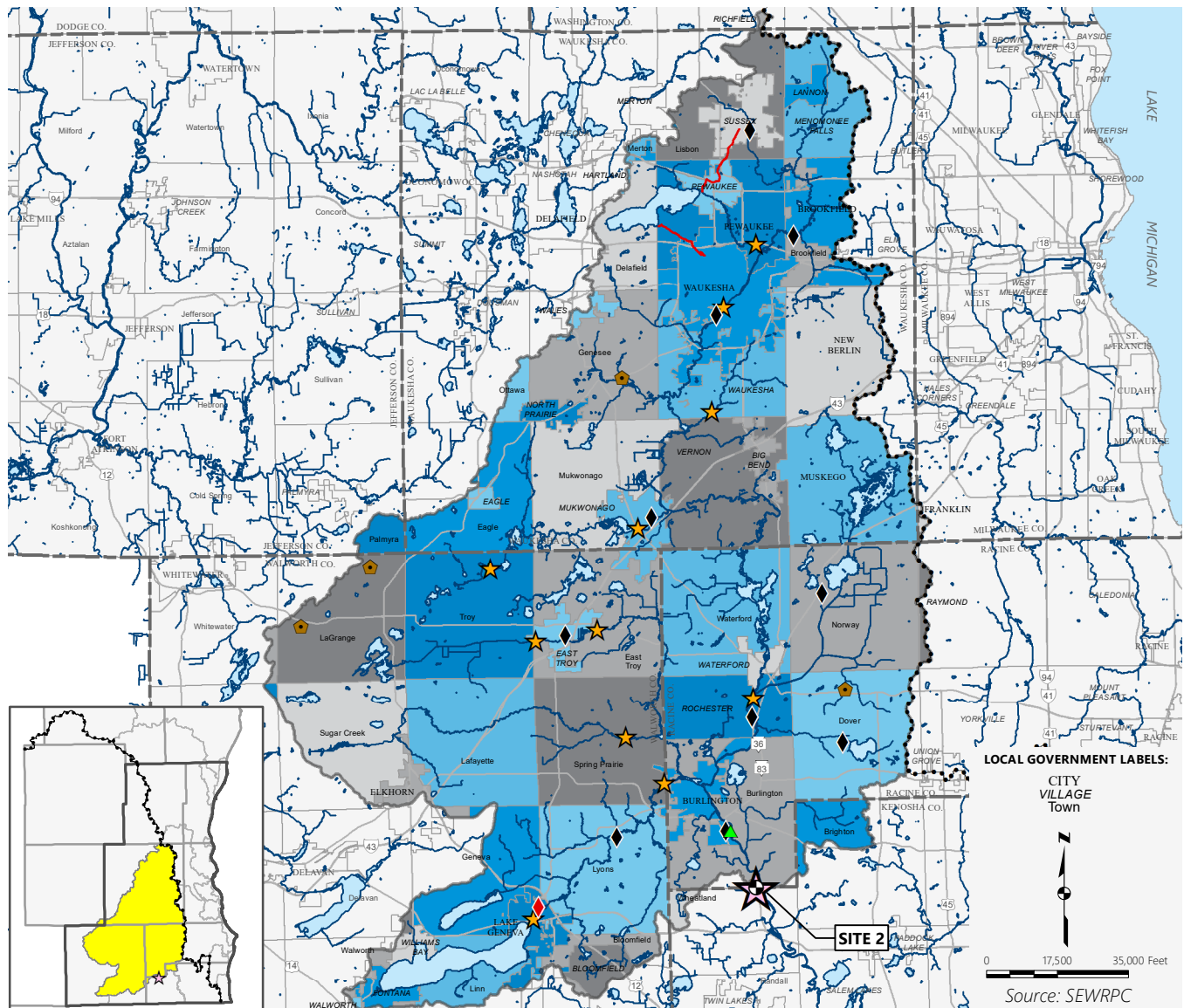
- ▶ **Drainage Area Size:** 126 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 54.0%; Rural – 46.0%
- ▶ **Roads and Parking Lots (% of drainage area):** 14.4
- ▶ **Estimated Population (2010):** 120,800
- ▶ **Estimated Households (2010):** 49,480 (91% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (📍):** Fox River at Waukesha (05543830)
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 8
- ▶ **Upstream Wastewater Treatment Facilities (♦):** 2
- ▶ **Chloride-Impaired Waters:** (—) Chronic Toxicity Impairment
- ▶ **Water Supply Source:** Groundwater and Lake Michigan (City of Waukesha converted to Lake Michigan supply in October 2023)

Map B.3

Site 2: Fox River at New Munster Drainage Area – Existing Land Use



Map B.4 Site 2: Fox River at New Munster Drainage Area

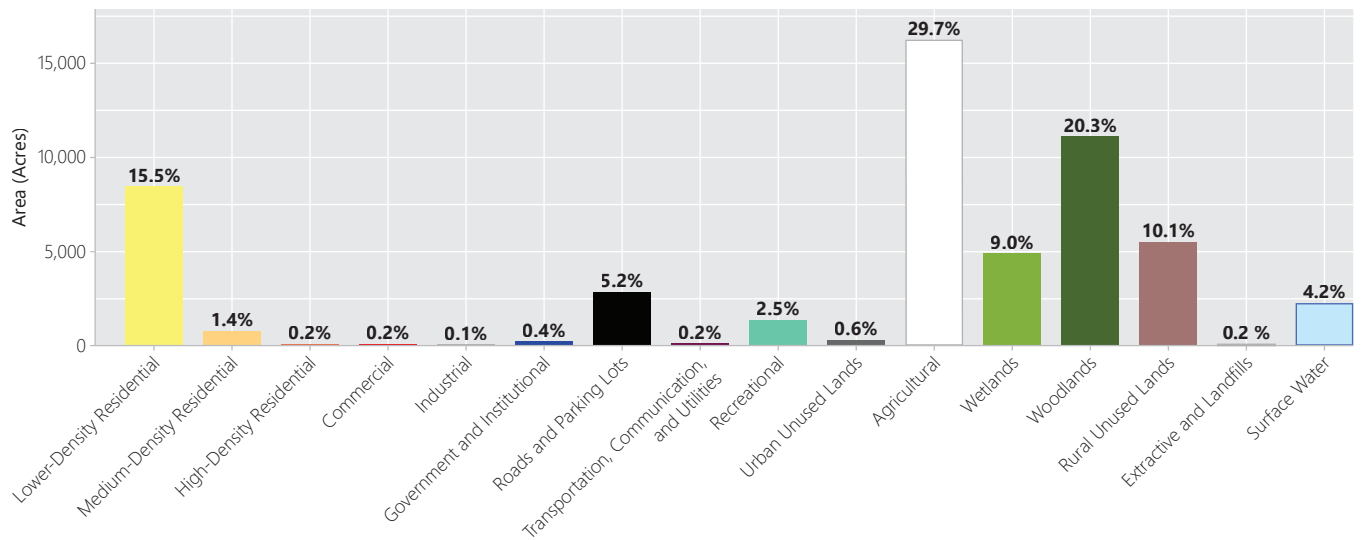
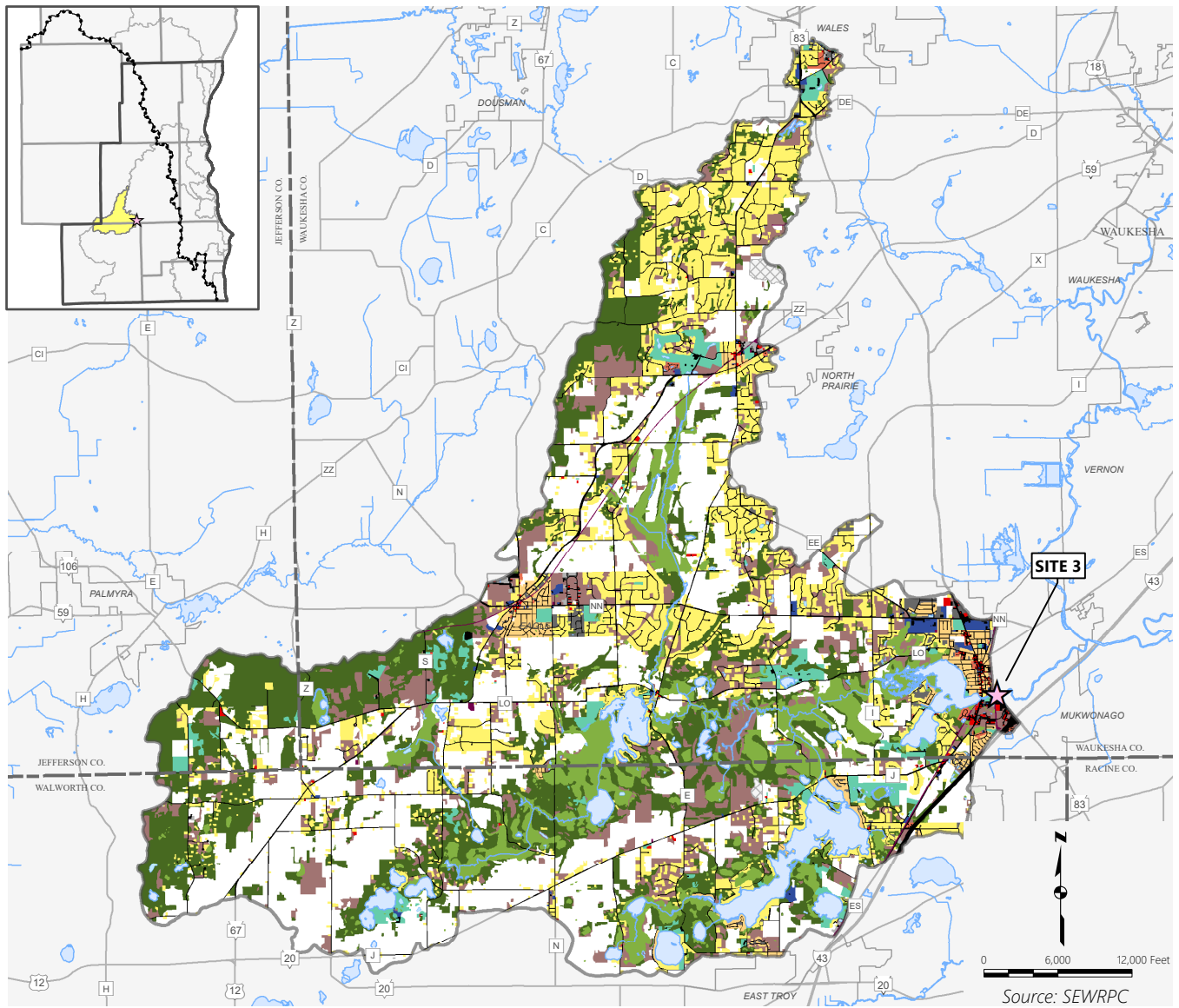


Facts at a Glance

- ▶ **Drainage Area Size:** 807 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 27.1%; Rural – 72.9%
- ▶ **Roads and Parking Lots (% of drainage area):** 7.0
- ▶ **Estimated Population (2010):** 332,920
- ▶ **Estimated Households (2010):** 130,580 (76% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgauge (📍):** Fox River at New Munster (05545750)
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 8, Site 1, Site 33, Site 45, Site 3, Site 35, Site 36, Site 47, Site 4, Site 48, and Site 6
- ▶ **Upstream Wastewater Treatment Facilities (◆):** 10
- ▶ **WWTF discharge to soil (♦):** 1
- ▶ **Upstream Industrial Wastewater Dischargers (▲):** 1
- ▶ **Concentrated Animal Feeding Operations (🏠):** 4
- ▶ **Chloride-Impaired Waters:** 1
- ▶ **Chronic Toxicity Impairment (—):** 1
- ▶ **Water Supply Source:** Groundwater and Lake Michigan (City of Waukesha converted to Lake Michigan supply in October 2023)

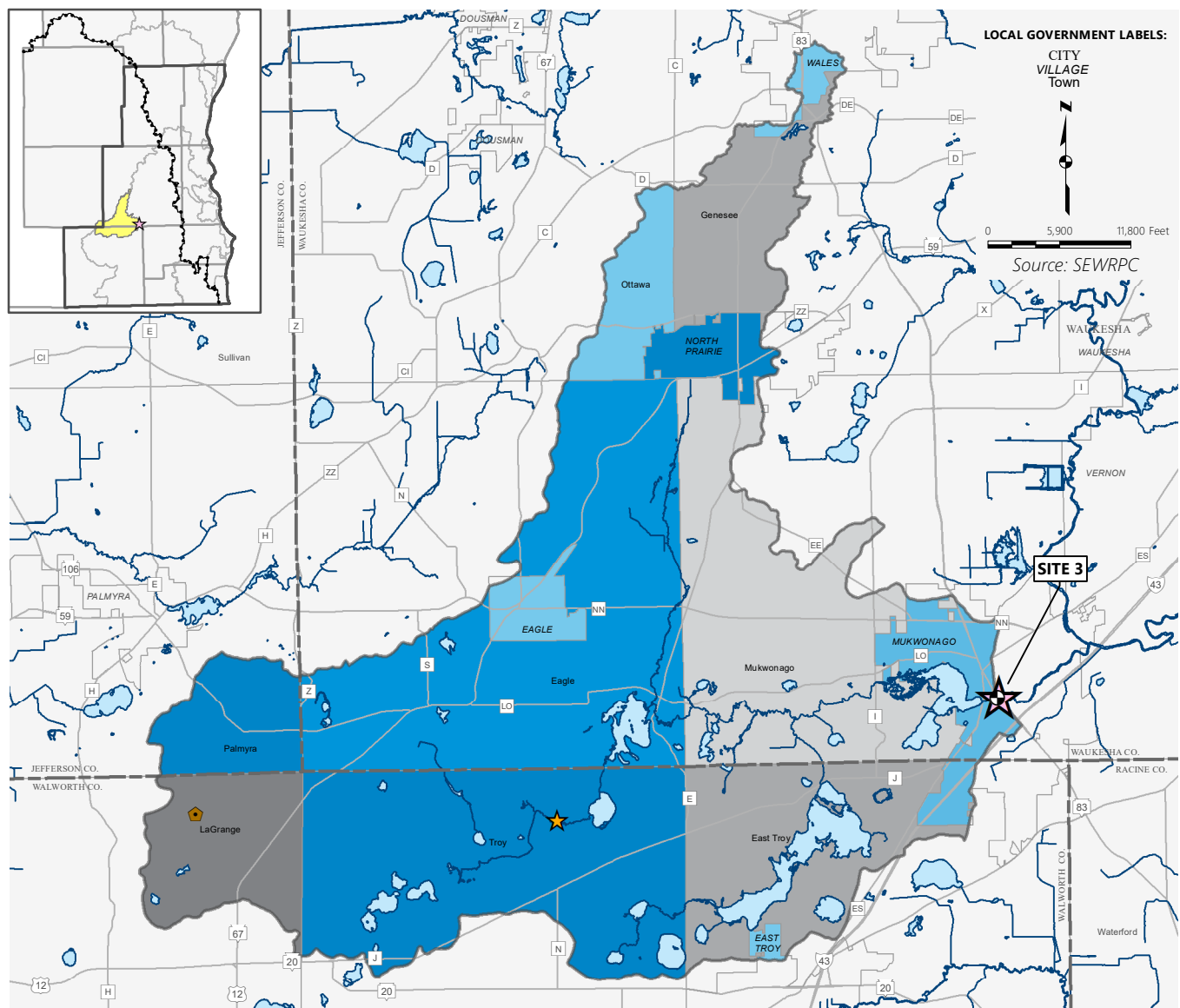
Map B.5

Site 3: Muwonago River at Mukwonago Drainage Area – Existing Land Use



Map B.6

Site 3: Mukwonago River at Mukwonago Drainage Area

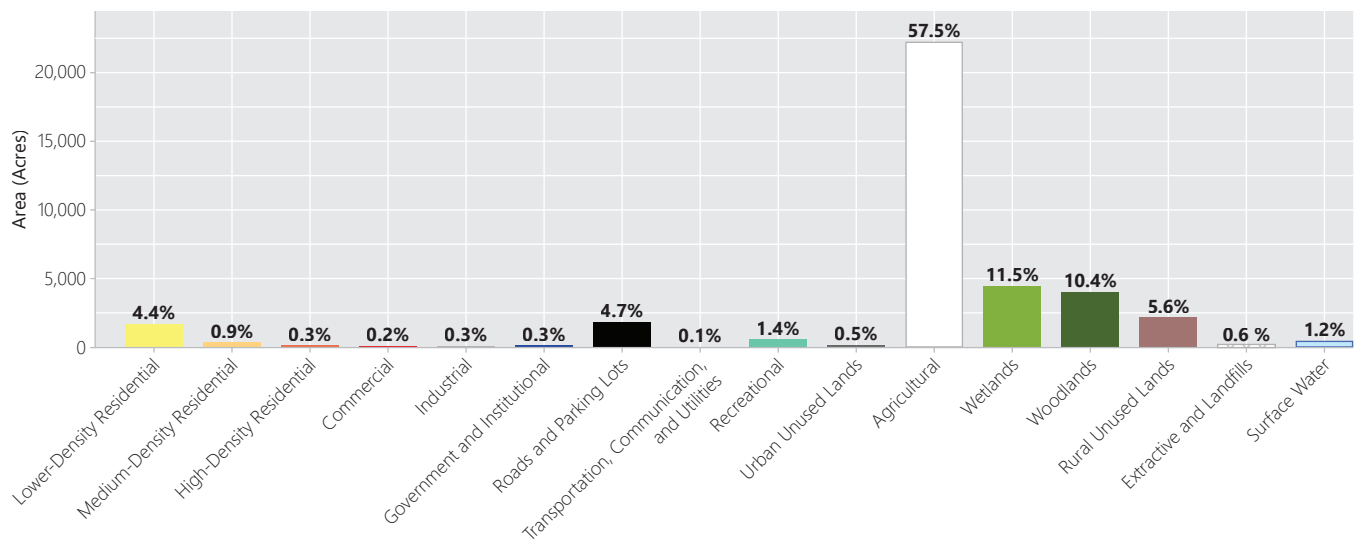
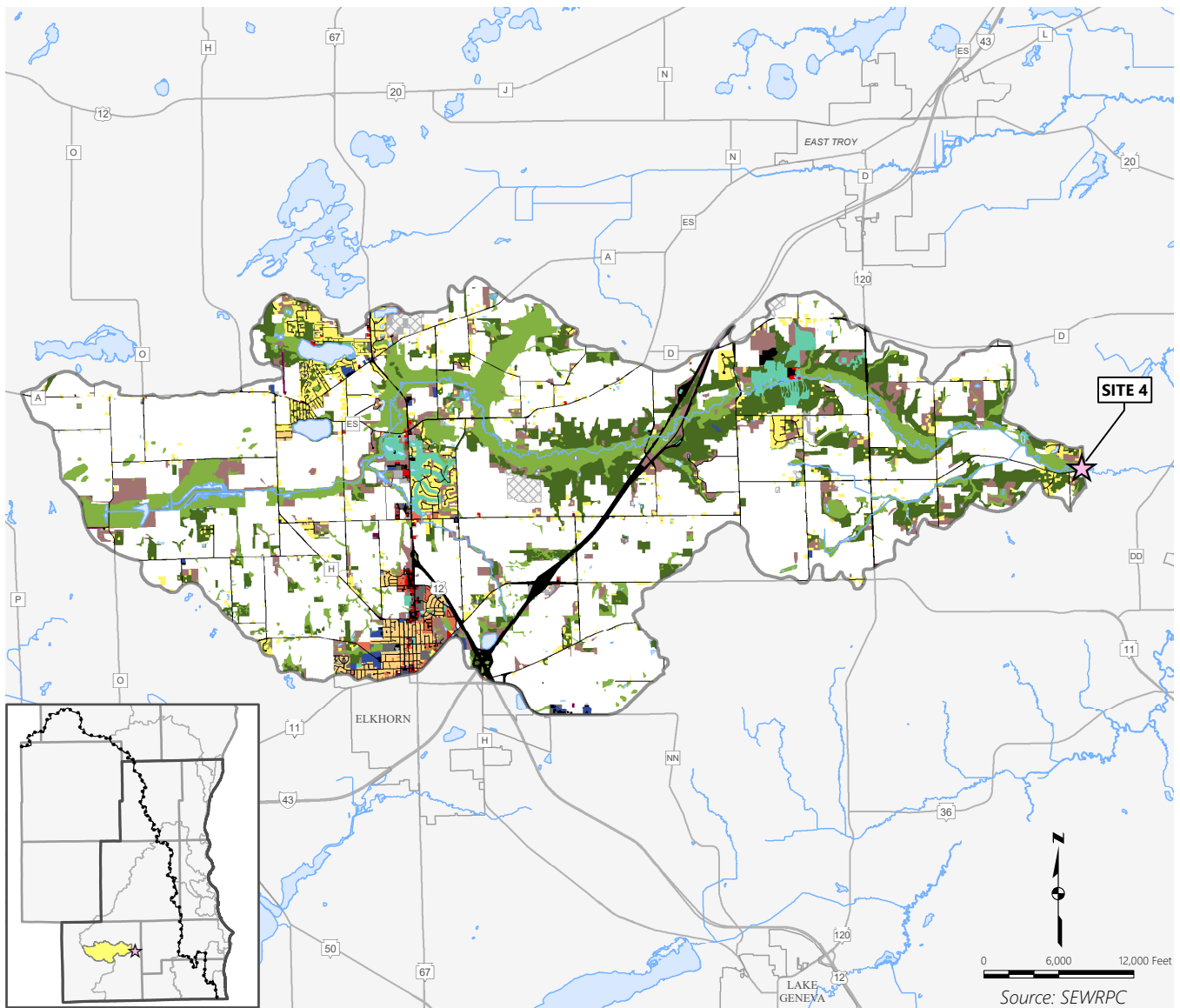


Facts at a Glance

- ▶ **Drainage Area Size:** 85 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 26.4%; Rural – 73.6%
- ▶ **Roads and Parking Lots (% of drainage area):** 5.2
- ▶ **Estimated Population (2010):** 20,670
- ▶ **Estimated Households (2010):** 7,610 (22% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (📍):** Mukwonago River at Mukwonago (05544200)
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 45
- ▶ **Concentrated Animal Feeding Operations (🏠):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

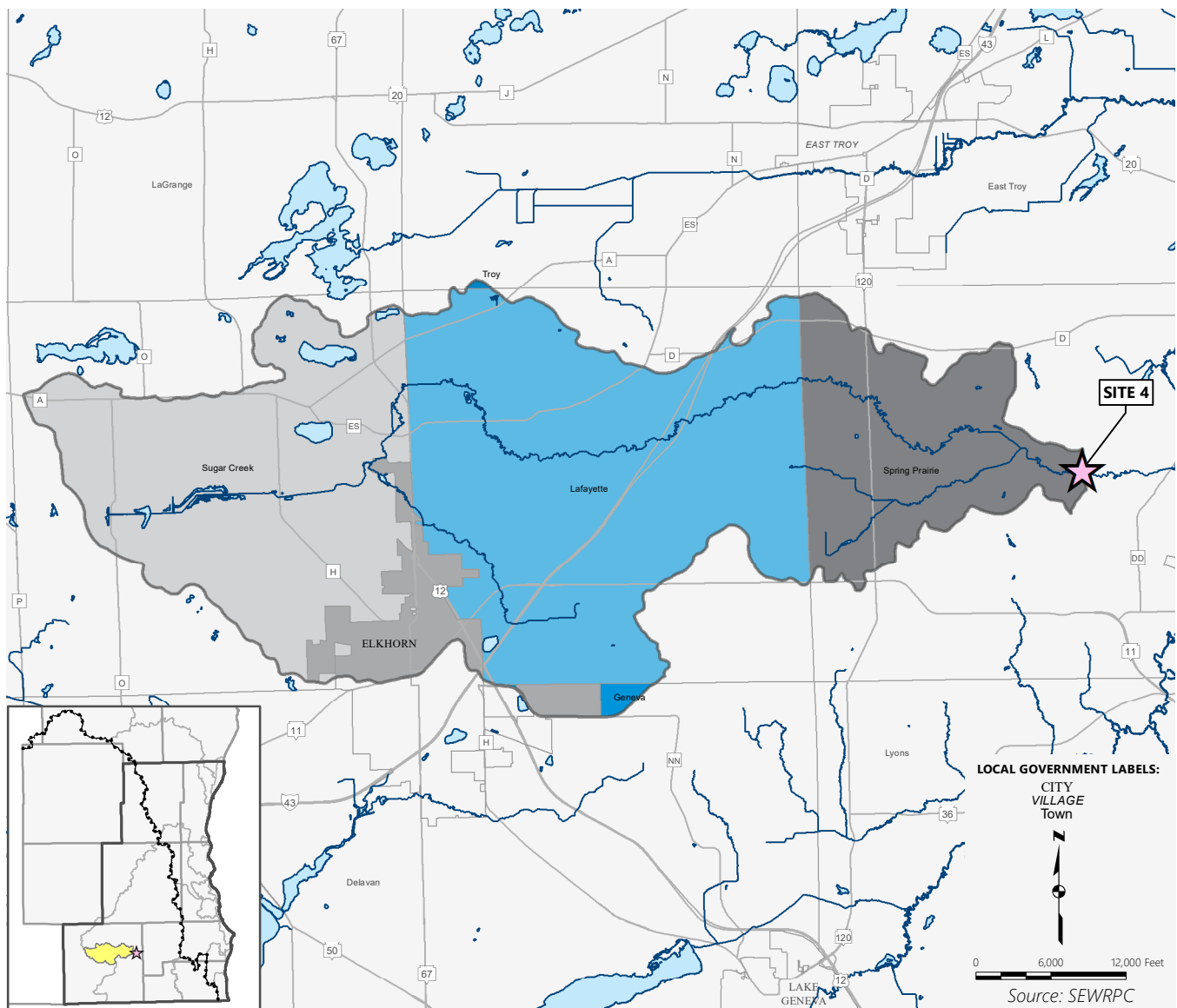
Map B.7

Site 4: Sugar Creek Drainage Area – Existing Land Use



Map B.8

Site 4: Sugar Creek Drainage Area

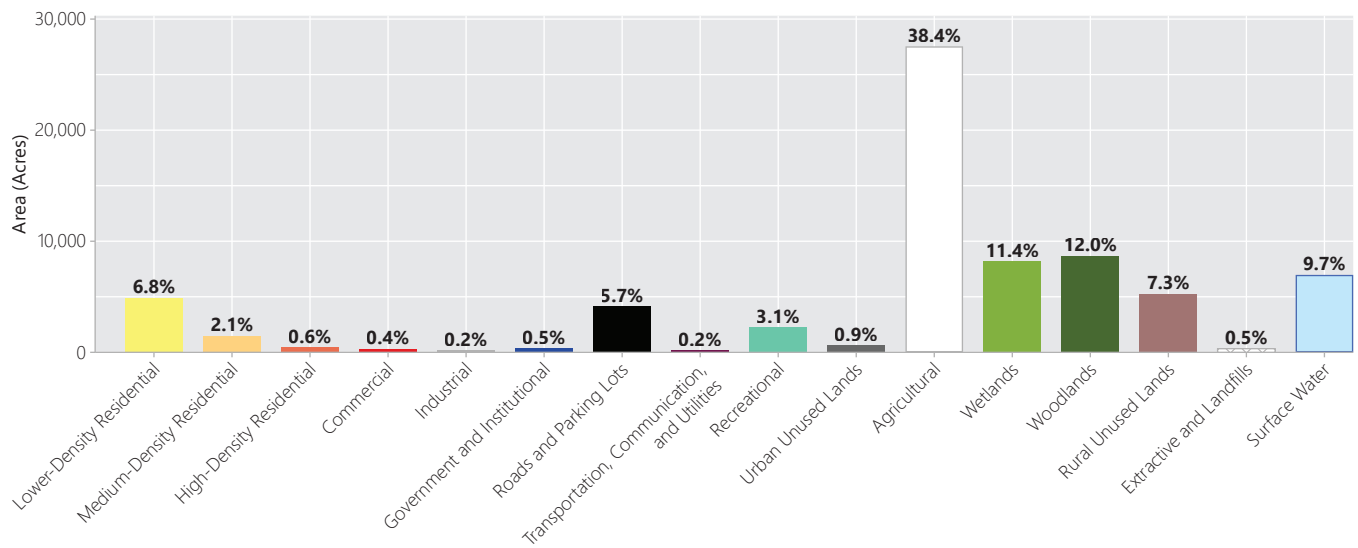
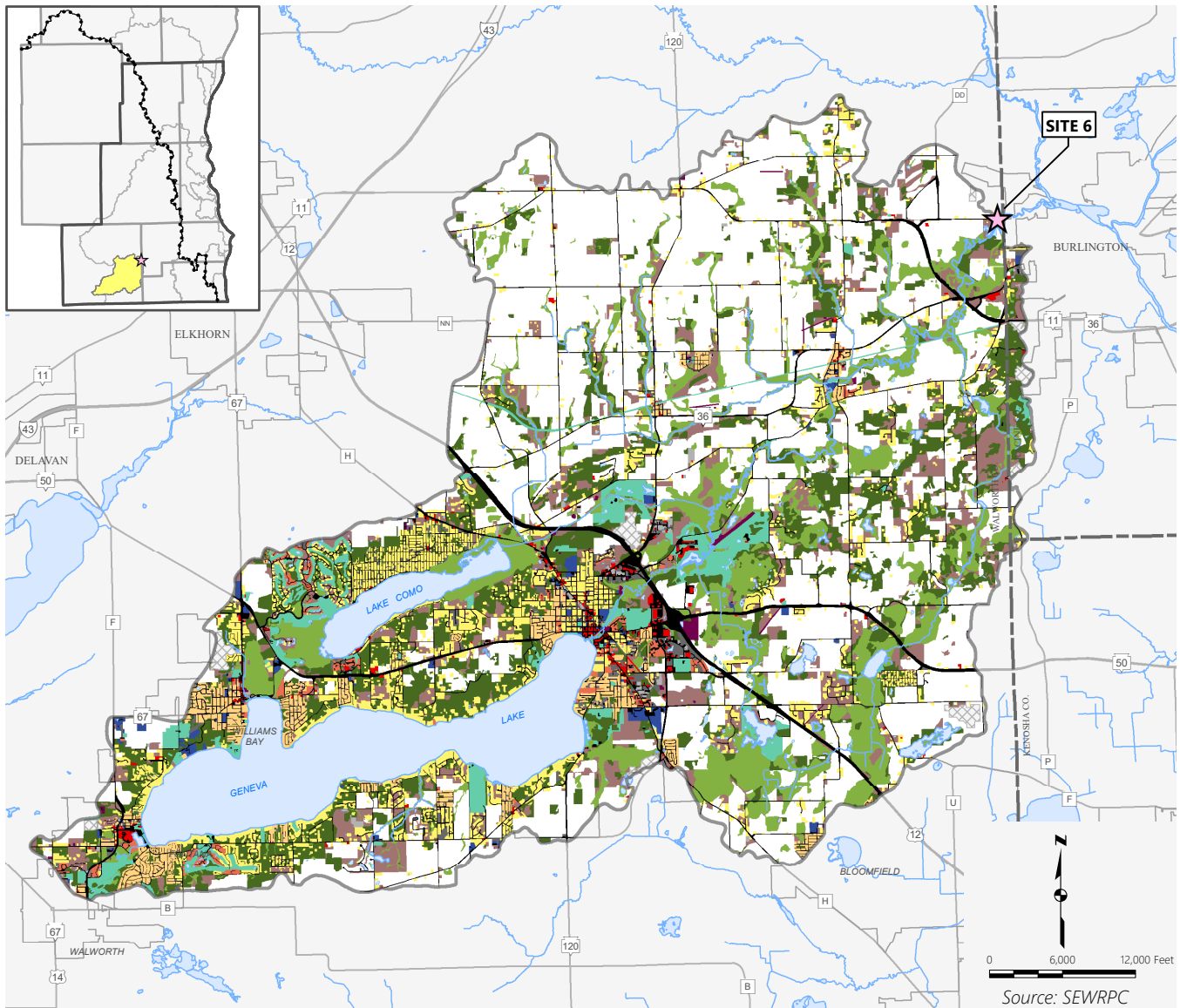


Facts at a Glance

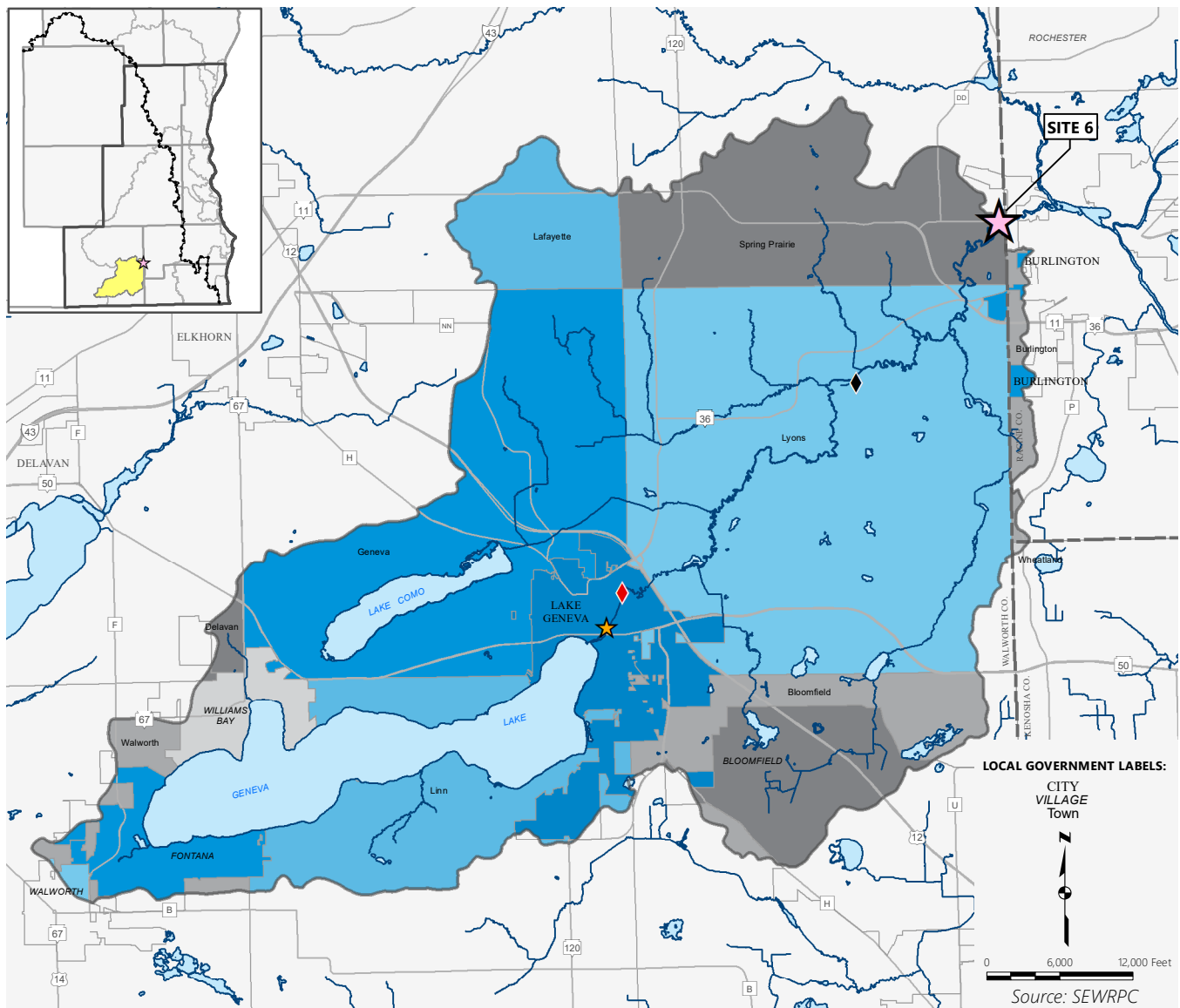
- ▶ **Drainage Area Size:** 60 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 13.1%; Rural – 86.9%
- ▶ **Roads and Parking Lots (% of drainage area):** 4.7
- ▶ **Estimated Population (2010):** 10,970
- ▶ **Estimated Households (2010):** 4,070 (54% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.9

Site 6: White River near Burlington Drainage Area – Existing Land Use



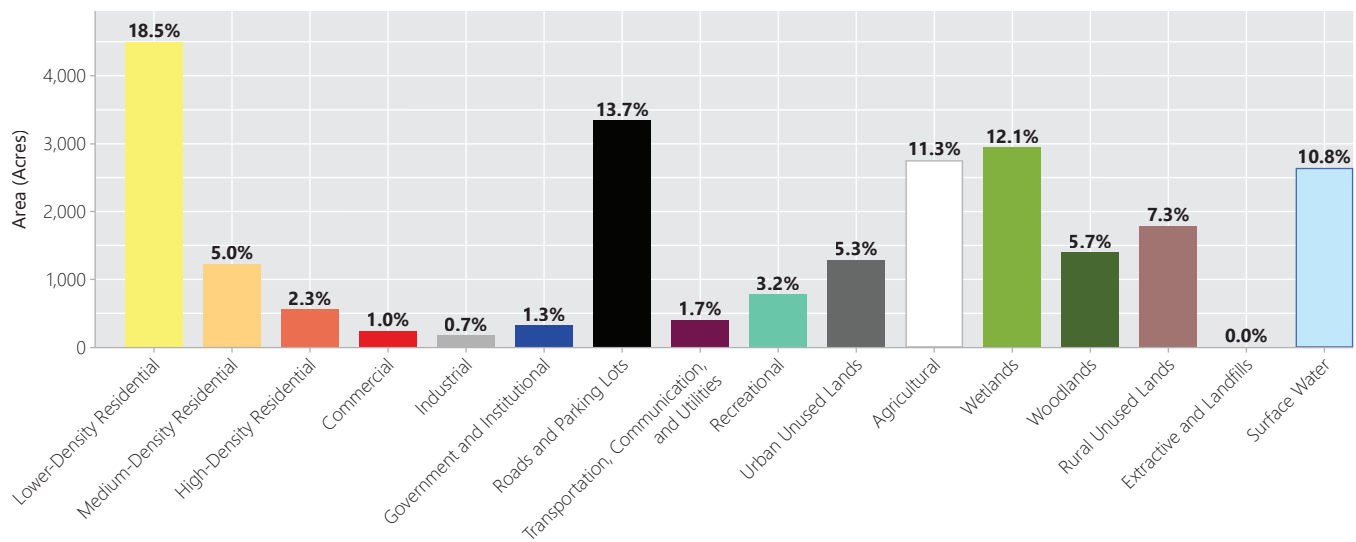
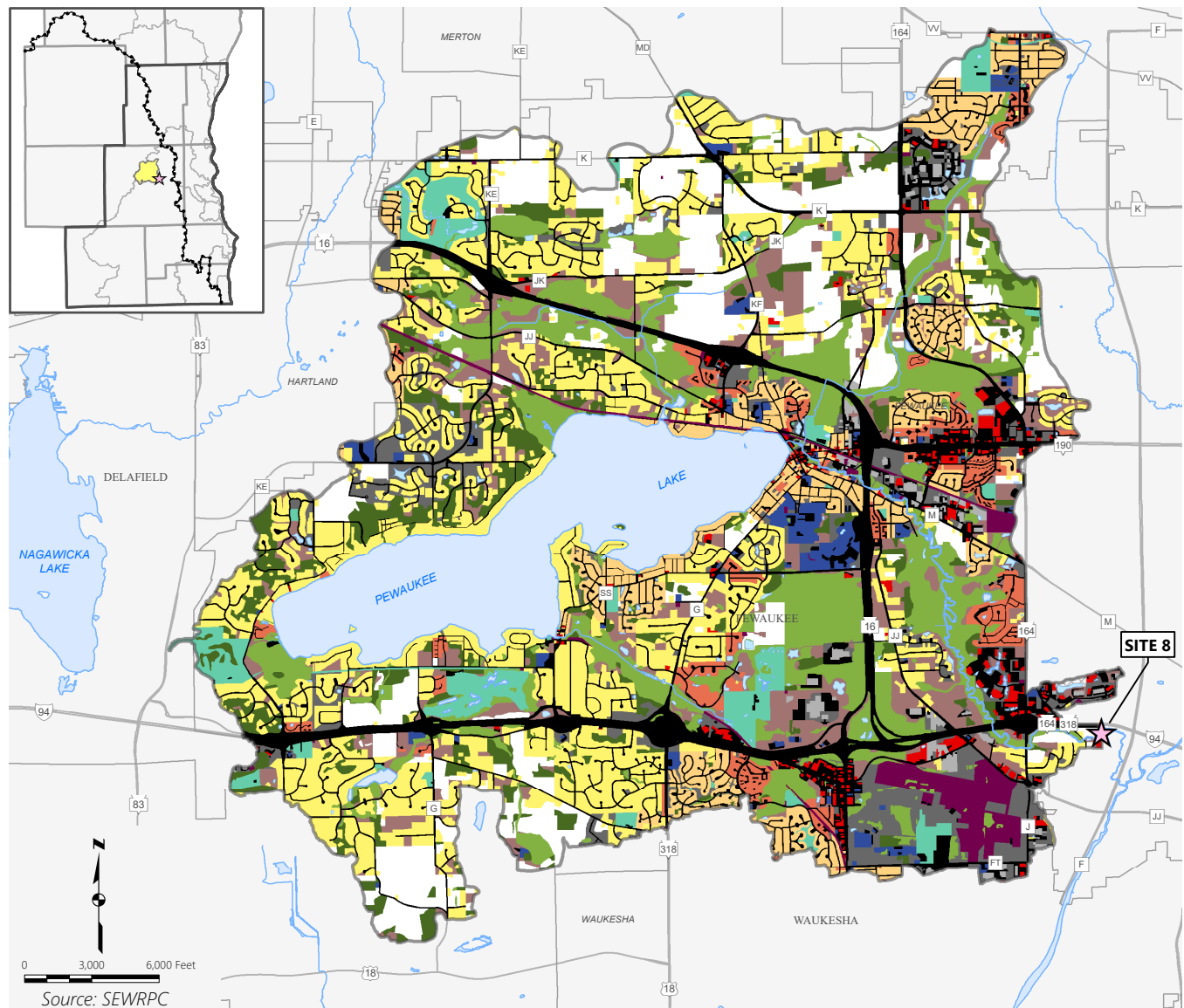
Map B.10
Site 6: White River near Burlington Drainage Area



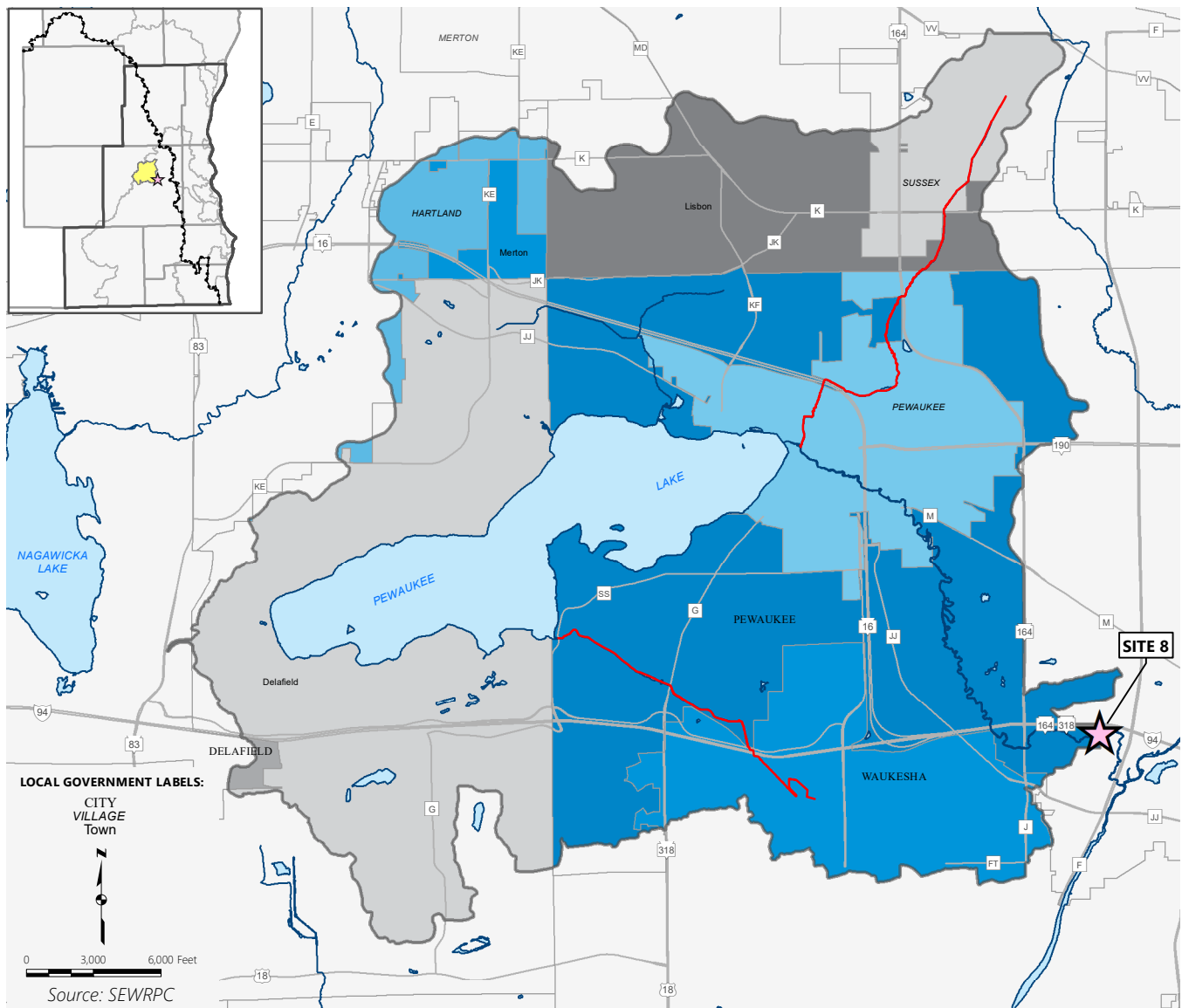
Facts at a Glance

- ▶ **Drainage Area Size:** 112 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 20.6%; Rural – 79.4%
- ▶ **Roads and Parking Lots (% of drainage area):** 5.7
- ▶ **Estimated Population (2010):** 25,010
- ▶ **Estimated Households (2010):** 10,370 (73% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 48
- ▶ **Upstream Wastewater Treatment Facilities (◆):** 1
WWTF discharge to soil (◆): 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.11
Site 8: Pewaukee River Drainage Area – Existing Land Use



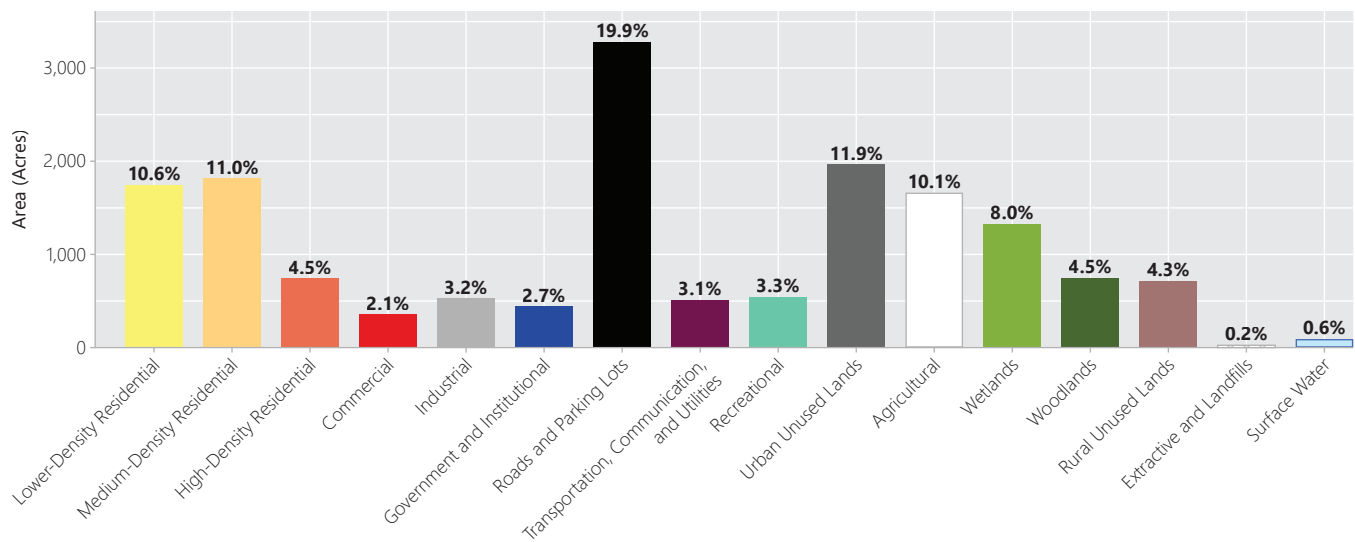
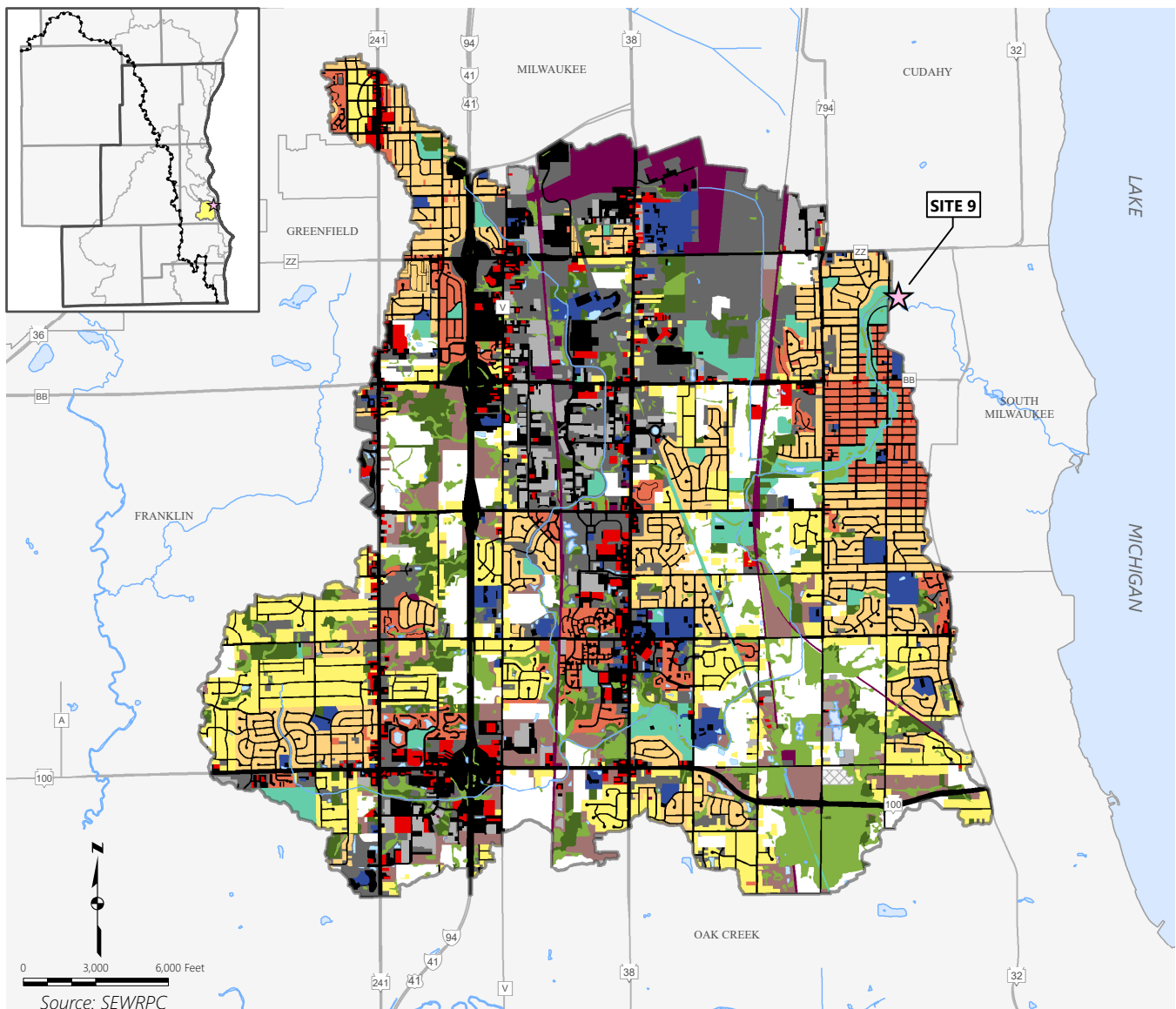
Map B.12
Site 8: Pewaukee River Drainage Area



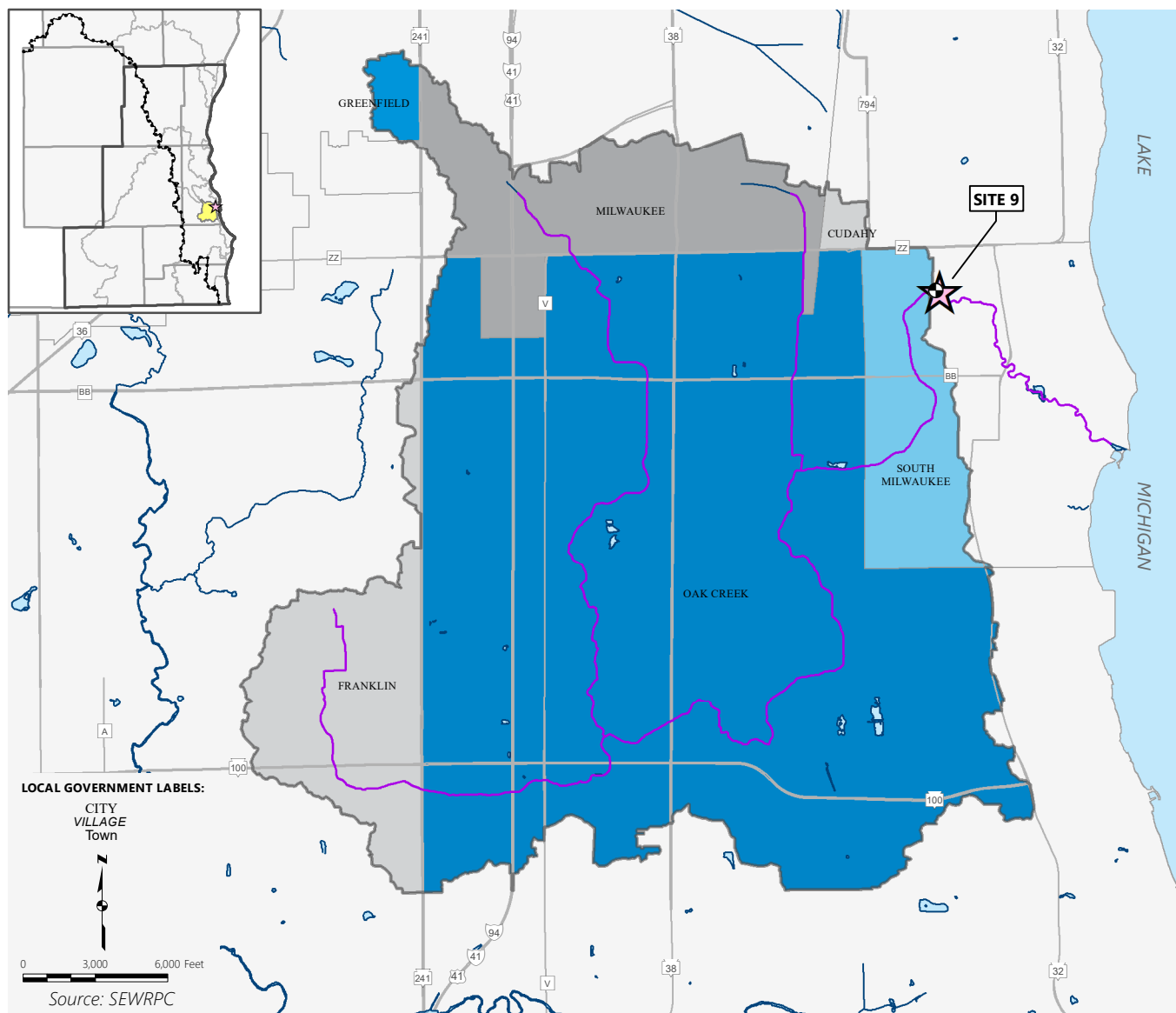
Facts at a Glance

- ▶ **Drainage Area Size:** 38 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 52.7%; Rural – 47.3%
- ▶ **Roads and Parking Lots (% of drainage area):** 13.7
- ▶ **Estimated Population (2010):** 32,830
- ▶ **Estimated Households (2010):** 13,340 (89% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Chloride-Impaired Waters:**
 (—) Chronic Toxicity Impairment
- ▶ **Water Supply Source:** Groundwater and Lake Michigan (City of Waukesha converted to Lake Michigan supply in October 2023)

Map B.13
Site 9: Oak Creek Drainage Area – Existing Land Use



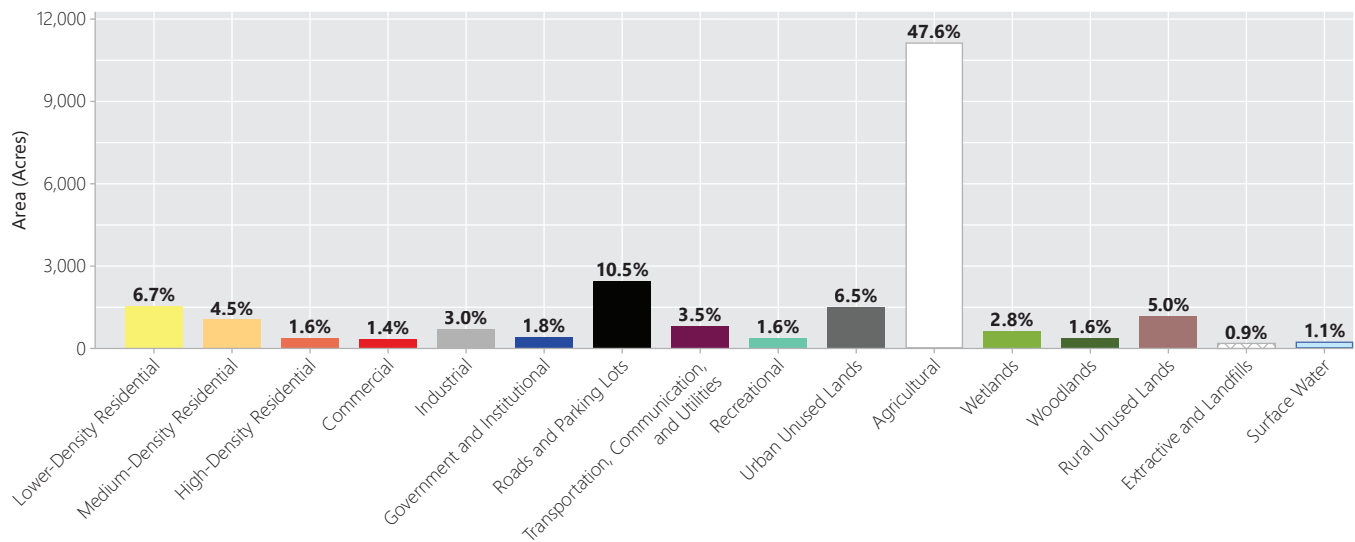
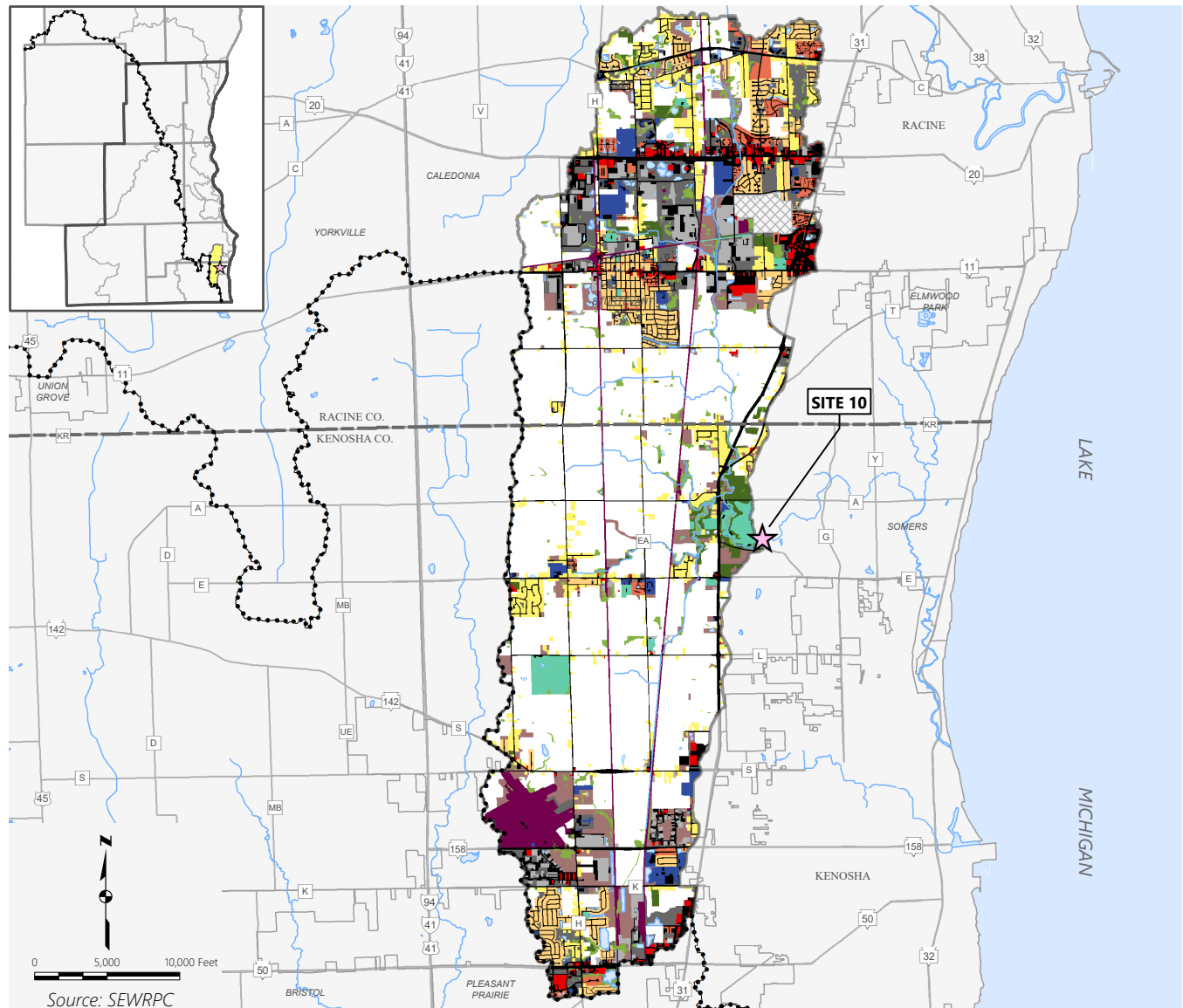
Map B.14
Site 9: Oak Creek Drainage Area



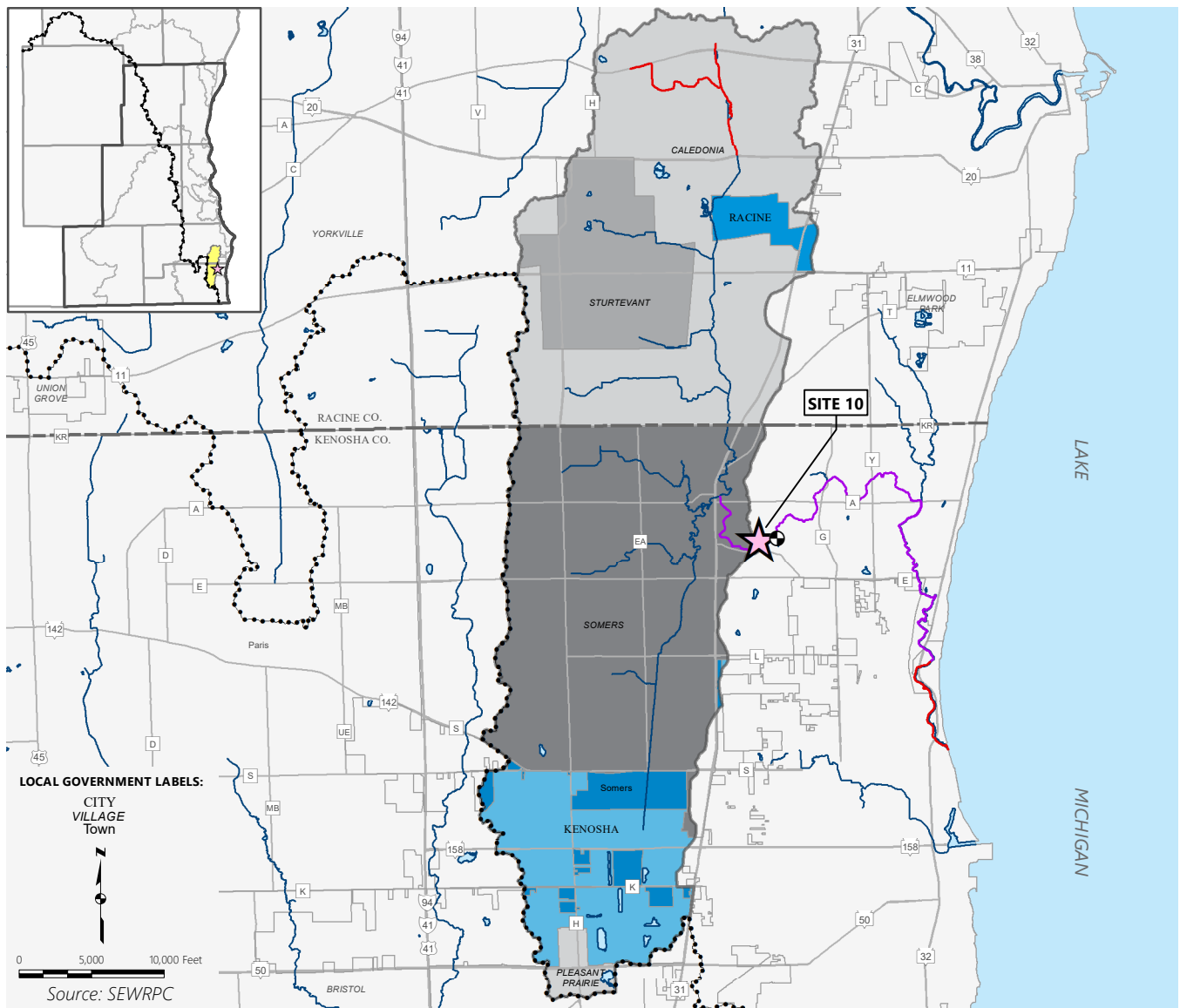
Facts at a Glance

- ▶ **Drainage Area Size:** 26 square miles
- ▶ **Major Watershed:** Oak Creek
- ▶ **Land Use:** Urban – 72.3%; Rural – 27.7%
- ▶ **Roads and Parking Lots (% of drainage area):** 19.9
- ▶ **Estimated Population (2010):** 47,130
- ▶ **Estimated Households (2010):** 19,840 (100% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (📍):** Oak Creek at South Milwaukee (04087204)
- ▶ **Chloride-Impaired Waters:**
 (—) Chronic and Acute Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan

Map B.15
Site 10: Pike River Drainage Area – Existing Land Use



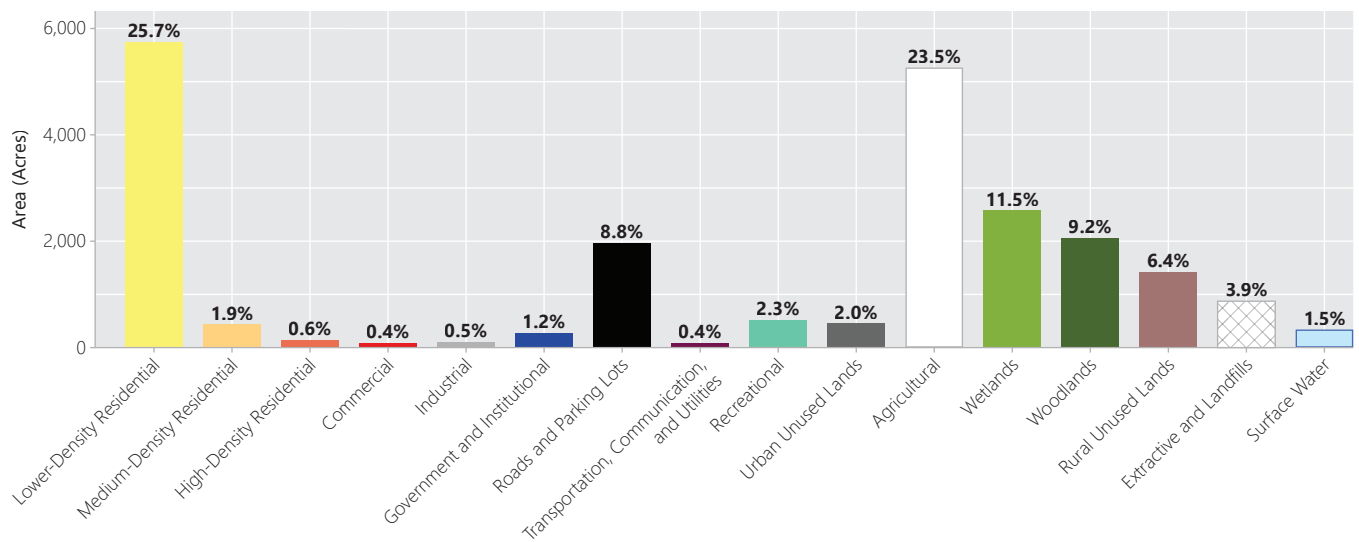
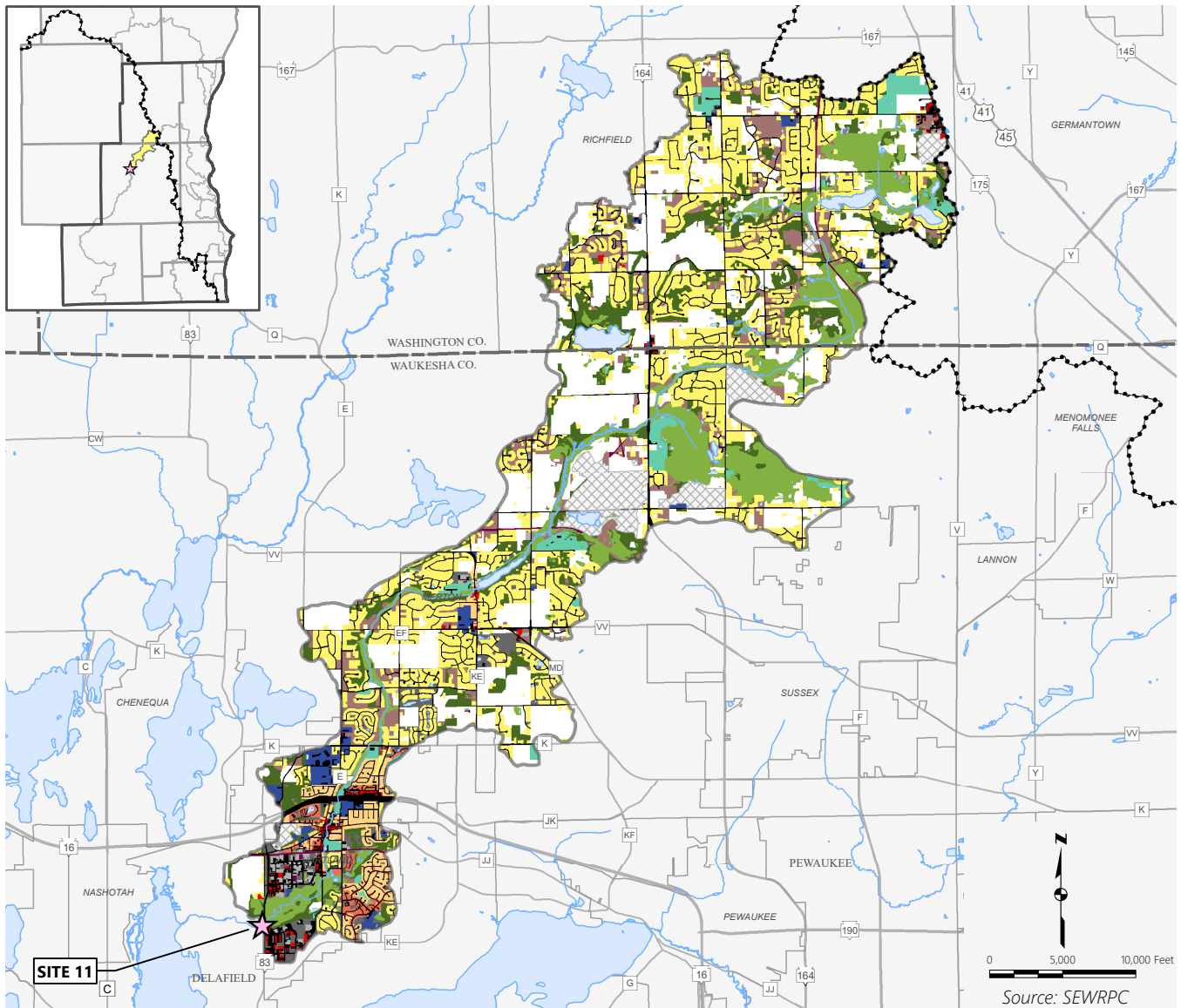
Map B.16
Site 10: Pike River Drainage Area



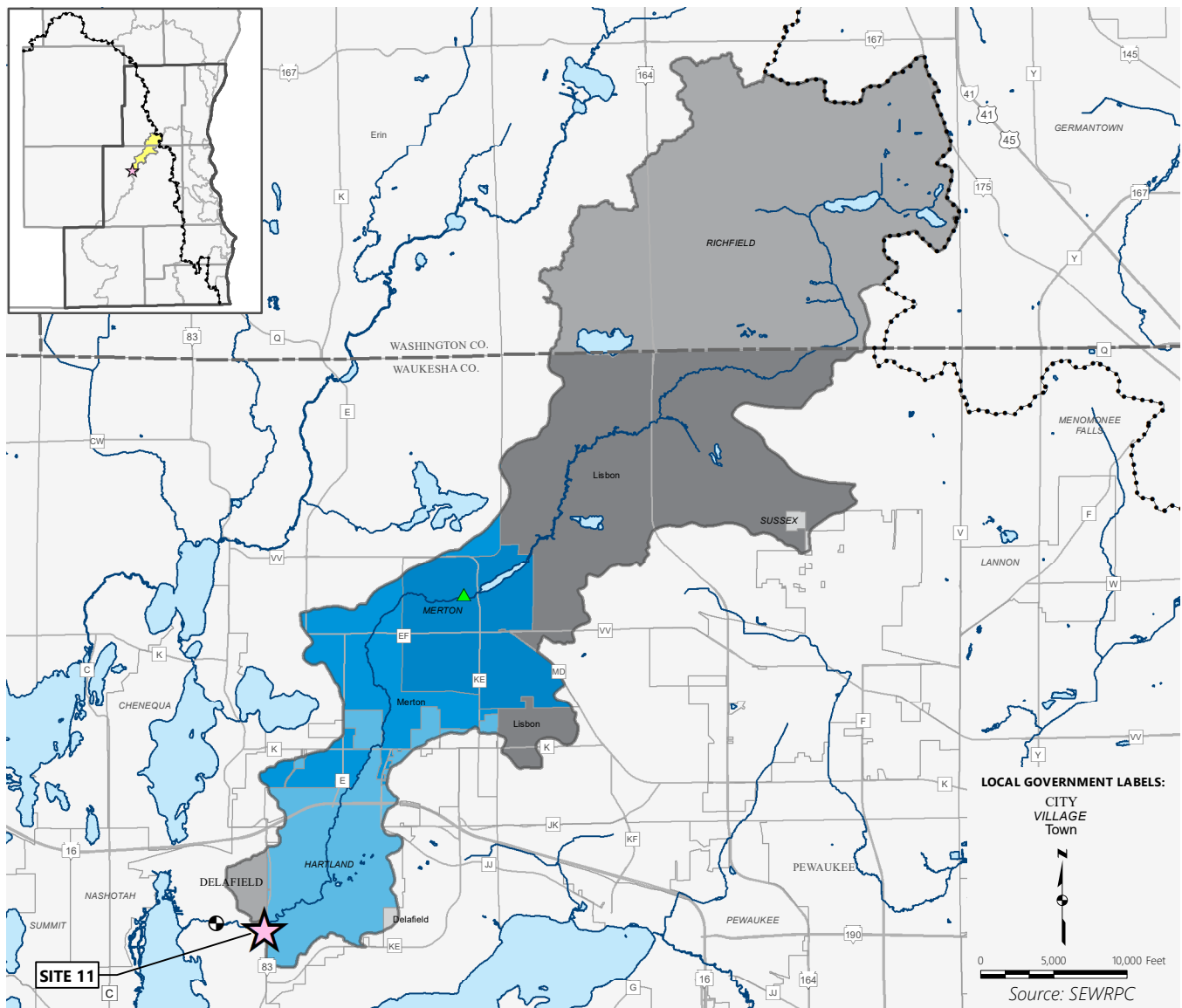
Facts at a Glance

- ▶ **Drainage Area Size:** 37 square miles
- ▶ **Major Watershed:** Pike River
- ▶ **Land Use:** Urban – 41.1%; Rural – 58.9%
- ▶ **Roads and Parking Lots (% of drainage area):** 10.5
- ▶ **Estimated Population (2010):** 25,790
- ▶ **Estimated Households (2010):** 9,930 (96% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (📍):** Pike River near Racine (04087257)
- ▶ **Chloride-Impaired Waters:**
 - (—) Chronic Toxicity Impairment
 - (—) Chronic and Acute Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan

Map B.17
Site 11: Bark River Upstream Drainage Area – Existing Land Use



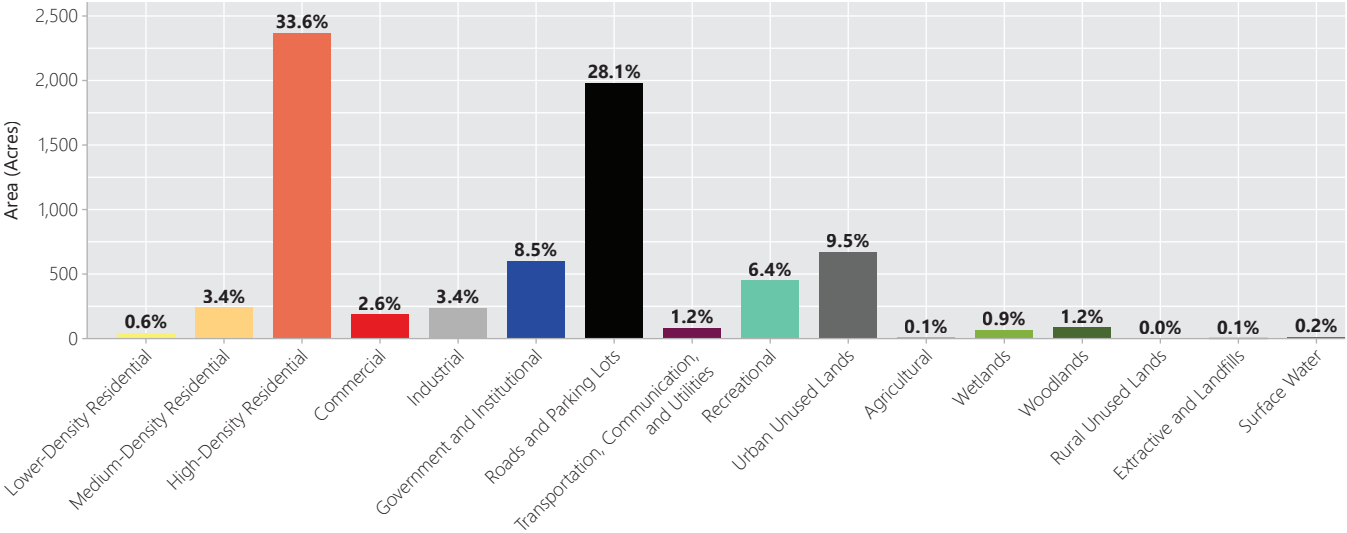
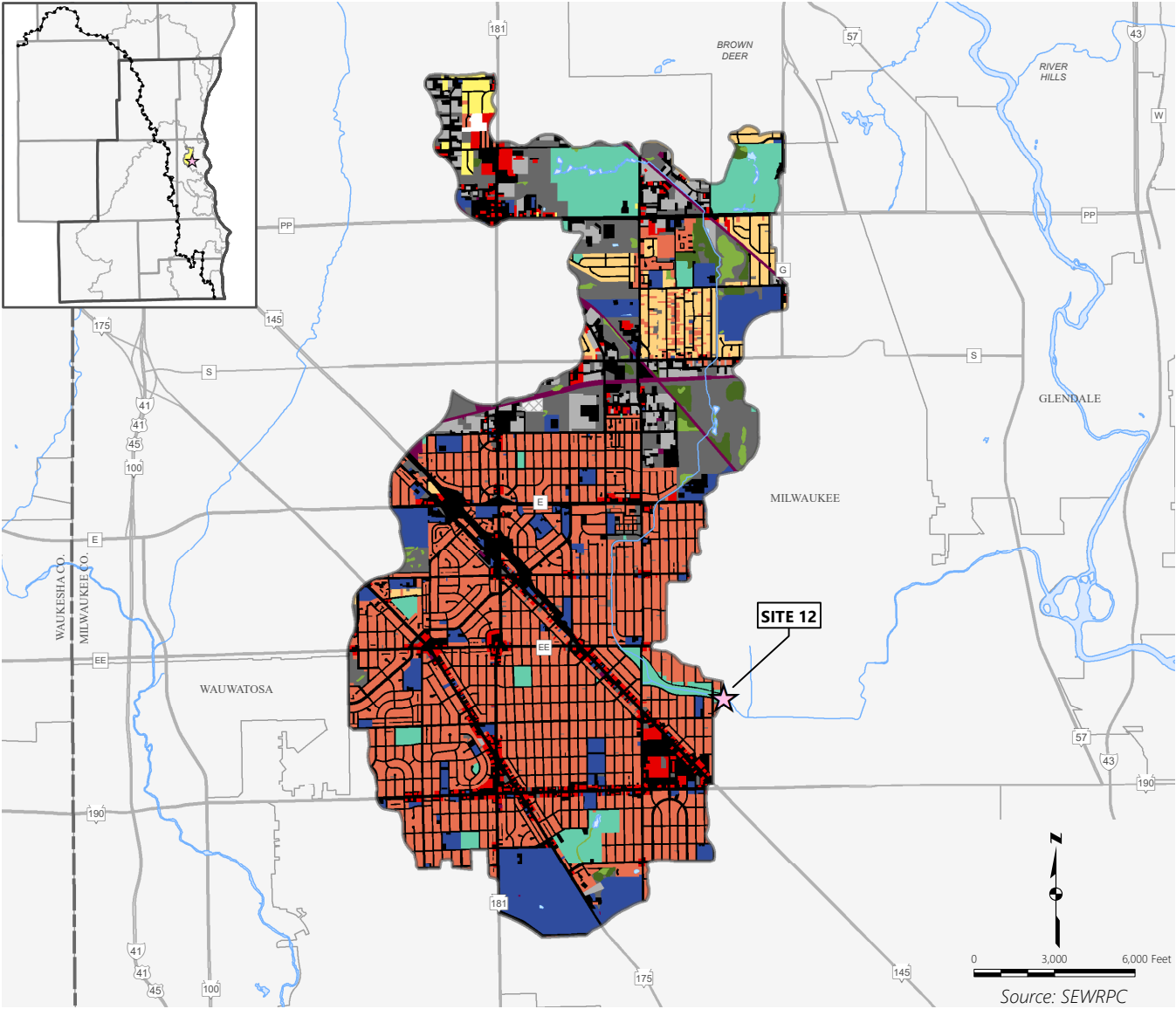
Map B.18
Site 11: Bark River Upstream Drainage Area



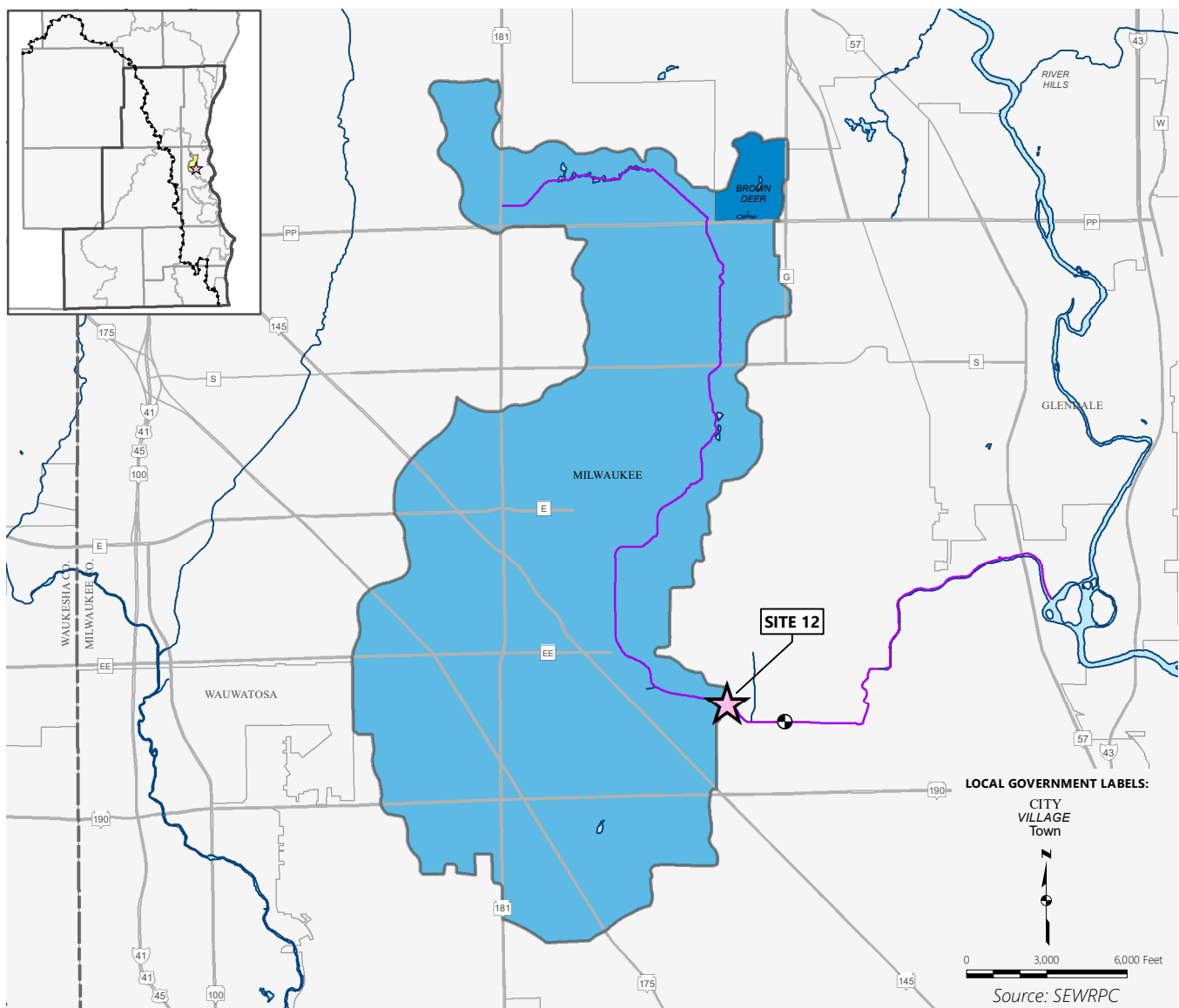
Facts at a Glance

- ▶ **Drainage Area Size:** 35 square miles
- ▶ **Major Watershed:** Rock River
- ▶ **Land Use:** Urban – 43.9%; Rural – 56.1%
- ▶ **Roads and Parking Lots (% of drainage area):** 8.8
- ▶ **Estimated Population (2010):** 19,970
- ▶ **Estimated Households (2010):** 7,330 (41% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (●):** Bark River at Nagawicka Road (05426067)
- ▶ **Upstream Industrial Wastewater Dischargers (▲):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.19
Site 12: Lincoln Creek Drainage Area – Existing Land Use



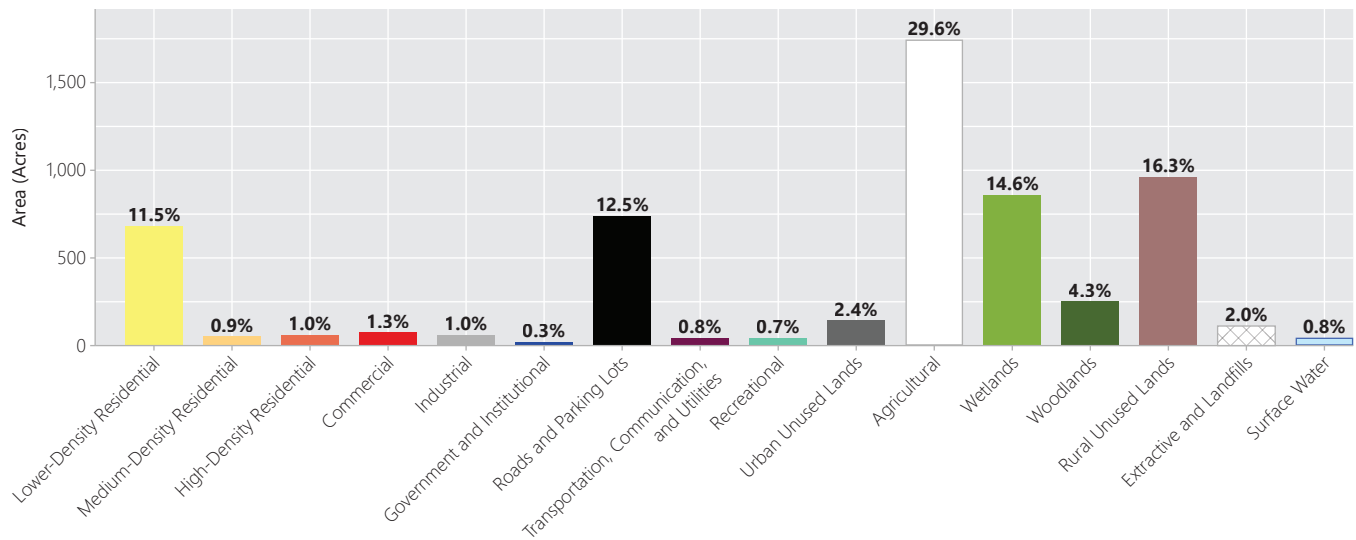
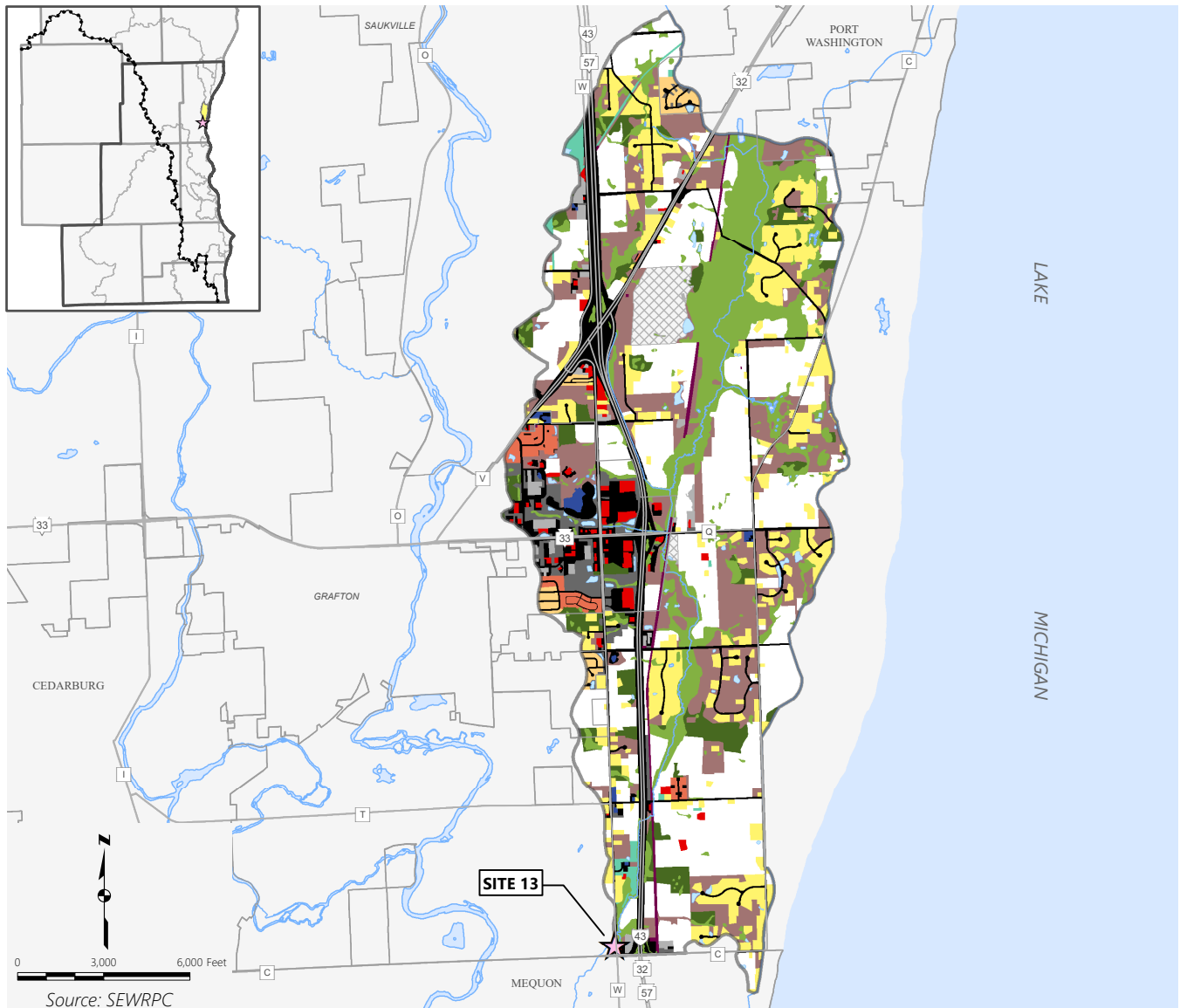
Map B.20
Site 12: Lincoln Creek Drainage Area



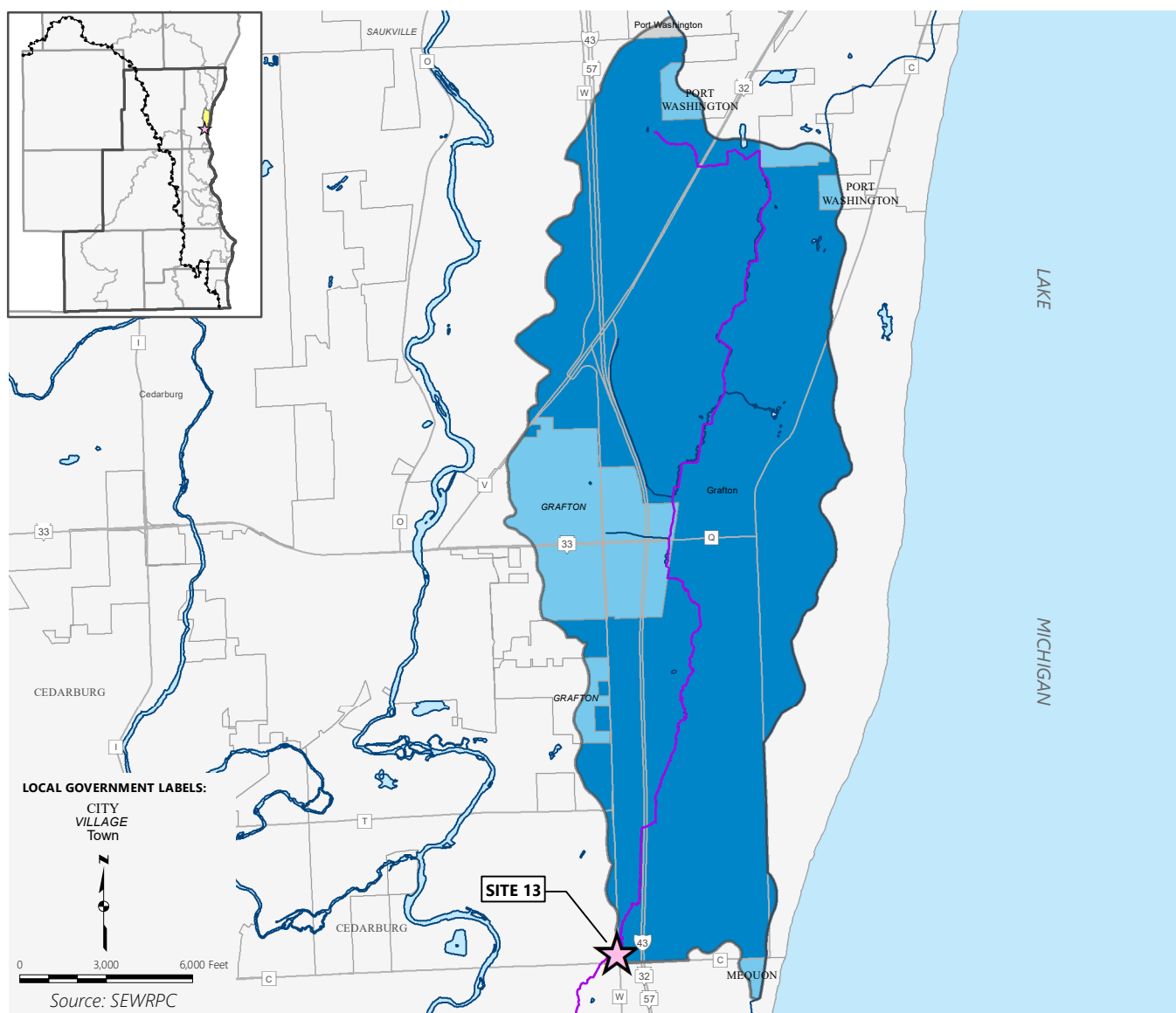
Facts at a Glance

- ▶ **Drainage Area Size:** 11 square miles
- ▶ **Major Watershed:** Milwaukee River
- ▶ **Land Use:** Urban – 97.4%; Rural – 2.6%
- ▶ **Roads and Parking Lots (% of drainage area):** 28.1
- ▶ **Estimated Population (2010):** 60,500
- ▶ **Estimated Households (2010):** 22,210 (100% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (●):** Lincoln Creek at Sherman Boulevard (040869416)
- ▶ **Chloride-Impaired Waters:**
 (—) Chronic and Acute Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan

Map B.21
Site 13: Ulao Creek Drainage Area – Existing Land Use



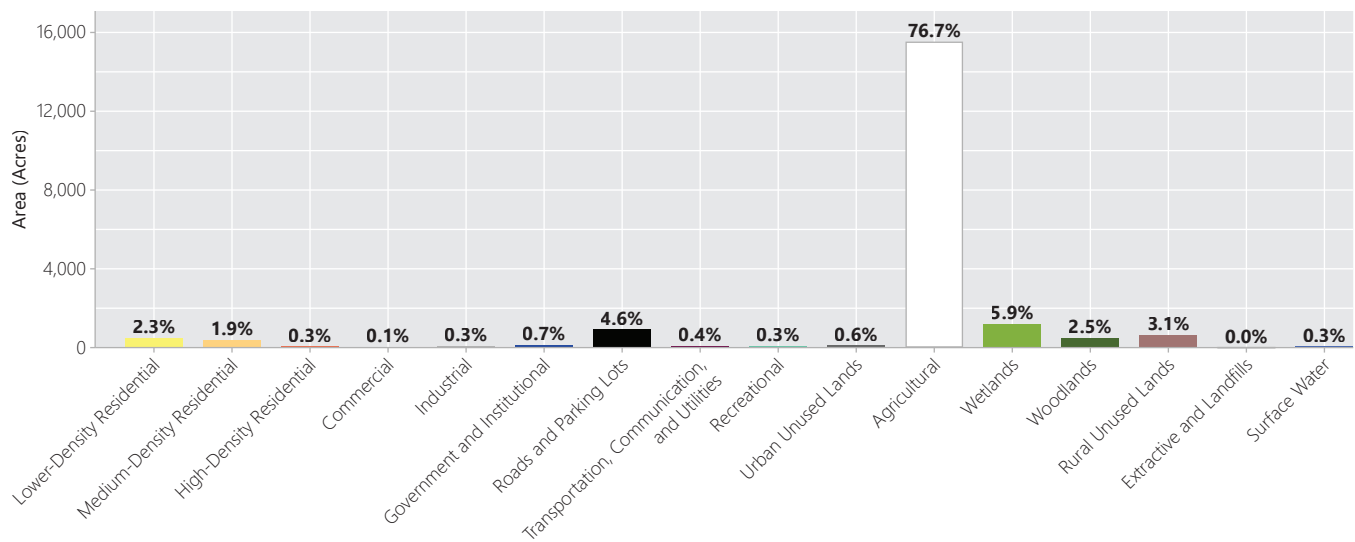
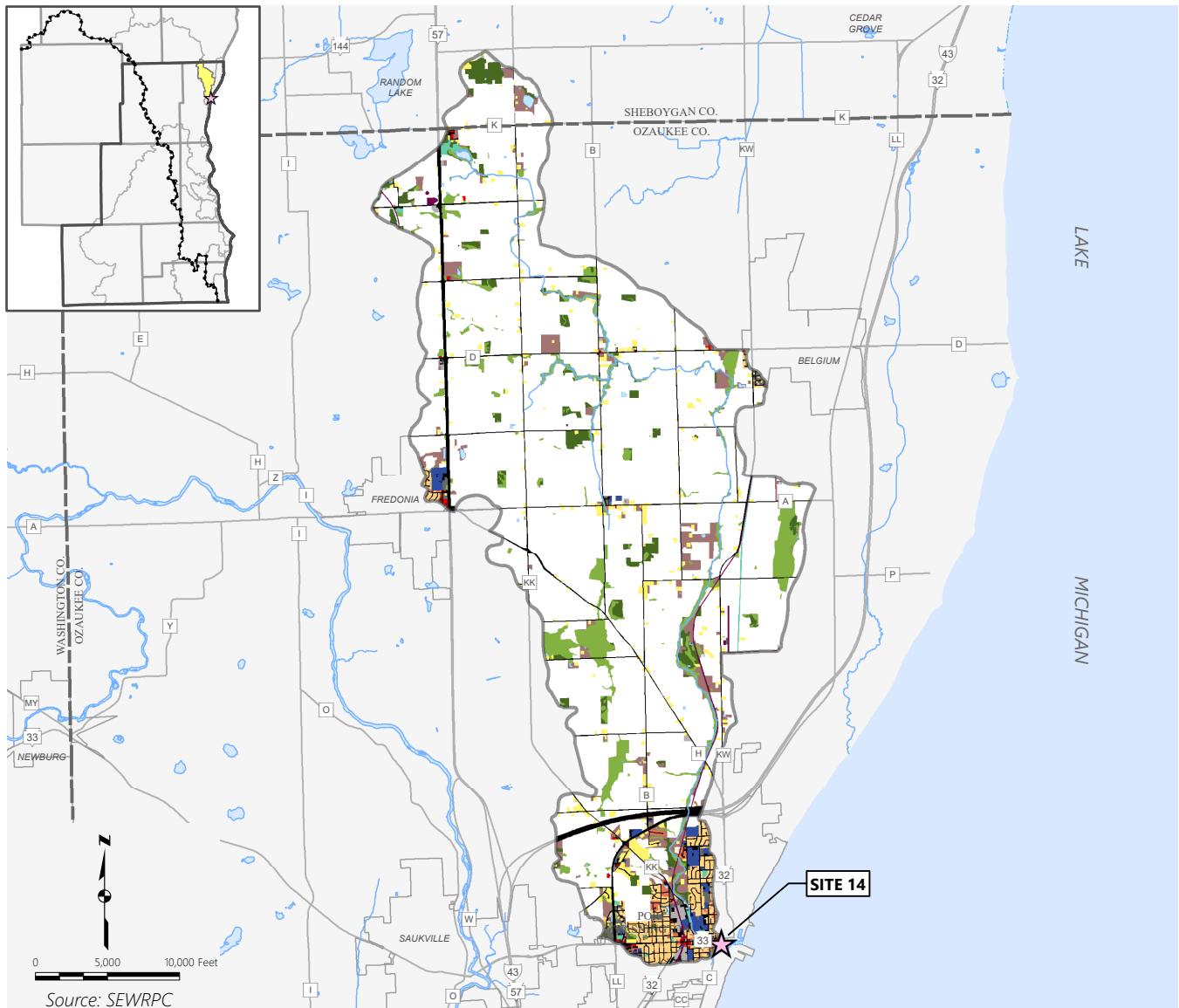
Map B.22
Site 13: Ulao Creek Drainage Area



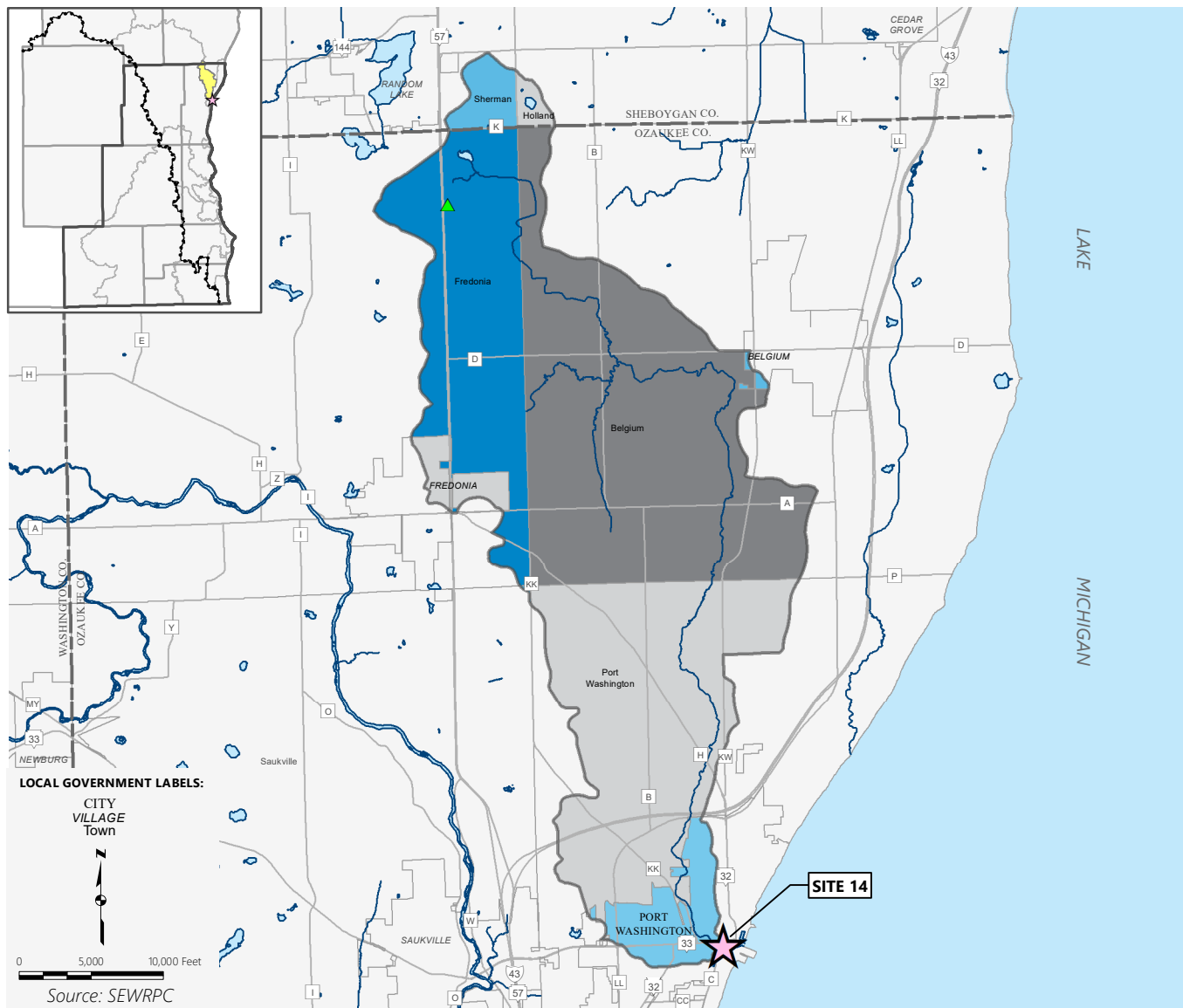
Facts at a Glance

- ▶ **Drainage Area Size:** 9 square miles
- ▶ **Major Watershed:** Milwaukee River
- ▶ **Land Use:** Urban – 32.5%; Rural – 67.5%
- ▶ **Roads and Parking Lots (% of drainage area):** 12.5
- ▶ **Estimated Population (2010):** 2,130
- ▶ **Estimated Households (2010):** 920 (47% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Chloride-Impaired Waters:**
 (—) Chronic and Acute Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan

Map B.23
Site 14: Sauk Creek Drainage Area – Existing Land Use



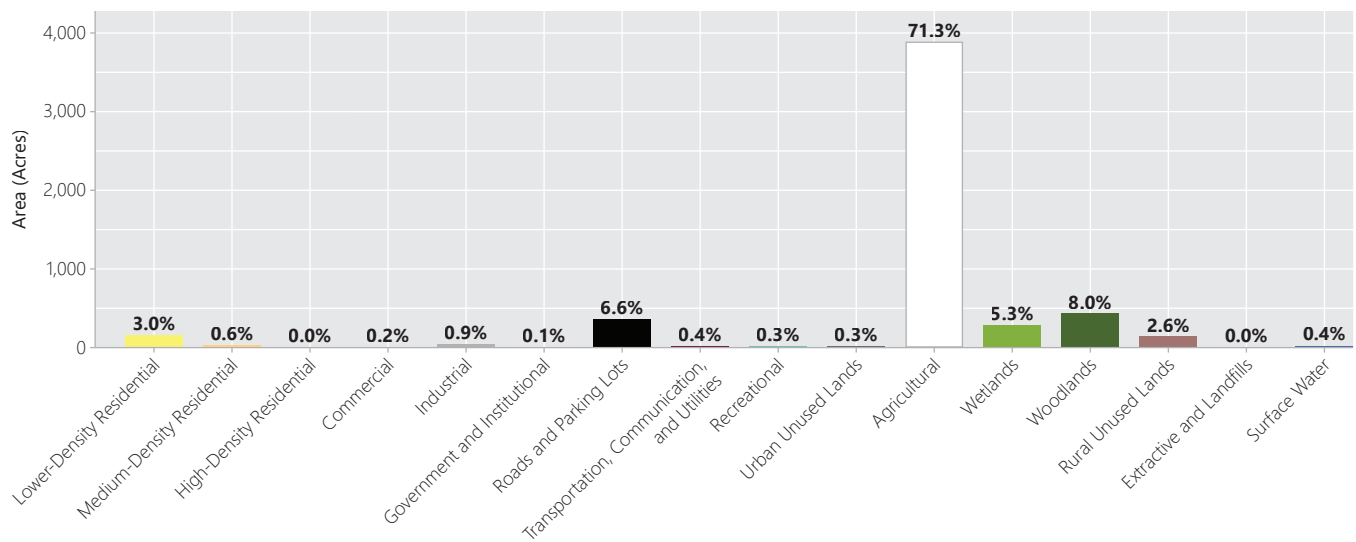
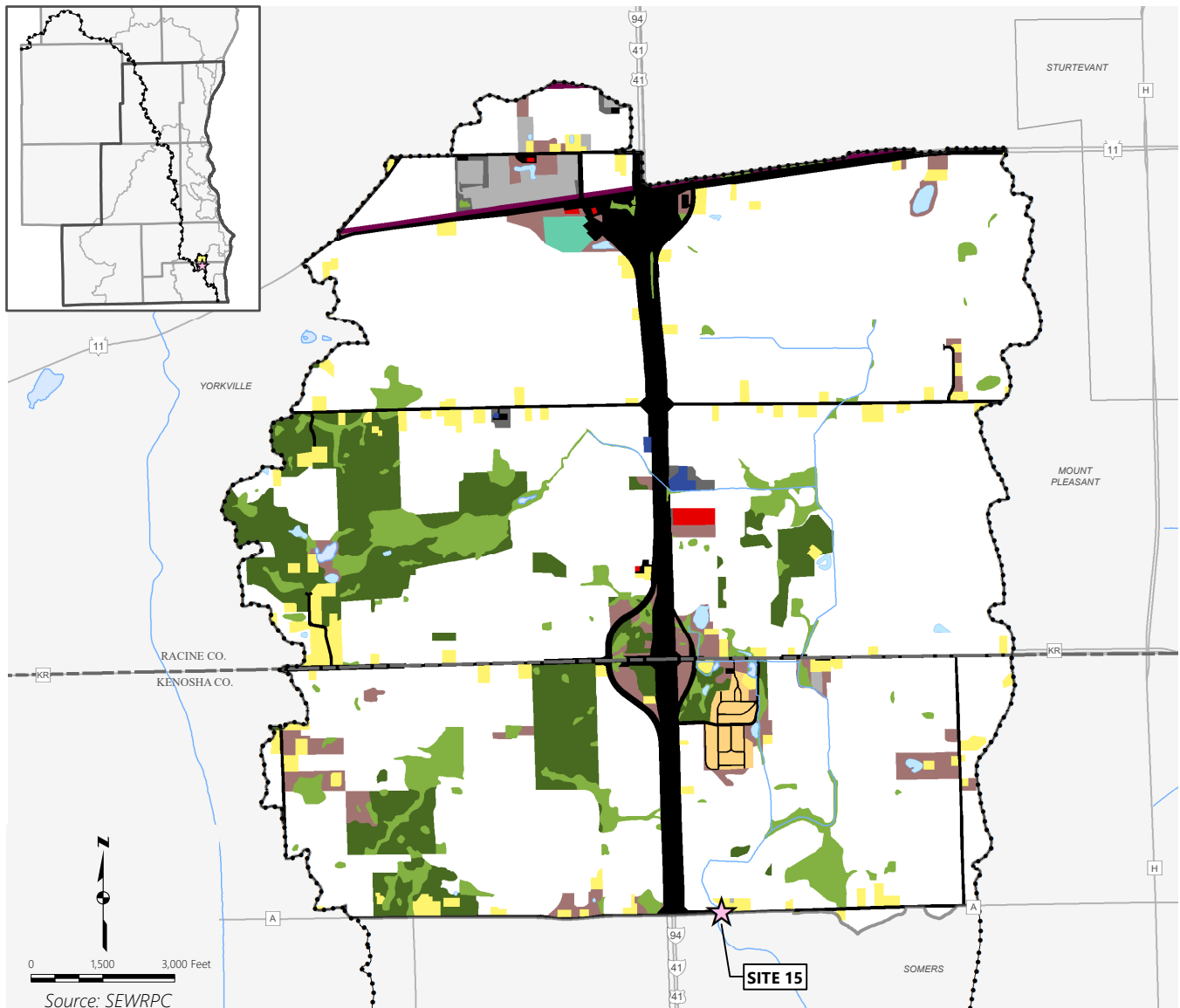
Map B.24
Site 14: Sauk Creek Drainage Area



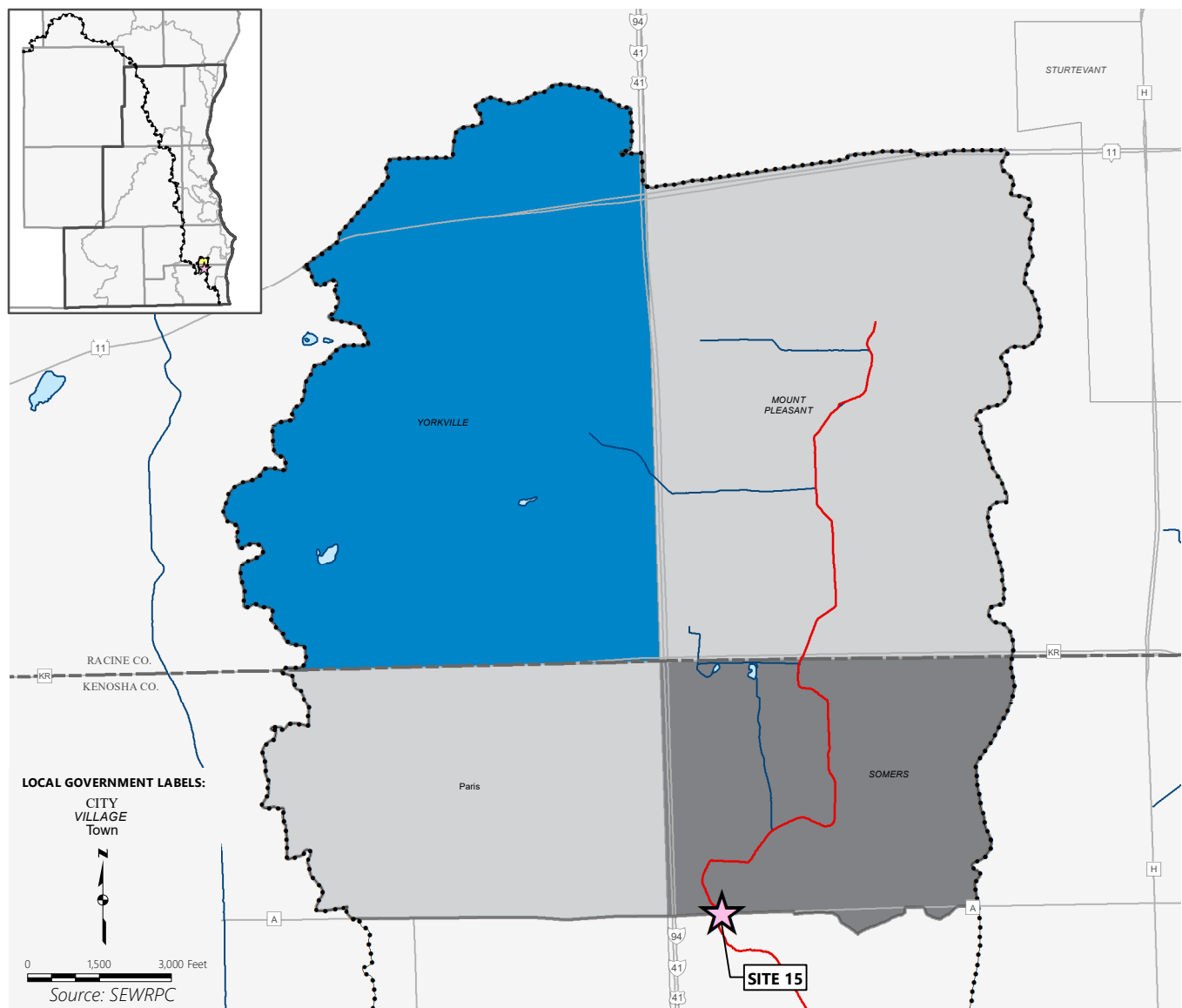
Facts at a Glance

- ▶ **Drainage Area Size:** 32 square miles
- ▶ **Major Watershed:** Milwaukee River
- ▶ **Land Use:** Urban – 11.5%; Rural – 88.5%
- ▶ **Roads and Parking Lots (% of drainage area):** 4.6
- ▶ **Estimated Population (2010):** 6,700
- ▶ **Estimated Households (2010):** 2,730 (84% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Upstream Industrial Wastewater Dischargers (▲):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Lake Michigan and Groundwater

Map B.25
Site 15: Kilbourn Road Ditch Drainage Area – Existing Land Use



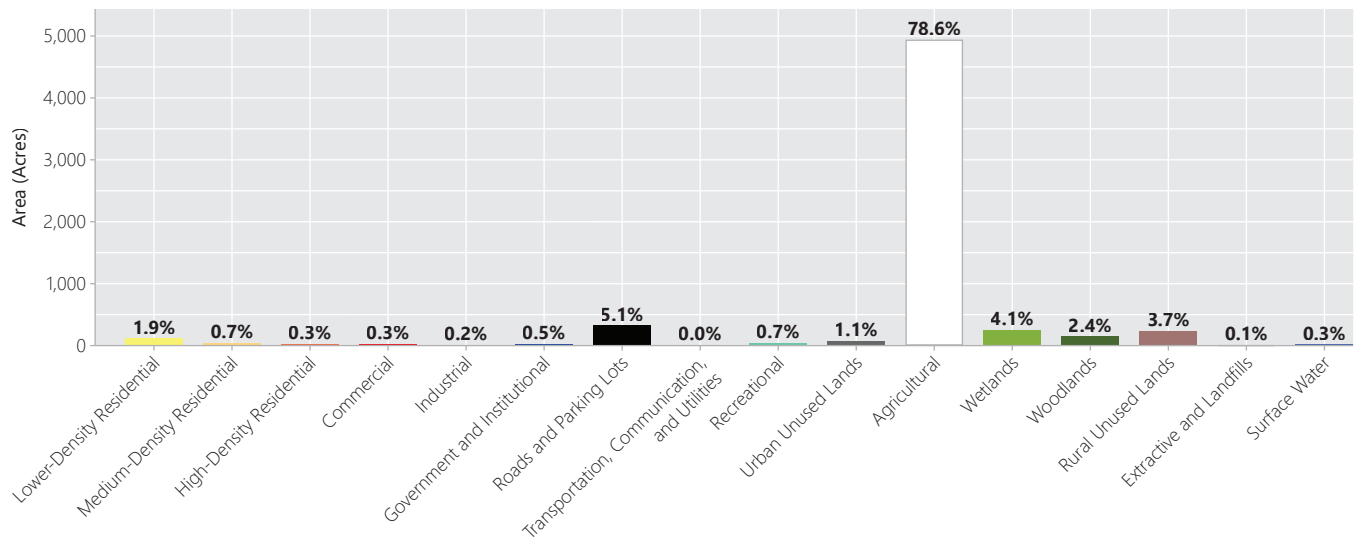
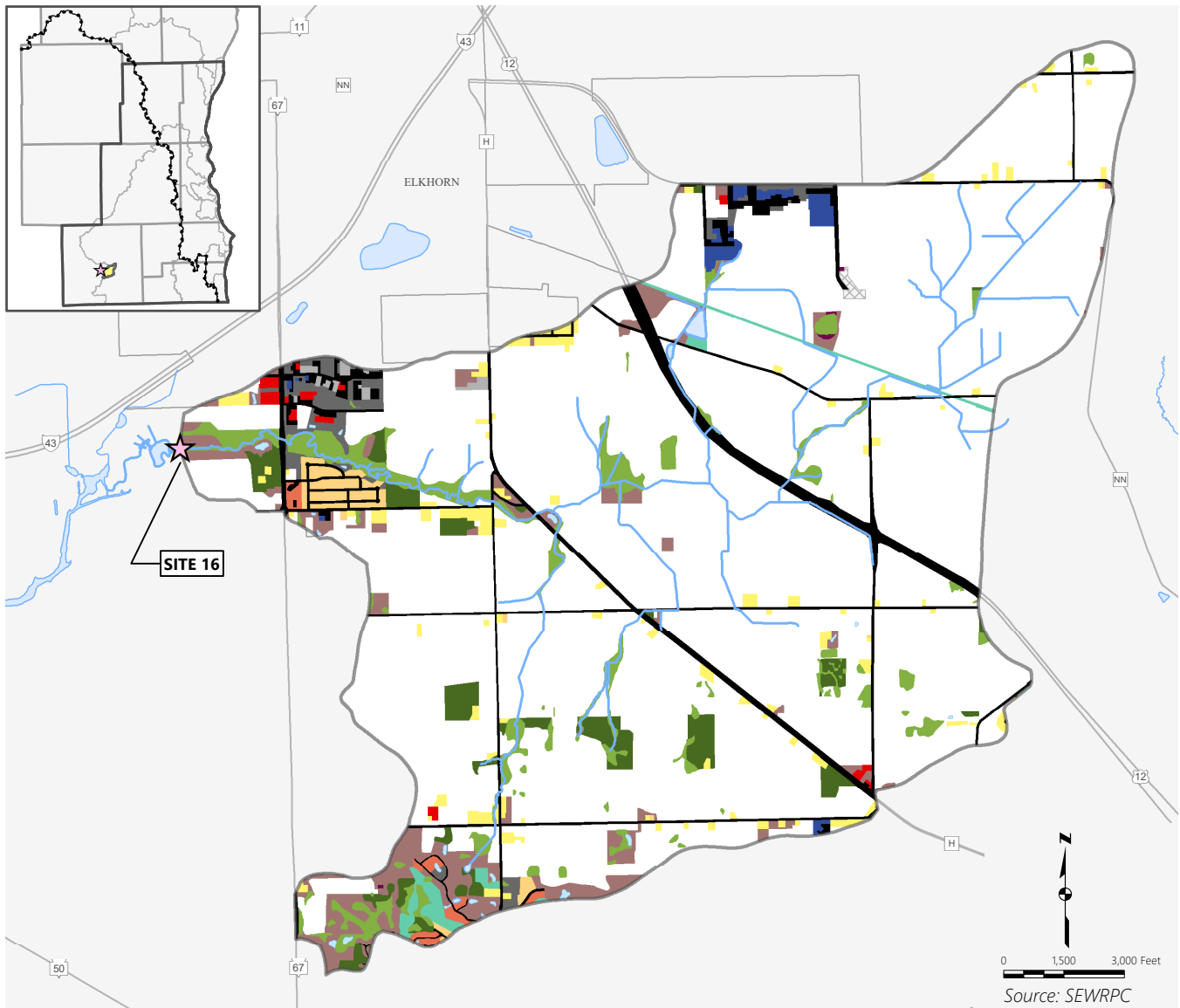
Map B.26
Site 15: Kilbourn Road Ditch Drainage Area



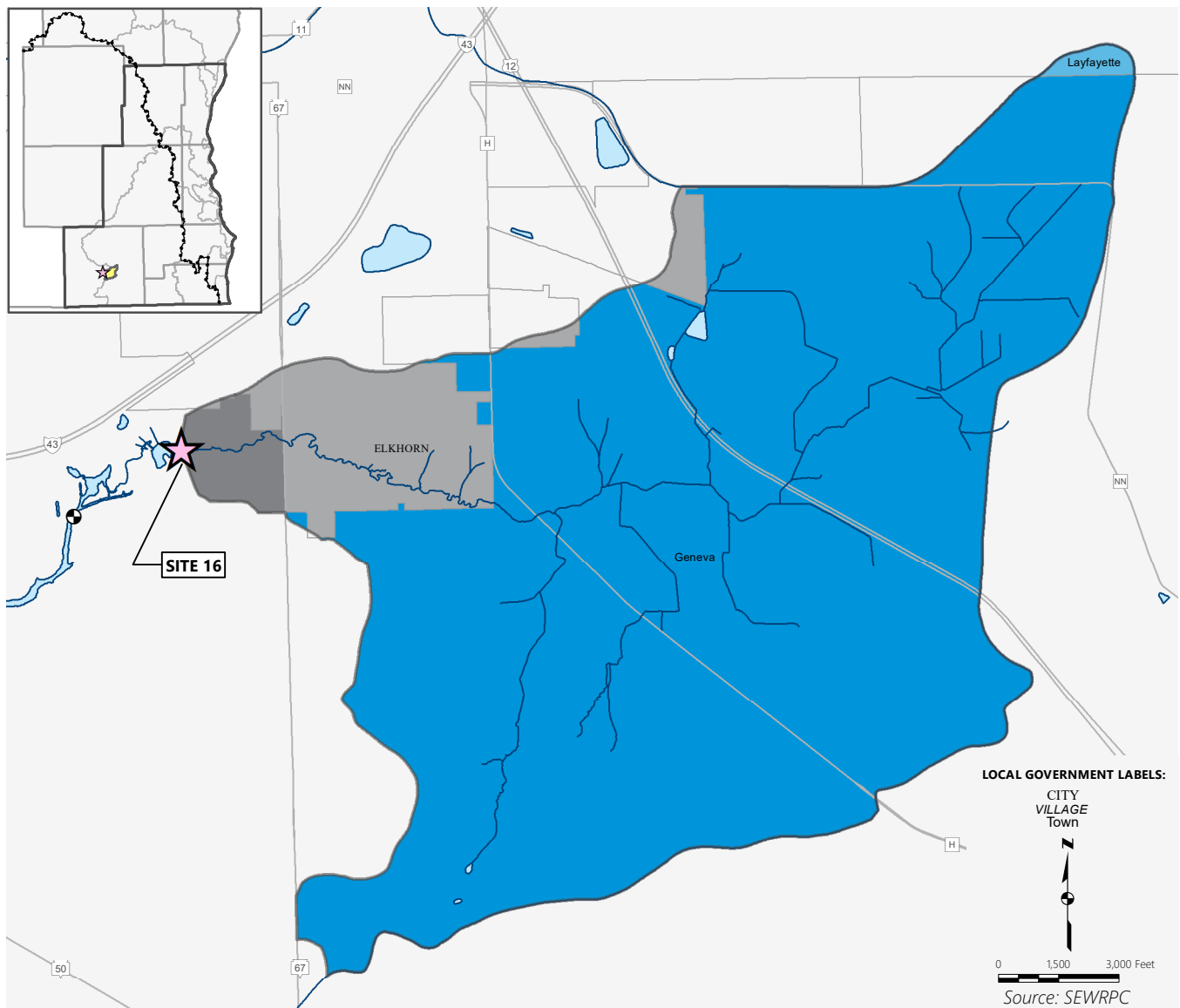
Facts at a Glance

- ▶ **Drainage Area Size:** 9 square miles
- ▶ **Major Watershed:** Des Plaines River
- ▶ **Land Use:** Urban – 12.3%; Rural – 87.7%
- ▶ **Roads and Parking Lots (% of drainage area):** 6.6
- ▶ **Estimated Population (2010):** 570
- ▶ **Estimated Households (2010):** 290 (0% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Chloride-Impaired Waters:**
 (—) Chronic Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan and Groundwater

Map B.27
Site 16: Jackson Creek Drainage Area – Existing Land Use



Map B.28
Site 16: Jackson Creek Drainage Area

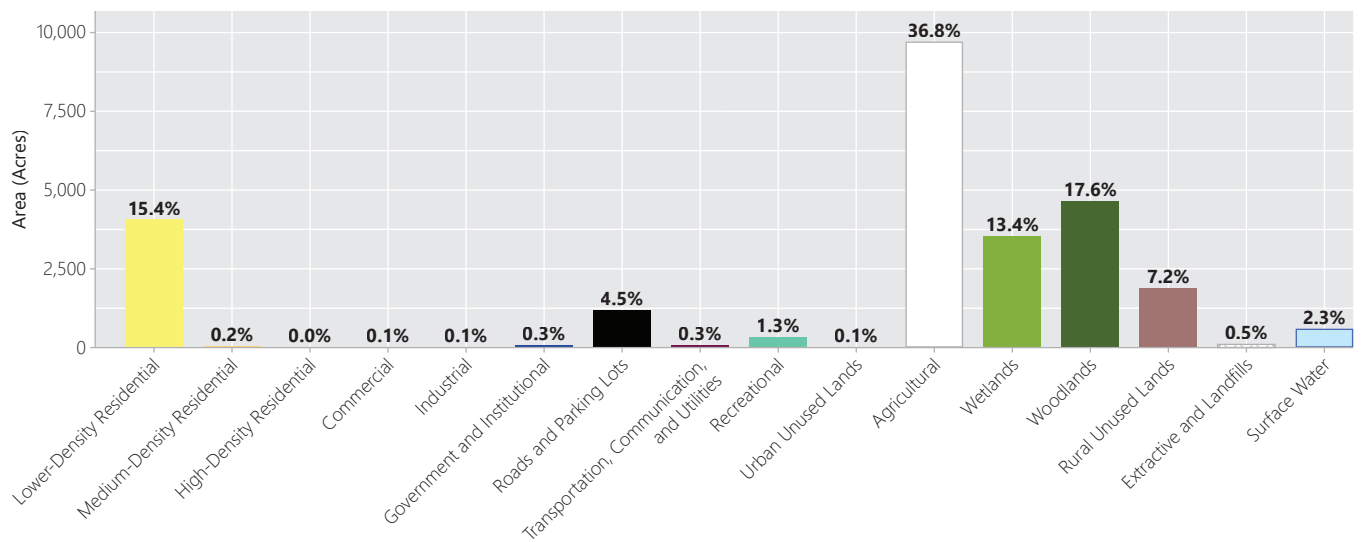
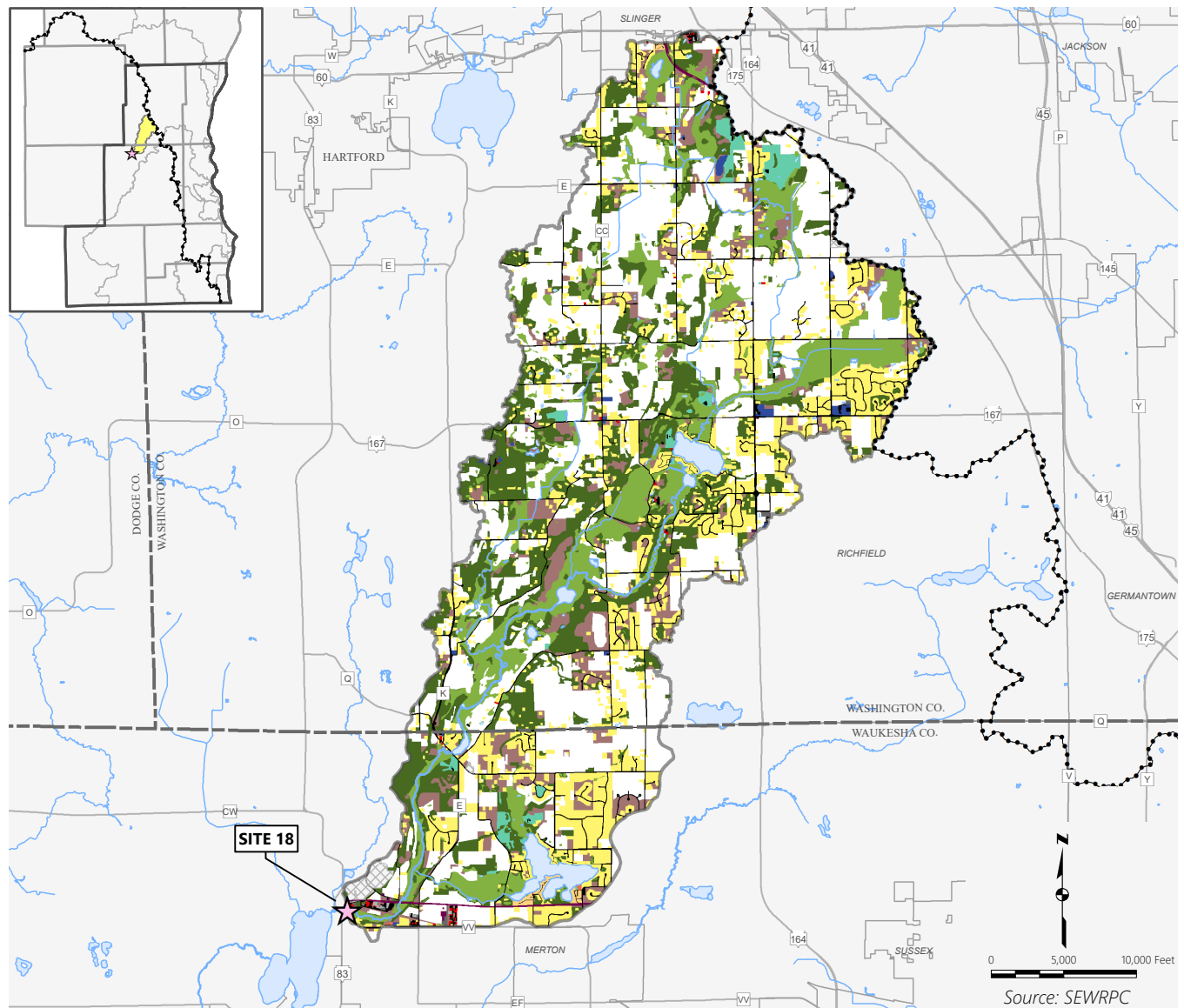


Facts at a Glance

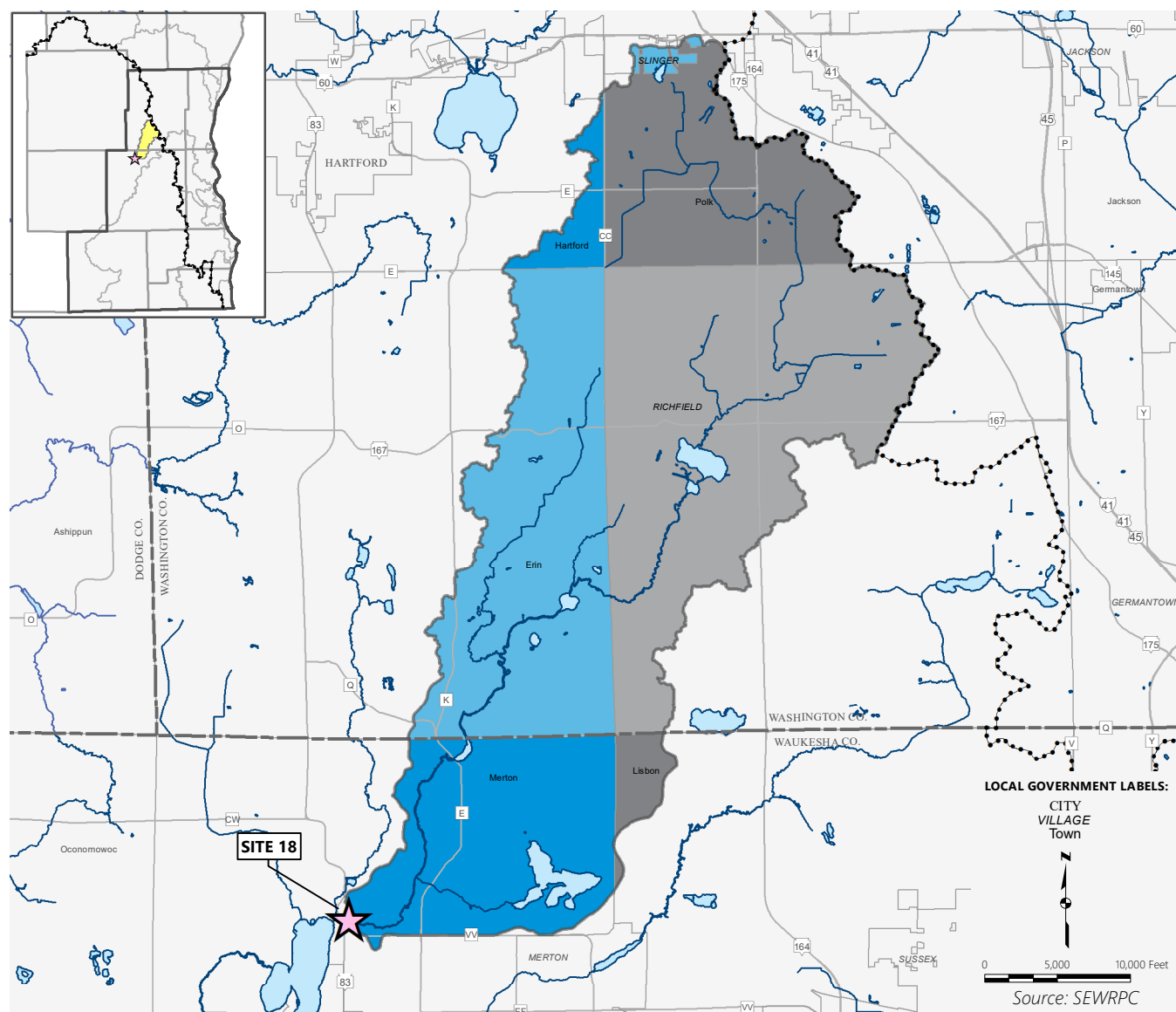
- ▶ **Drainage Area Size:** 10 square miles
- ▶ **Major Watershed:** Rock River
- ▶ **Land Use:** Urban – 10.9%; Rural – 89.1%
- ▶ **Roads and Parking Lots (% of drainage area):** 5.1
- ▶ **Estimated Population (2010):** 820
- ▶ **Estimated Households (2010):** 330 (73% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (📍):** Jackson Creek at Mound Road (05431016)
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.29

Site 18: Oconomowoc River Upstream Drainage Area – Existing Land Use



Map B.30
Site 18: Oconomowoc River Upstream Drainage Area

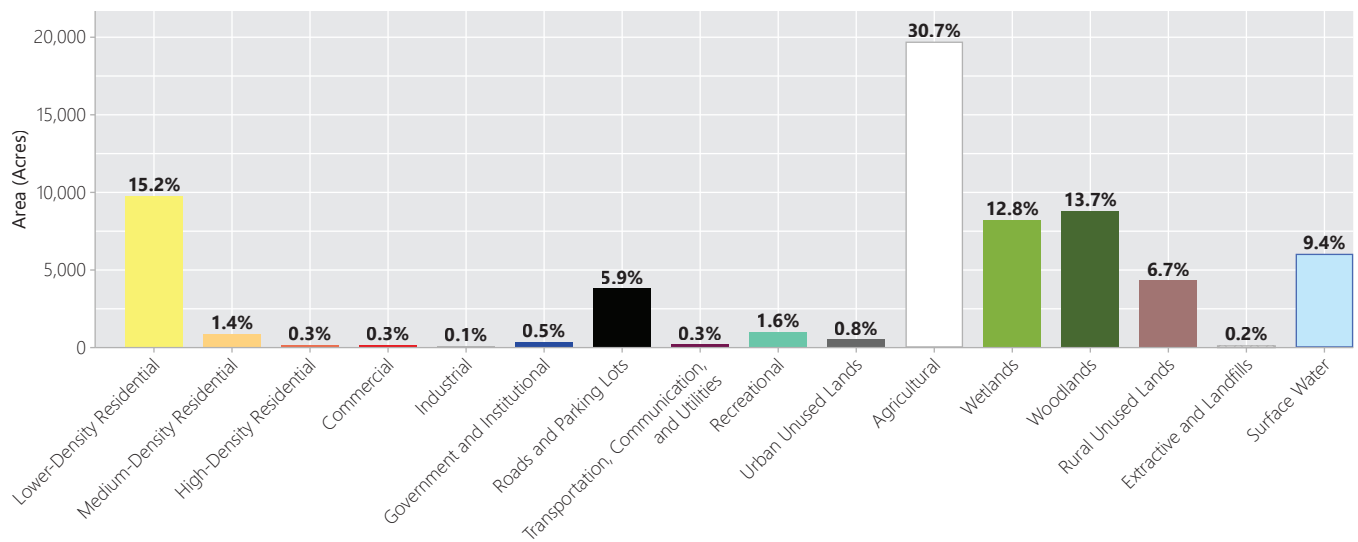
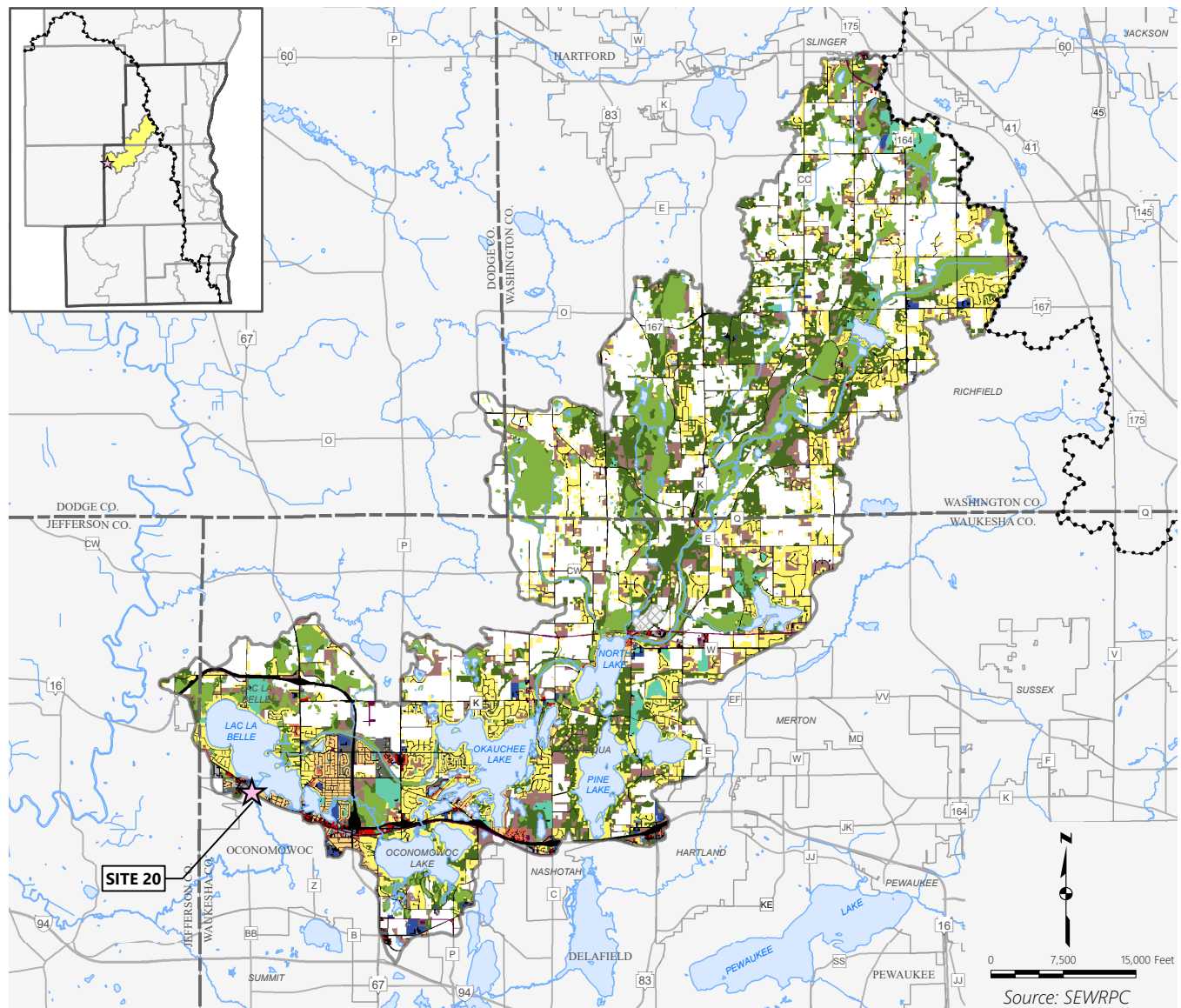


Facts at a Glance

- ▶ **Drainage Area Size:** 41 square miles
- ▶ **Major Watershed:** Rock River
- ▶ **Land Use:** Urban – 22.3%; Rural – 77.7%
- ▶ **Roads and Parking Lots (% of drainage area):** 4.5
- ▶ **Estimated Population (2010):** 7,980
- ▶ **Estimated Households (2010):** 2,900 (6% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

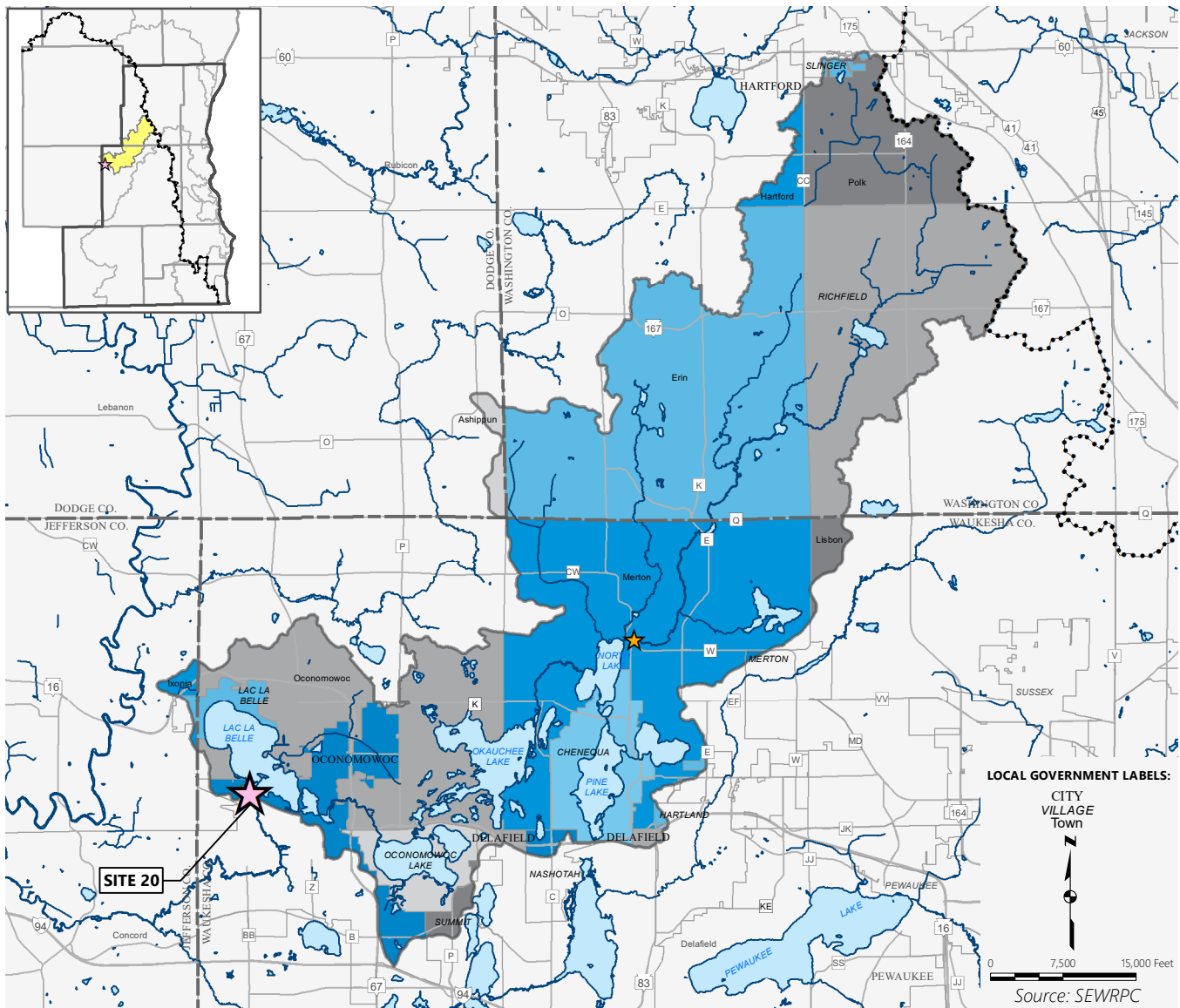
Map B.31

Site 20: Oconomowoc River Downstream Drainage Area – Existing Land Use



Map B.32

Site 20: Oconomowoc River Downstream Drainage Area

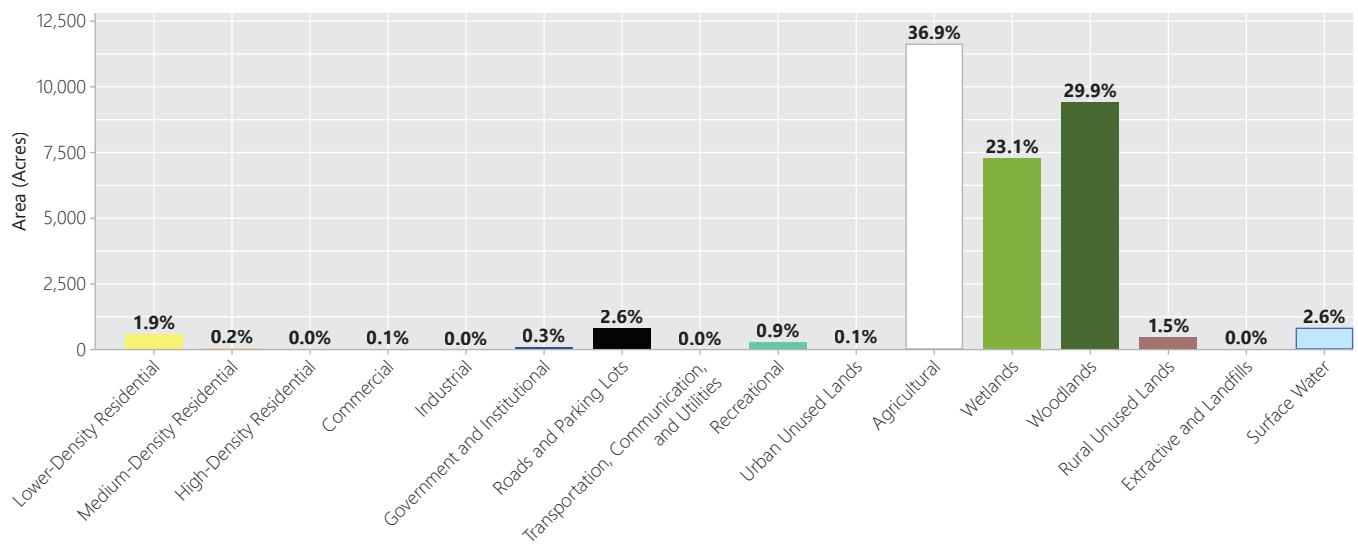
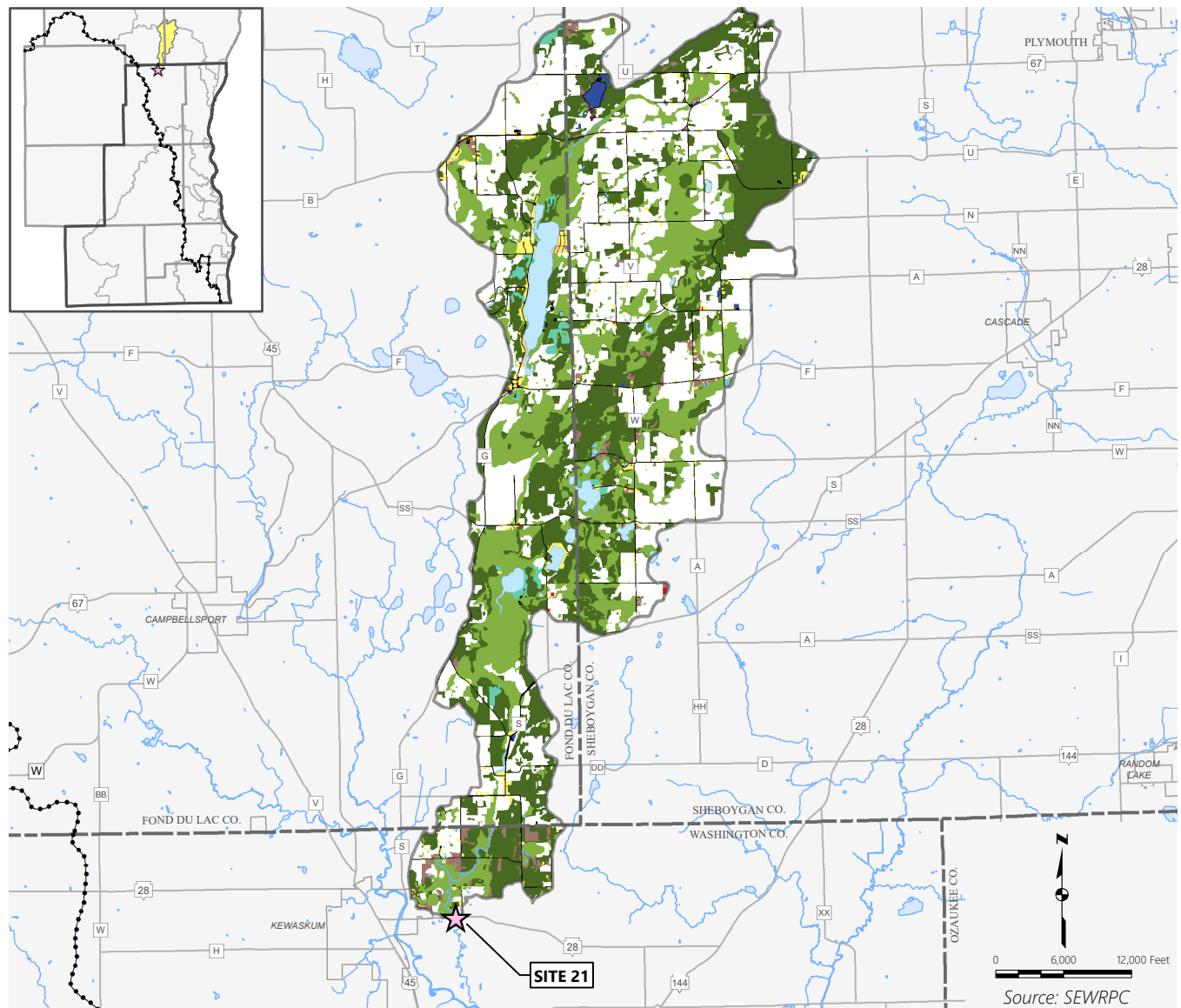


Facts at a Glance

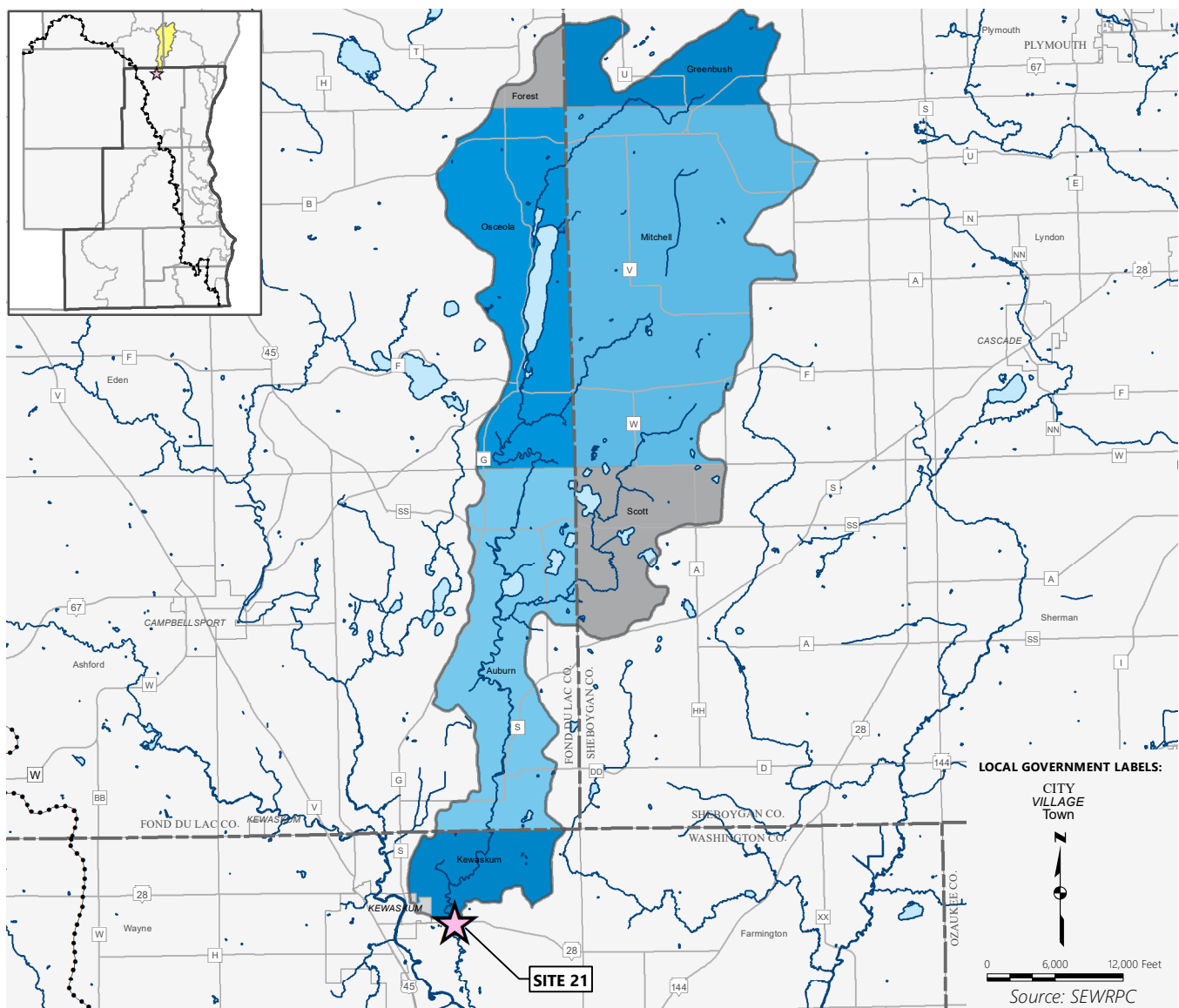
- ▶ **Drainage Area Size:** 100 square miles
- ▶ **Major Watershed:** Rock River
- ▶ **Land Use:** Urban – 26.4%; Rural – 73.6%
- ▶ **Roads and Parking Lots (% of drainage area):** 5.9
- ▶ **Estimated Population (2010):** 29,290
- ▶ **Estimated Households (2010):** 11,340 (44% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 18
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.33

Site 21: East Branch Milwaukee River Drainage Area – Existing Land Use



Map B.34
Site 21: East Branch Milwaukee River Drainage Area

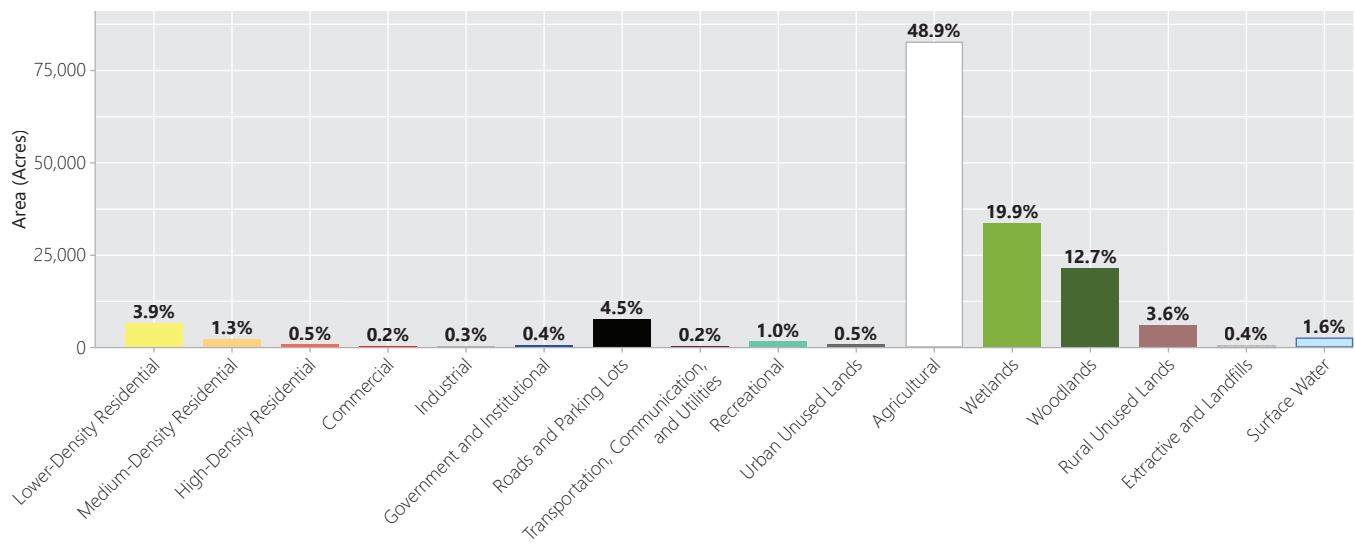
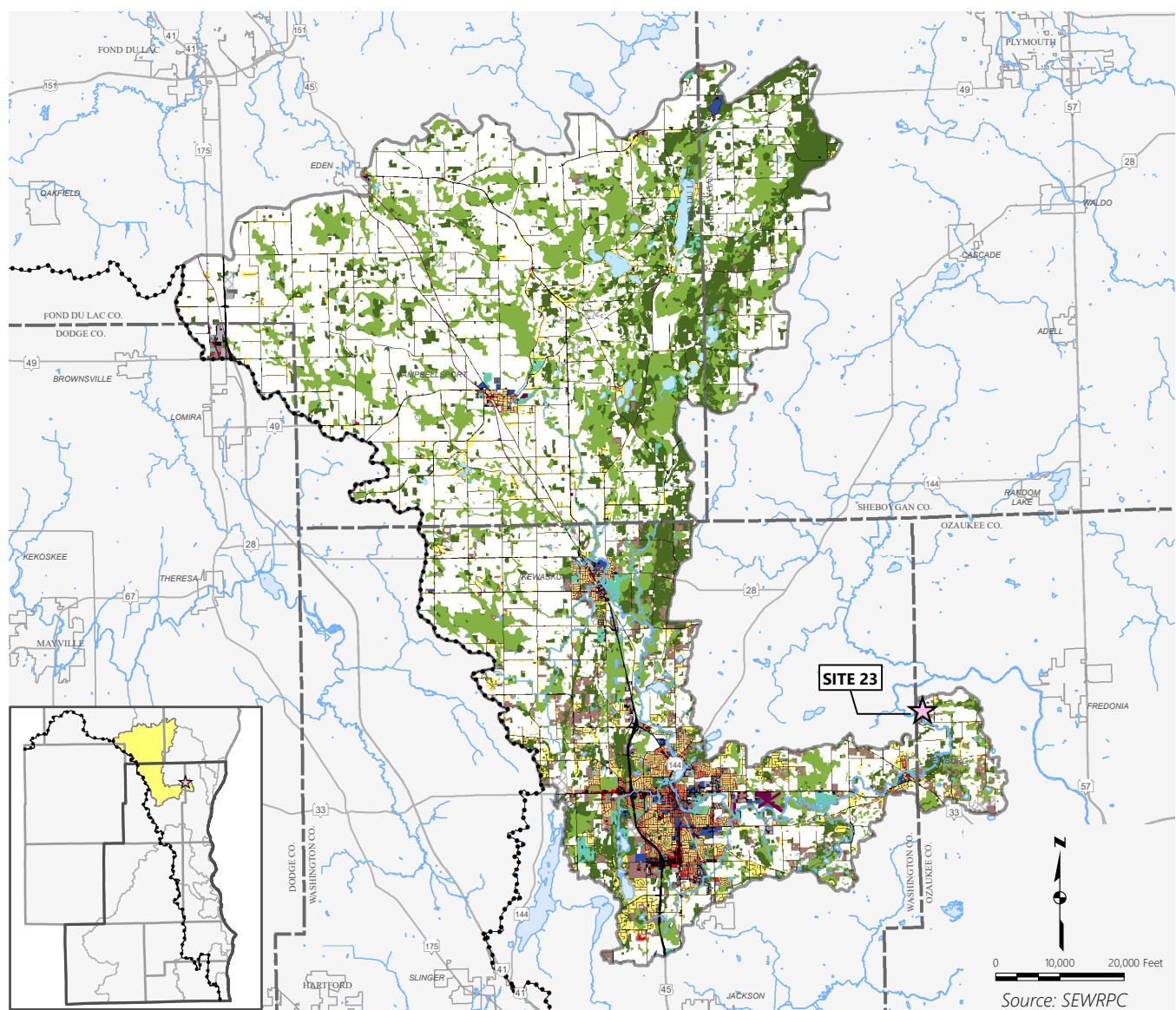


Facts at a Glance

- ▶ **Drainage Area Size:** 49 square miles
- ▶ **Major Watershed:** Milwaukee River
- ▶ **Land Use:** Urban – 6.0%; Rural – 94.0%
- ▶ **Roads and Parking Lots (% of drainage area):** 2.6
- ▶ **Estimated Population (2010):** 2,790
- ▶ **Estimated Households (2010):** 670 (0% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

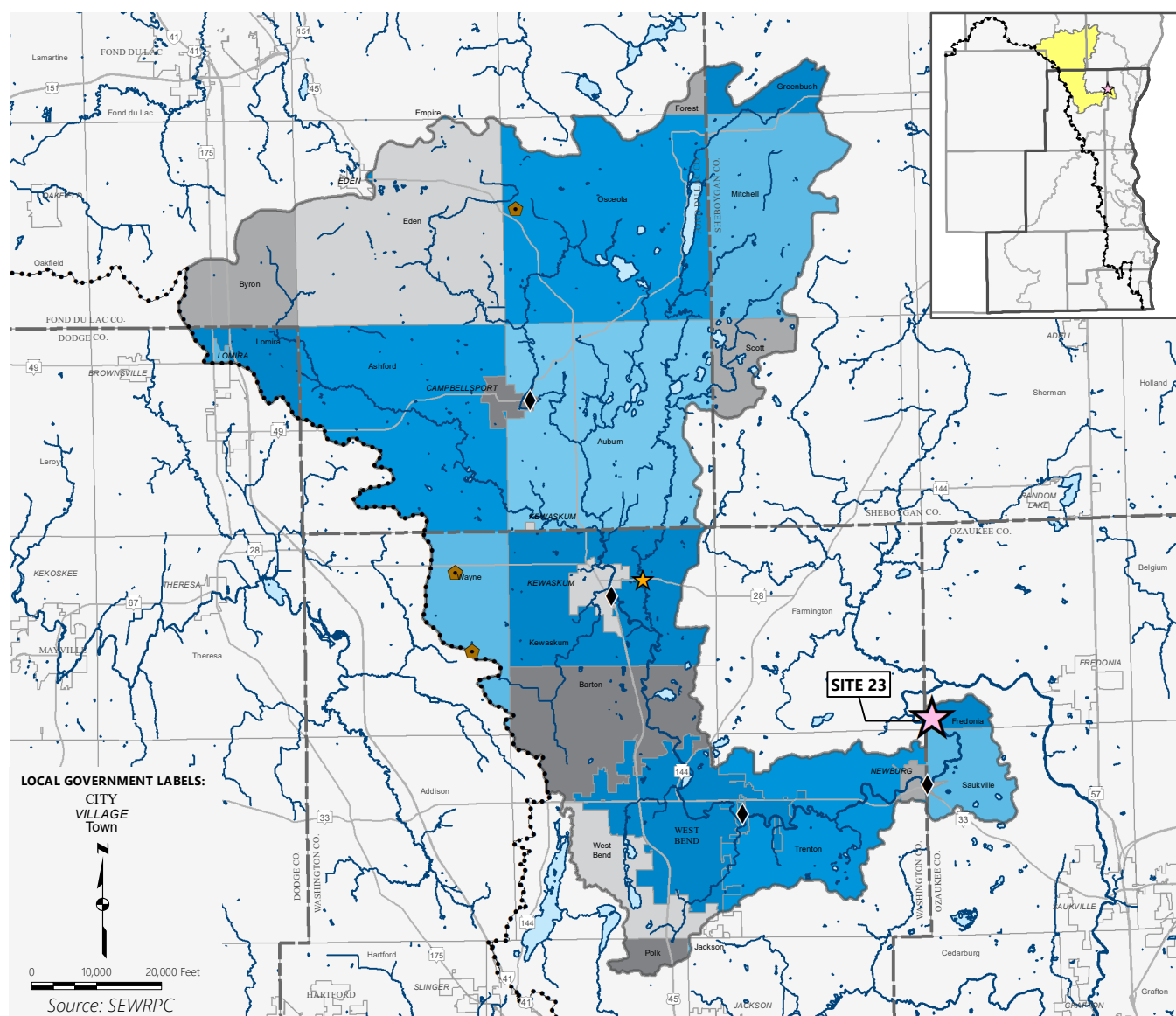
Map B.35

Site 23: Milwaukee River Downstream of Newburg Drainage Area – Existing Land Use



Map B.36

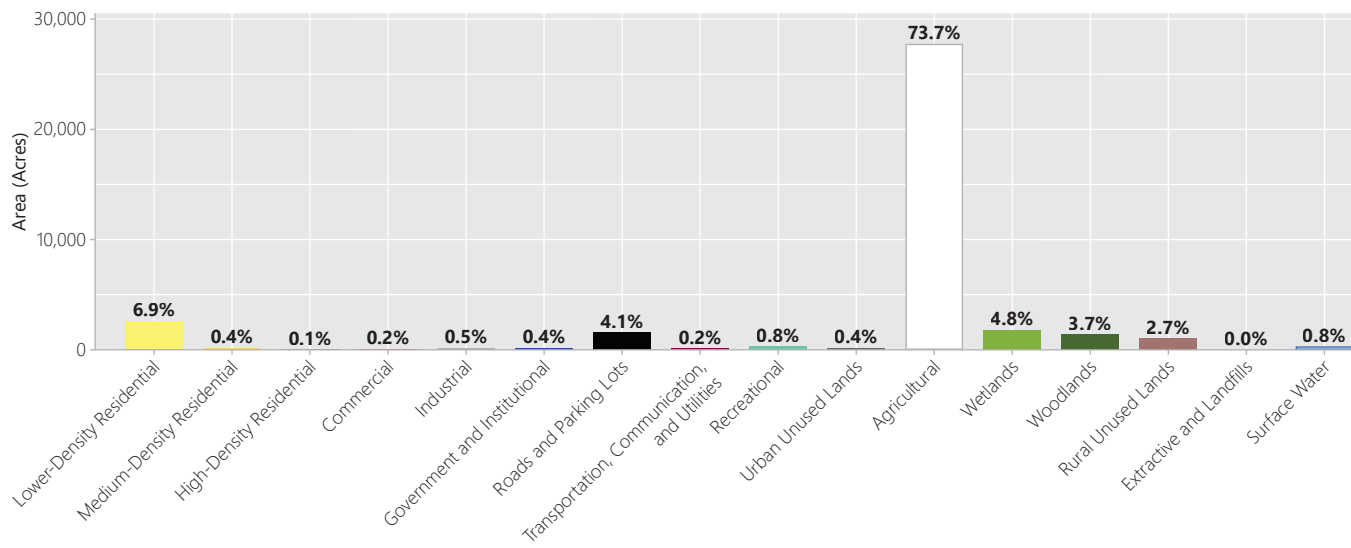
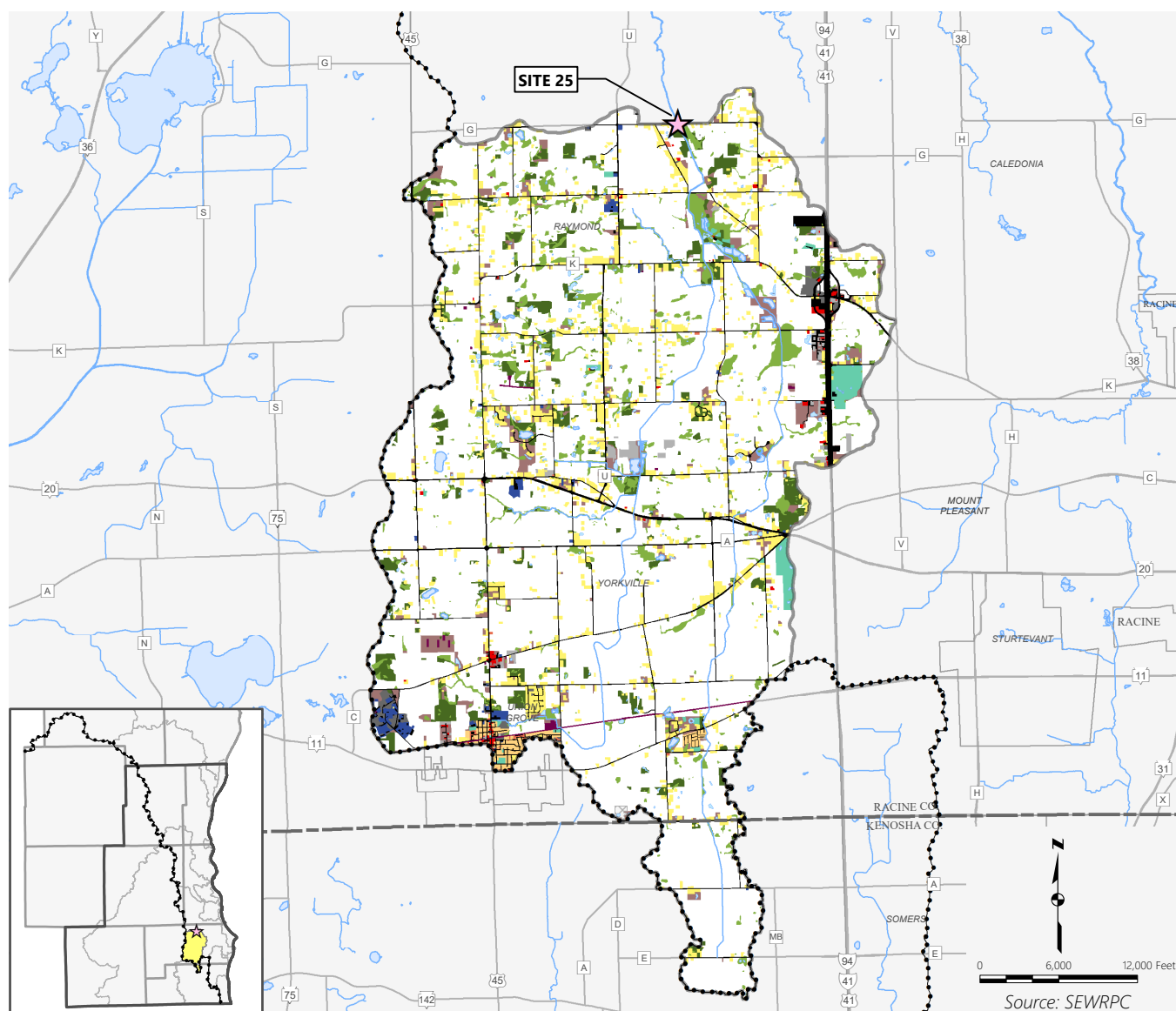
Site 23: Milwaukee River Downstream of Newburg Drainage Area



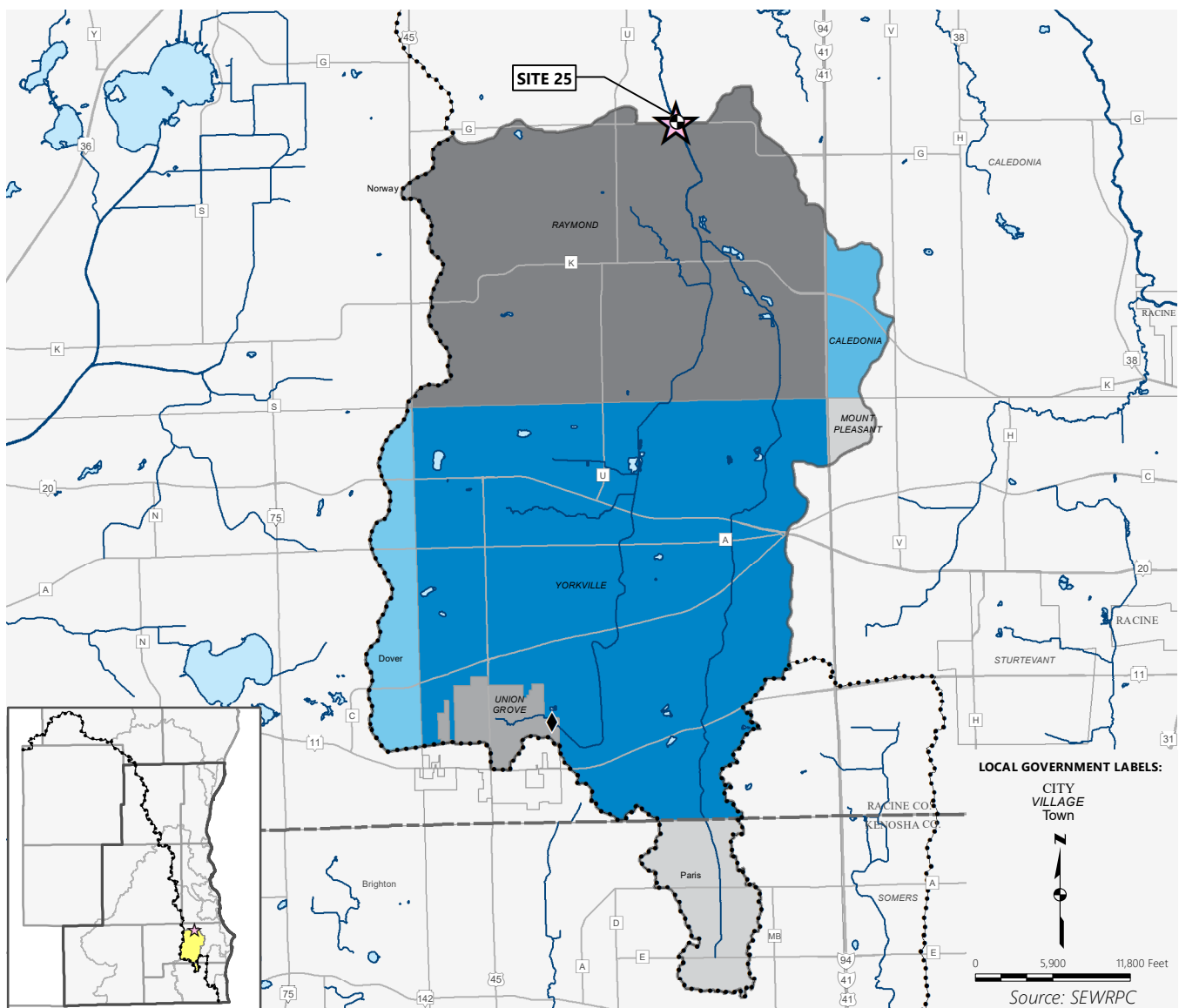
Facts at a Glance

- ▶ **Drainage Area Size:** 265 square miles
- ▶ **Major Watershed:** Milwaukee River
- ▶ **Land Use:** Urban – 12.9%; Rural – 87.1%
- ▶ **Roads and Parking Lots (% of drainage area):** 4.5
- ▶ **Estimated Population (2010):** 56,690
- ▶ **Estimated Households (2010):** 22,120 (73% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 21
- ▶ **Upstream Wastewater Treatment Facilities (◆):** 4
- ▶ **Concentrated Animal Feeding Operations (🏠):** 3
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.37
Site 25: Root River Canal Drainage Area – Existing Land Use



Map B.38
Site 25: Root River Canal Drainage Area

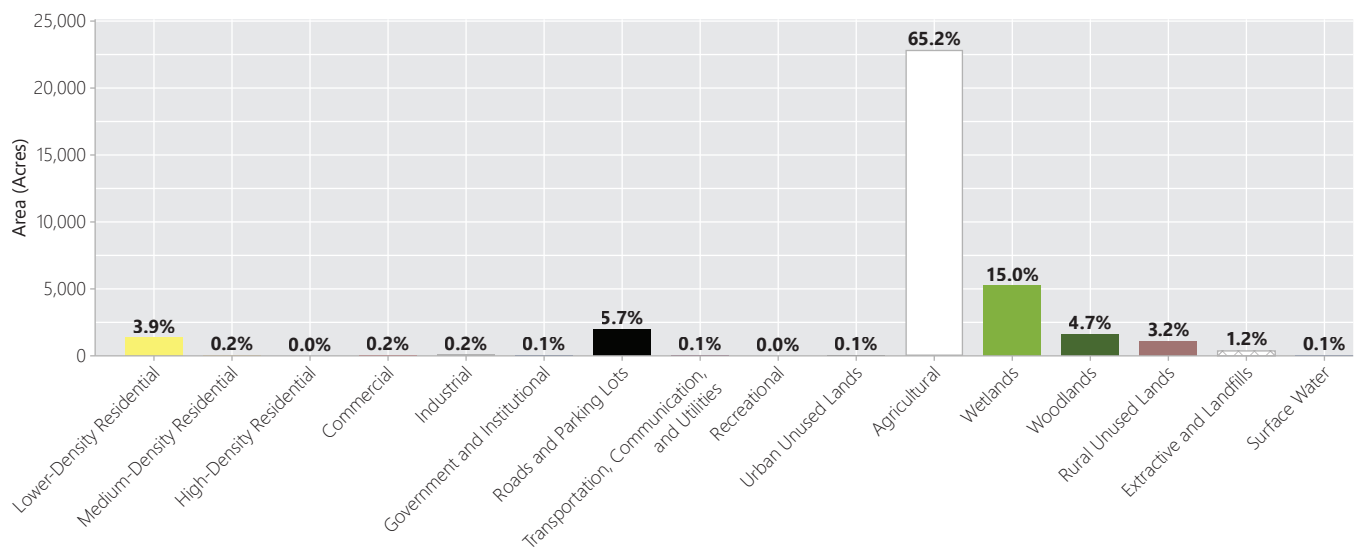
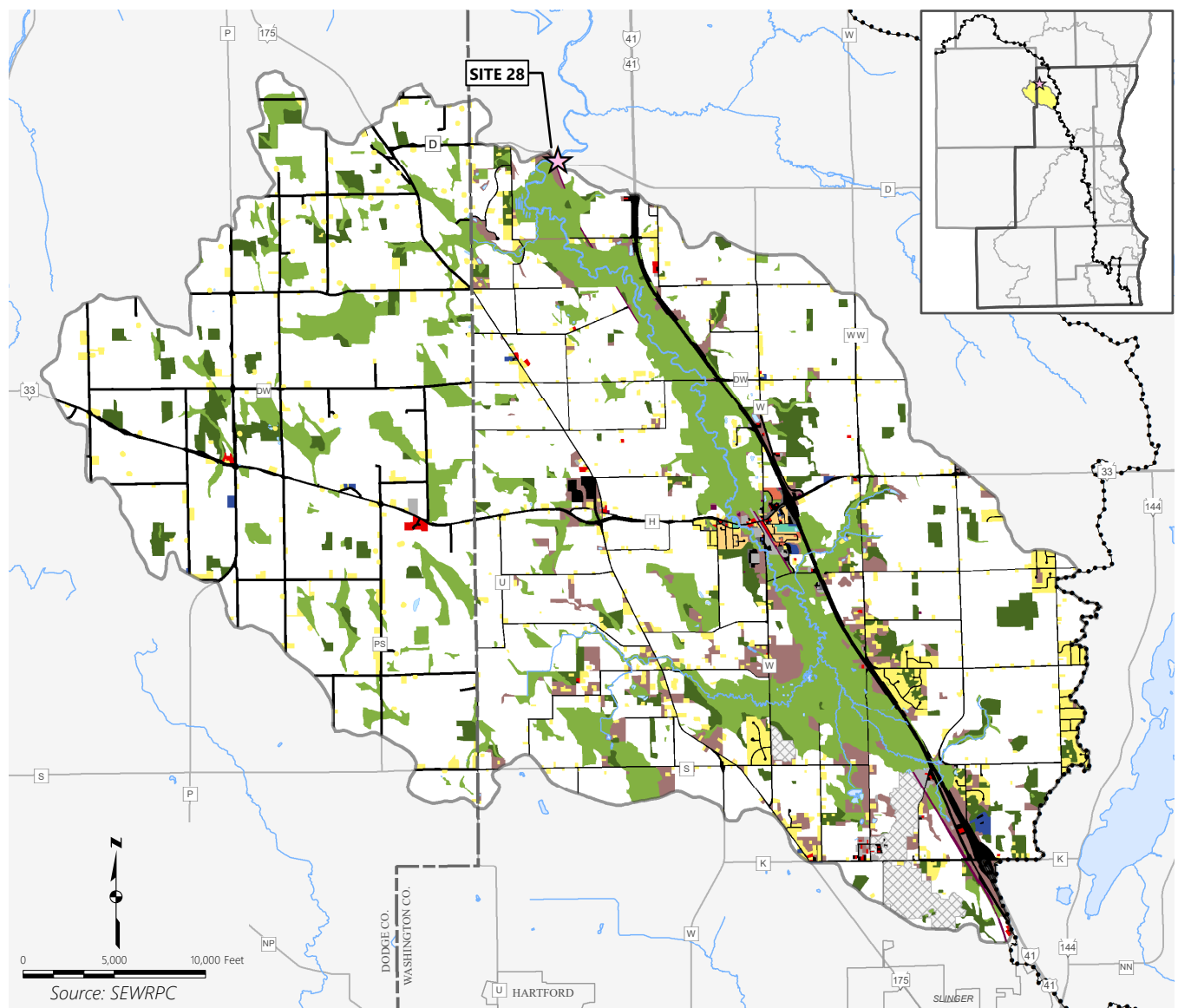


Facts at a Glance

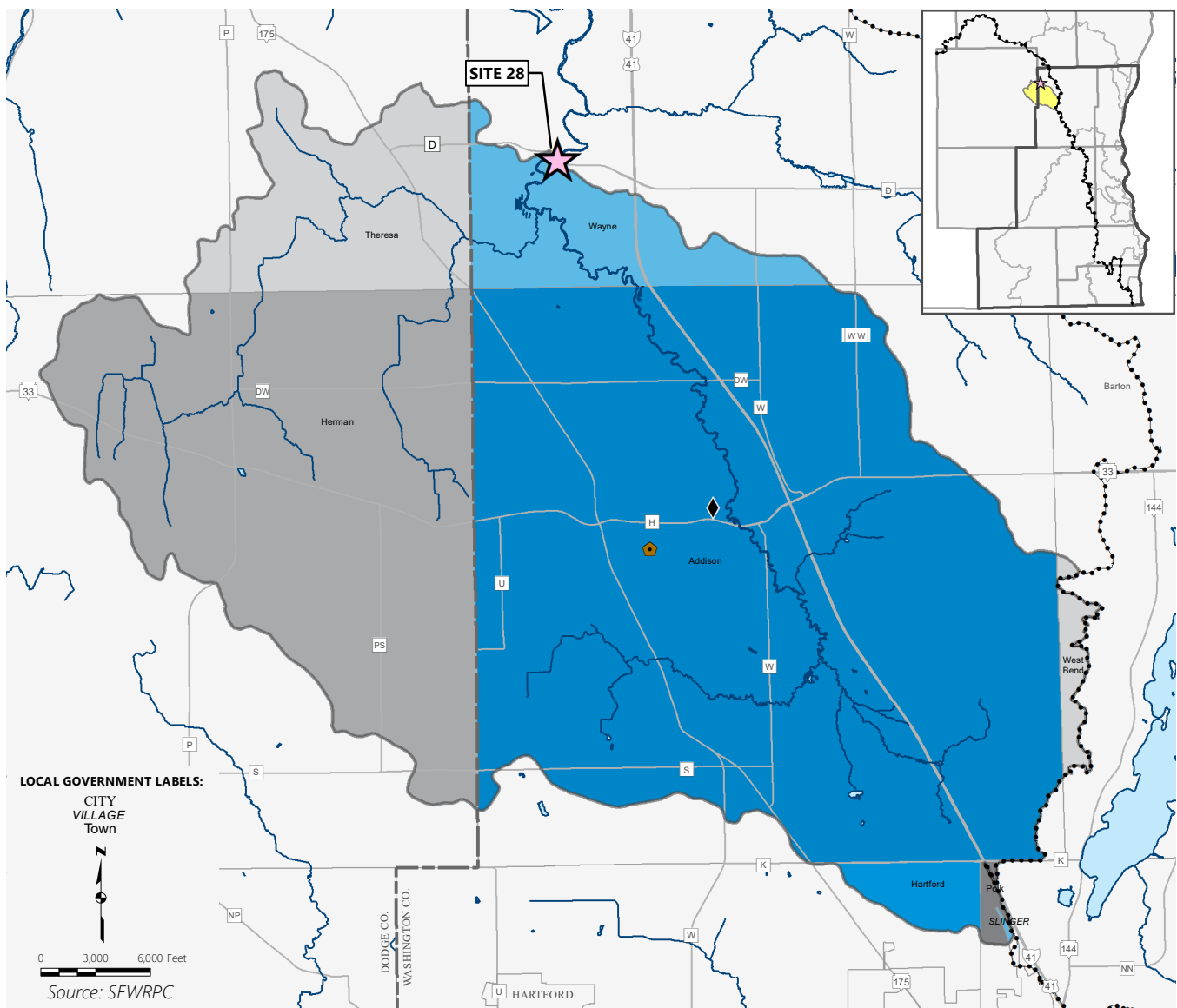
- ▶ **Drainage Area Size:** 59 square miles
- ▶ **Major Watershed:** Root River
- ▶ **Land Use:** Urban – 14.2%; Rural – 85.8%
- ▶ **Roads and Parking Lots (% of drainage area):** 4.1
- ▶ **Estimated Population (2010):** 8,080
- ▶ **Estimated Households (2010):** 2,880 (33% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (📍):** Root River Canal near Franklin (04087233)
- ▶ **Upstream Wastewater Treatment Facilities (🏭):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.39

Site 28: East Branch Rock River Drainage Area – Existing Land Use



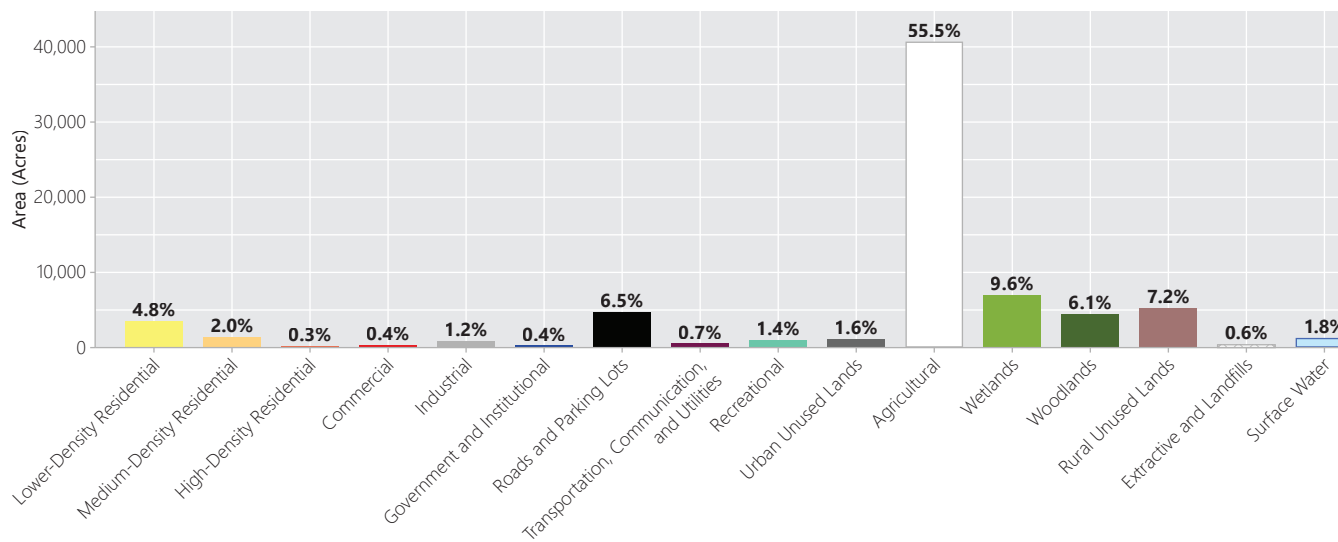
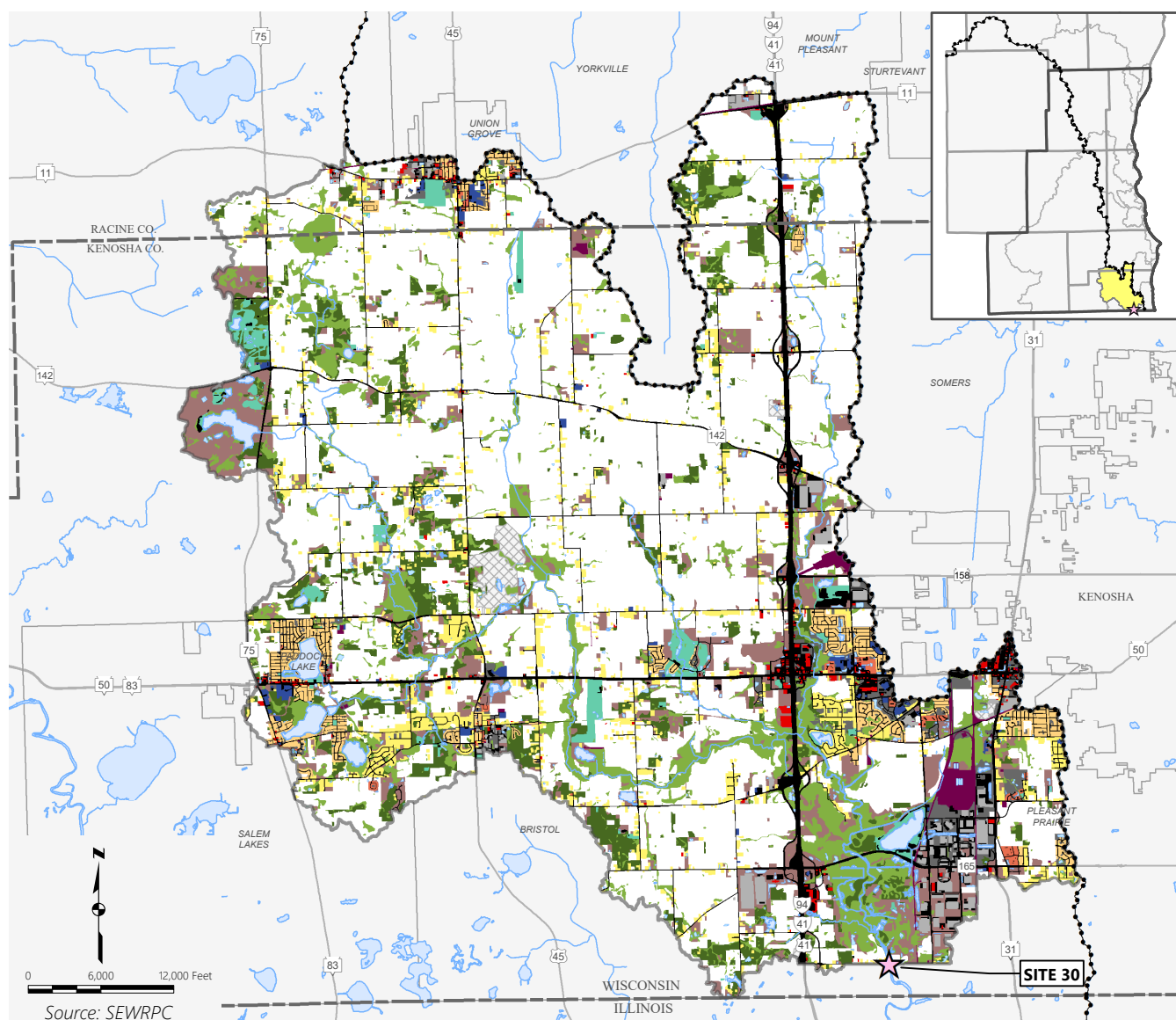
Map B.40
Site 28: East Branch Rock River Drainage Area



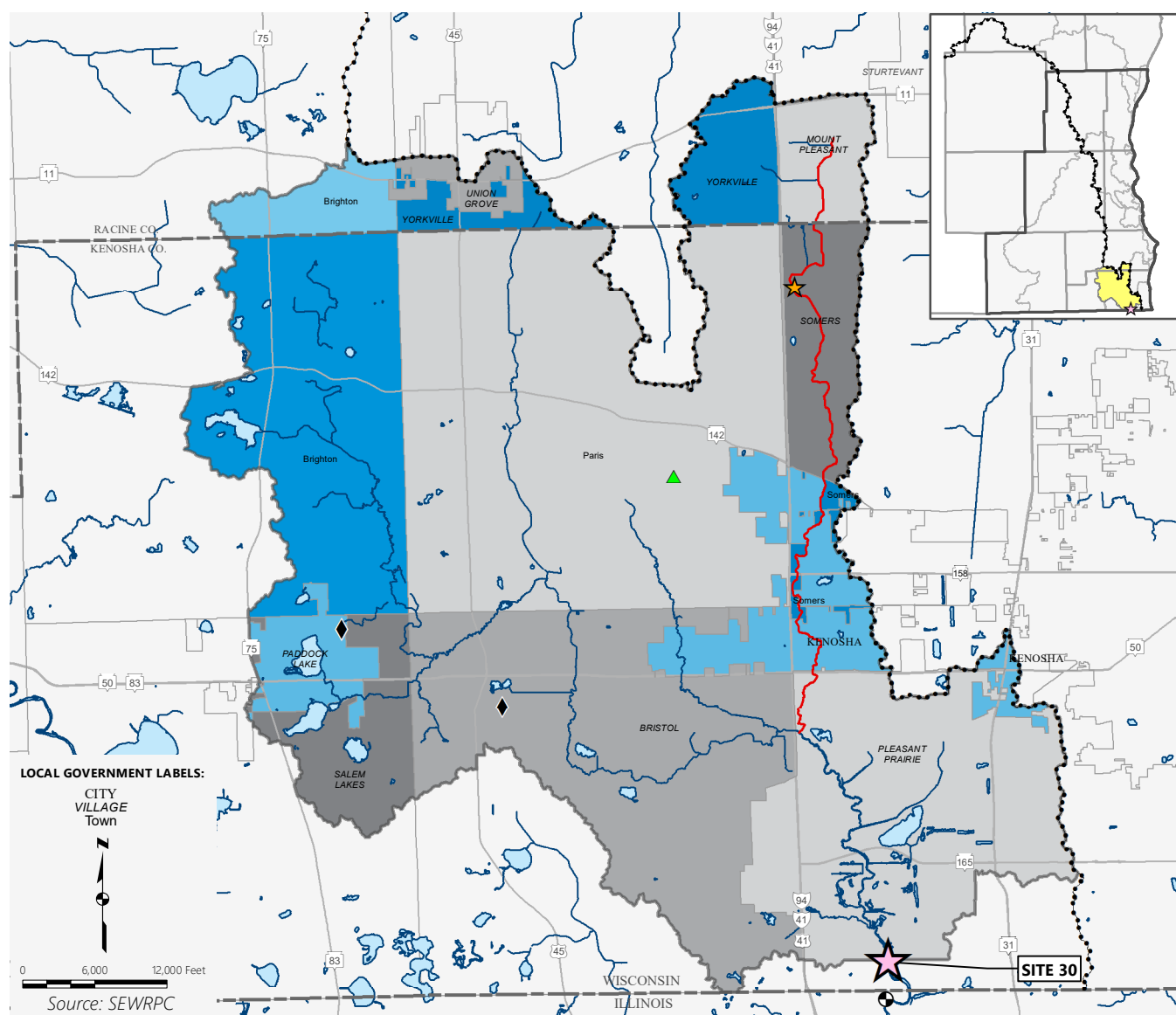
Facts at a Glance

- ▶ **Drainage Area Size:** 55 square miles
- ▶ **Major Watershed:** Rock River
- ▶ **Land Use:** Urban – 10.6%; Rural – 89.4%
- ▶ **Roads and Parking Lots (% of drainage area):** 5.7
- ▶ **Estimated Population (2010):** 4,310
- ▶ **Estimated Households (2010):** 1,610 (21% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Upstream Wastewater Treatment Facilities (♦):** 1
- ▶ **Concentrated Animal Feeding Operations (🏠):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.41 **Site 30: Des Plaines River Drainage Area – Existing Land Use**



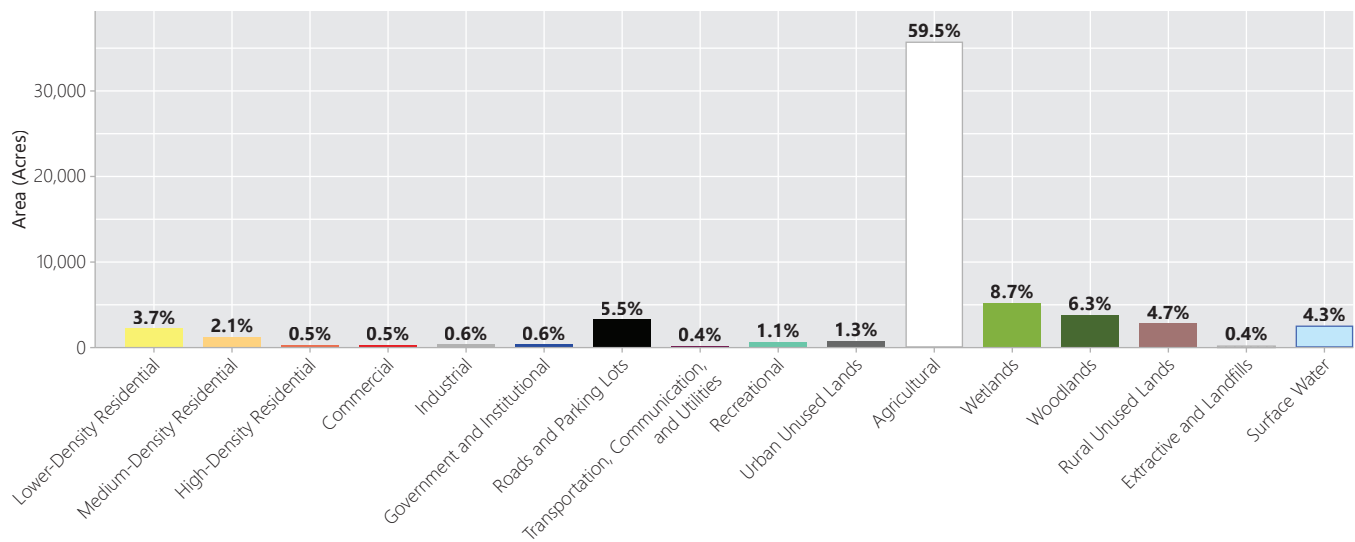
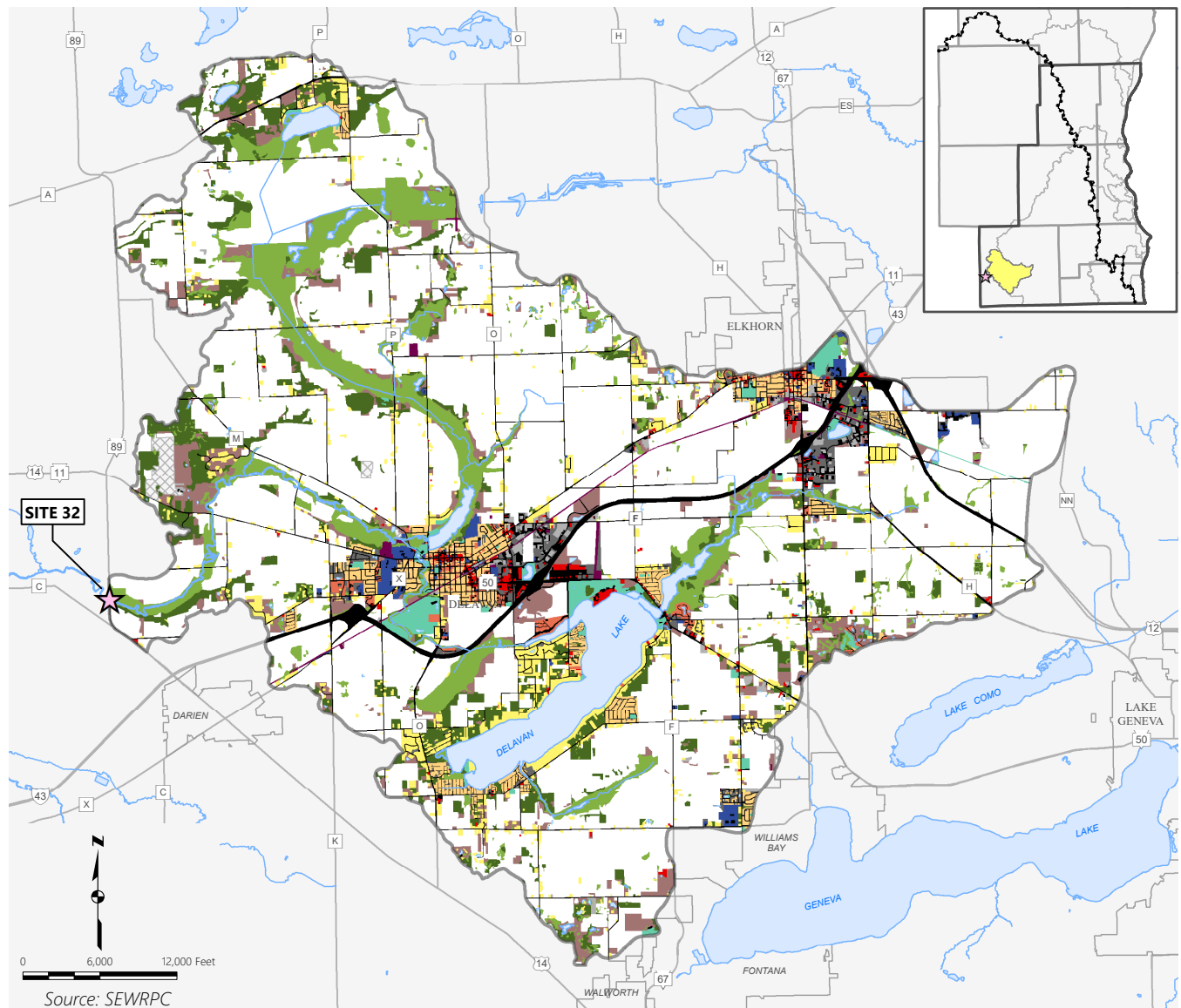
Map B.42
Site 30: Des Plaines River Drainage Area



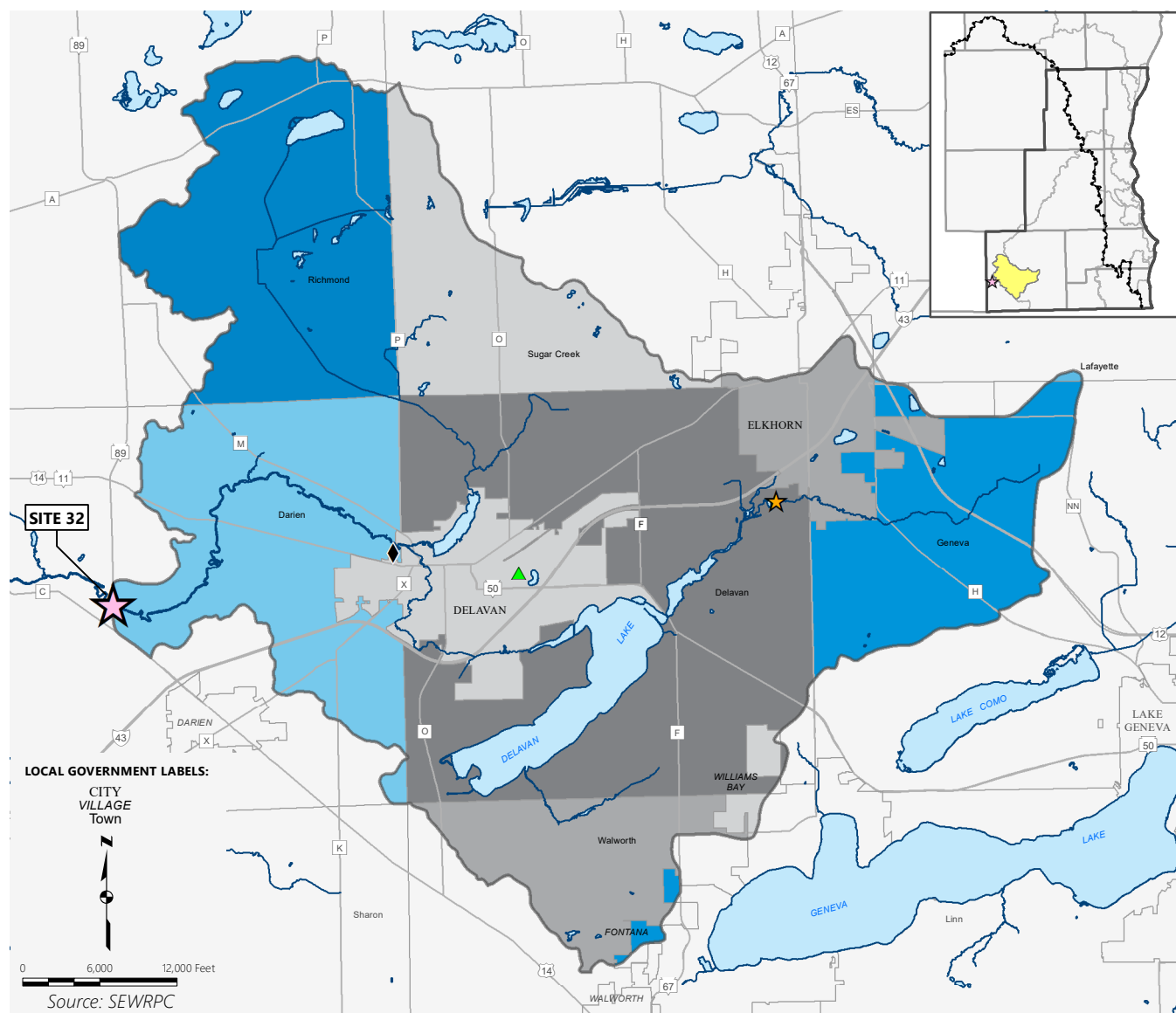
Facts at a Glance

- ▶ **Drainage Area Size:** 115 square miles
- ▶ **Major Watershed:** Des Plaines River
- ▶ **Land Use:** Urban – 19.2%; Rural – 80.8%
- ▶ **Roads and Parking Lots (% of drainage area):** 6.5
- ▶ **Estimated Population (2010):** 27,850
- ▶ **Estimated Households (2010):** 10,170 (80% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgauge (📍):** Des Plaines River at Russell, IL (05527800)
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 15
- ▶ **Upstream Wastewater Treatment Facilities (♦):** 2
- ▶ **Upstream Industrial Wastewater Dischargers (▲):** 1
- ▶ **Chloride-Impaired Waters:**
(—) Chronic Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan and Groundwater

Map B.43
Site 32: Turtle Creek Drainage Area – Existing Land Use



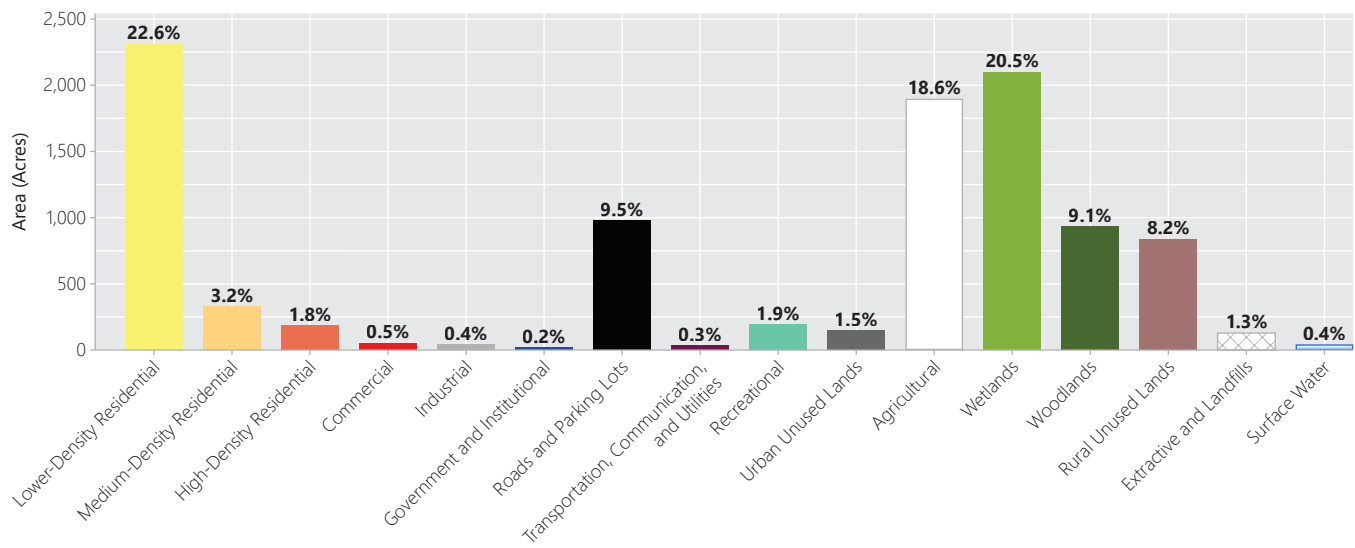
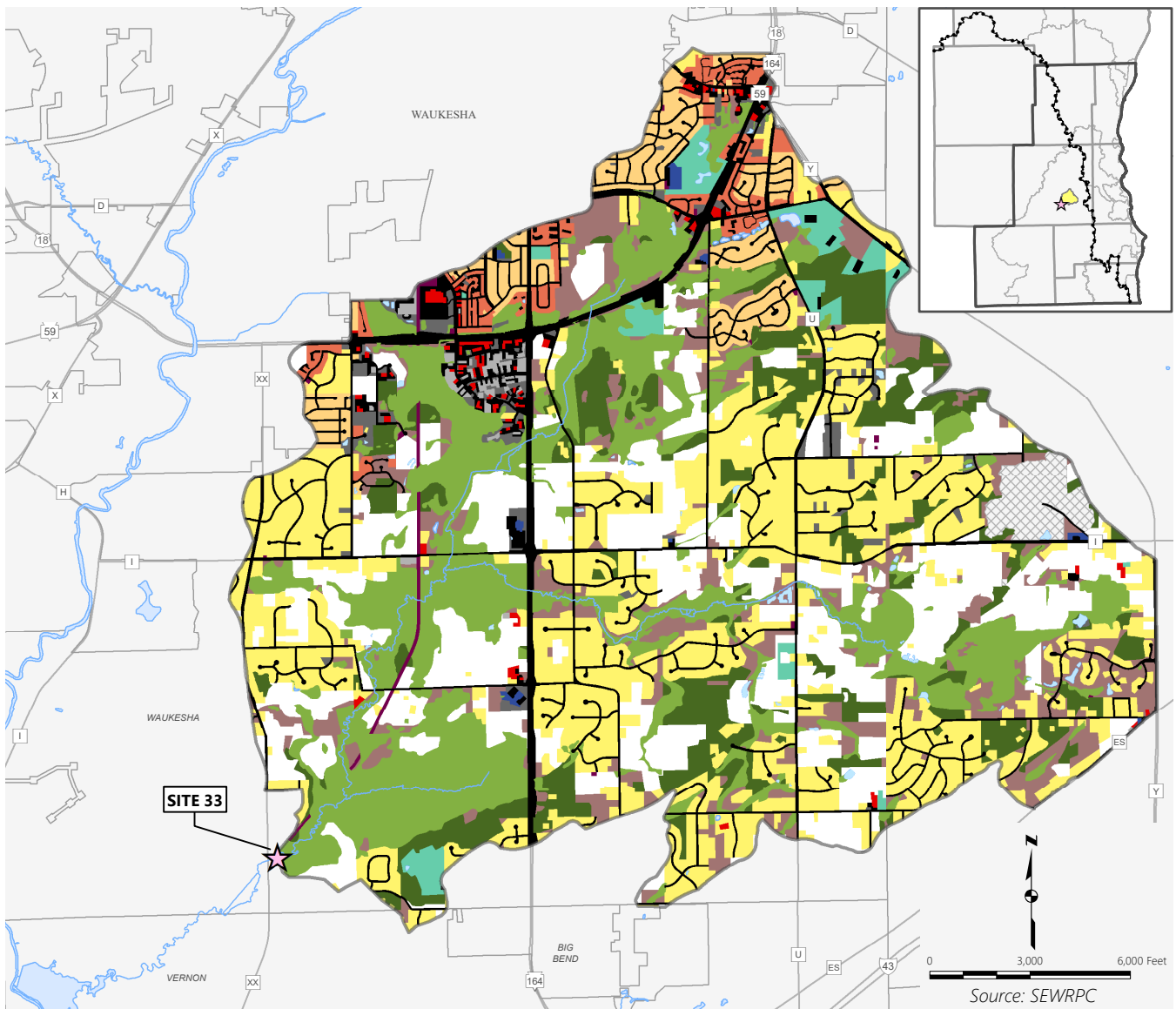
Map B.44
Site 32: Turtle Creek Drainage Area



Facts at a Glance

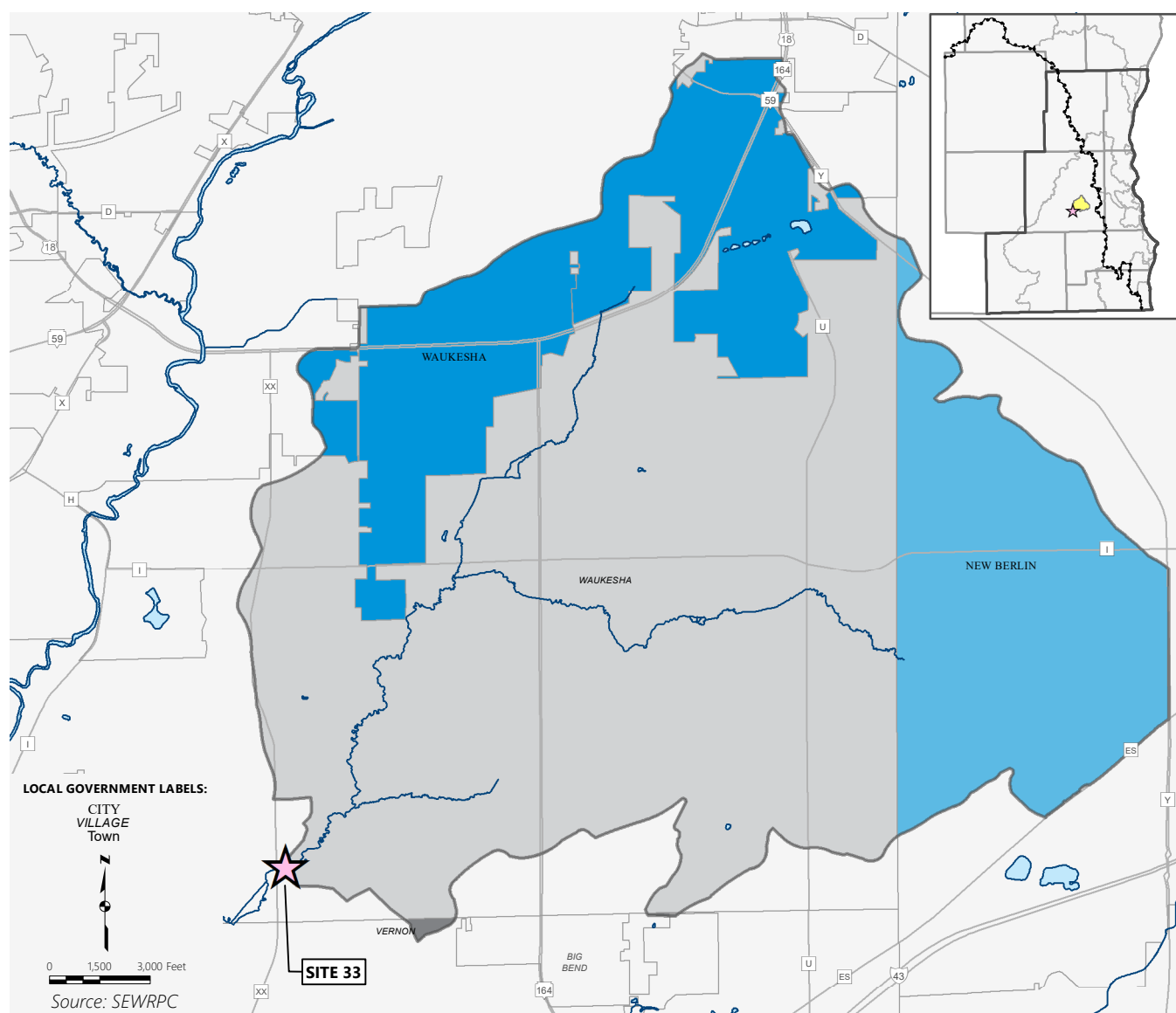
- ▶ **Drainage Area Size:** 94 square miles
- ▶ **Major Watershed:** Rock River
- ▶ **Land Use:** Urban – 16.2%; Rural – 83.8%
- ▶ **Roads and Parking Lots (% of drainage area):** 5.5
- ▶ **Estimated Population (2010):** 20,720
- ▶ **Estimated Households (2010):** 8,020 (84% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgauge:** None
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 16
- ▶ **Upstream Wastewater Treatment Facilities (◆):** 1
- ▶ **Upstream Industrial Wastewater Dischargers (▲):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.45
Site 33: Pebble Brook Drainage Area – Existing Land Use



Map B.46

Site 33: Pebble Brook Drainage Area

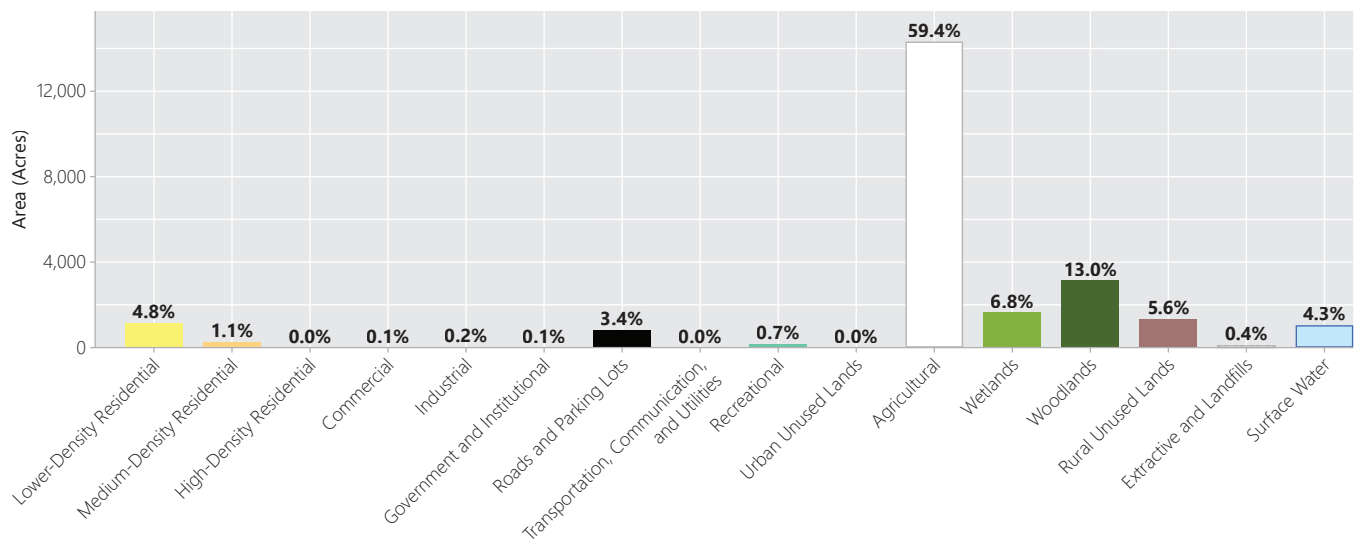
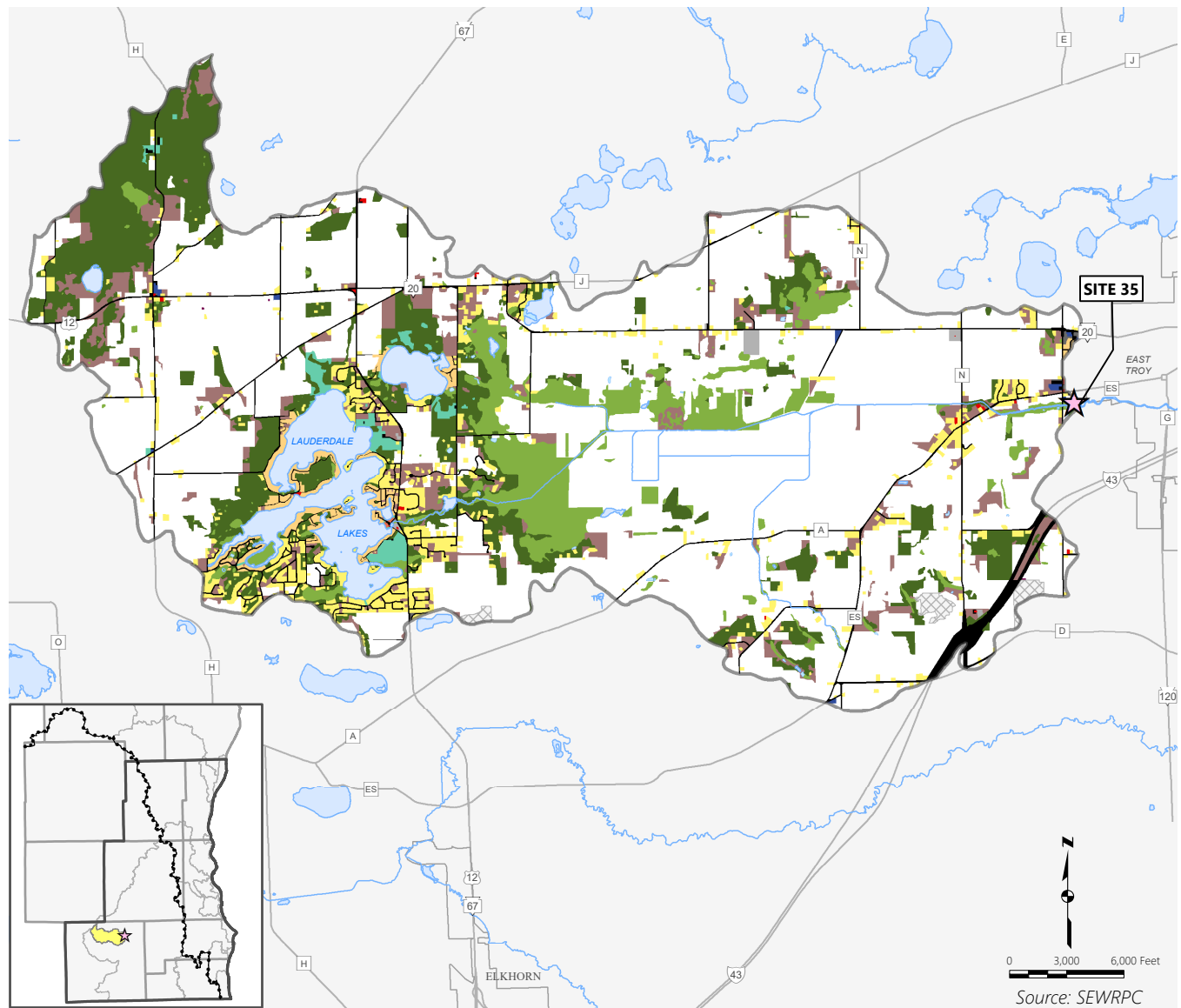


Facts at a Glance

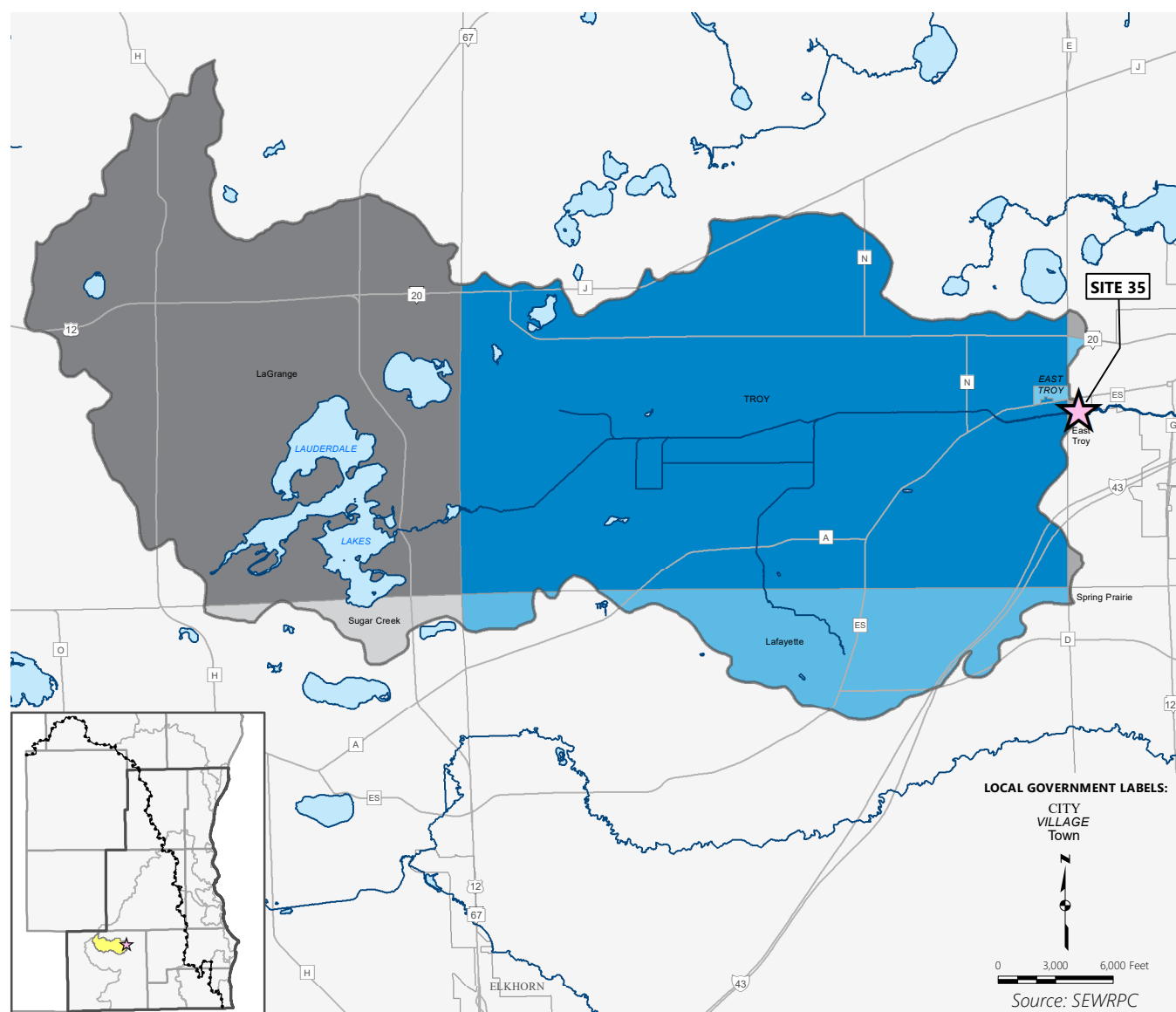
- ▶ **Drainage Area Size:** 16 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 41.9%; Rural – 58.1%
- ▶ **Roads and Parking Lots (% of drainage area):** 9.5
- ▶ **Estimated Population (2010):** 13,420
- ▶ **Estimated Households (2010):** 5,170 (67% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater and Lake Michigan (City of Waukesha converted to Lake Michigan supply in October 2023)

Map B.47

Site 35: Honey Creek Upstream of East Troy Drainage Area – Existing Land Use



Map B.48
Site 35: Honey Creek Upstream of East Troy Drainage Area

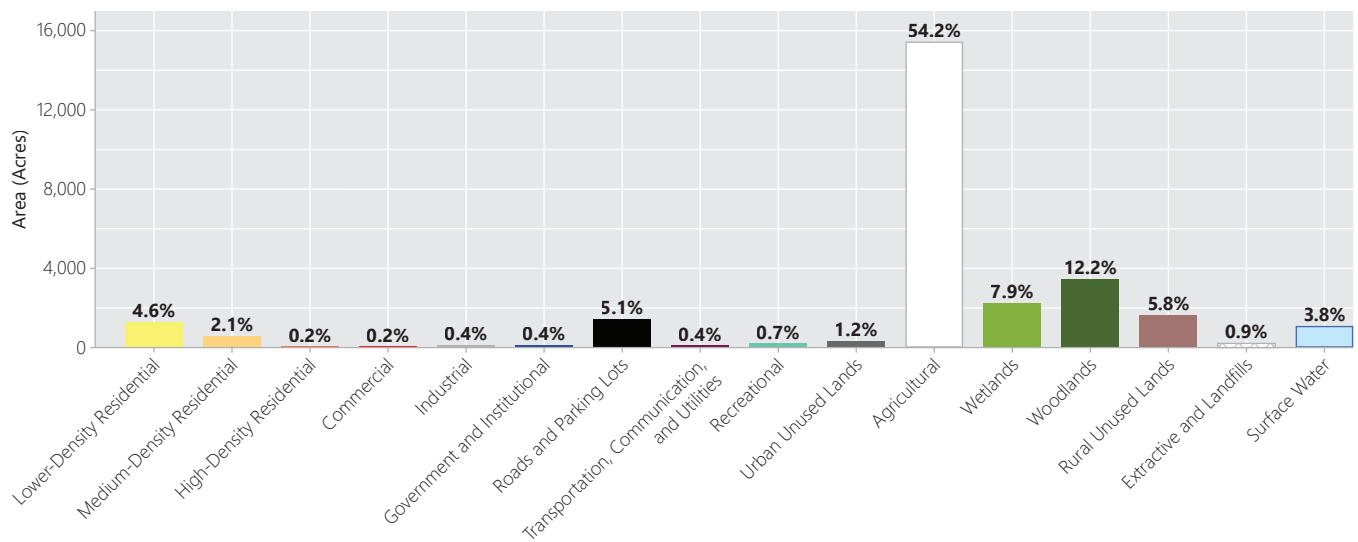
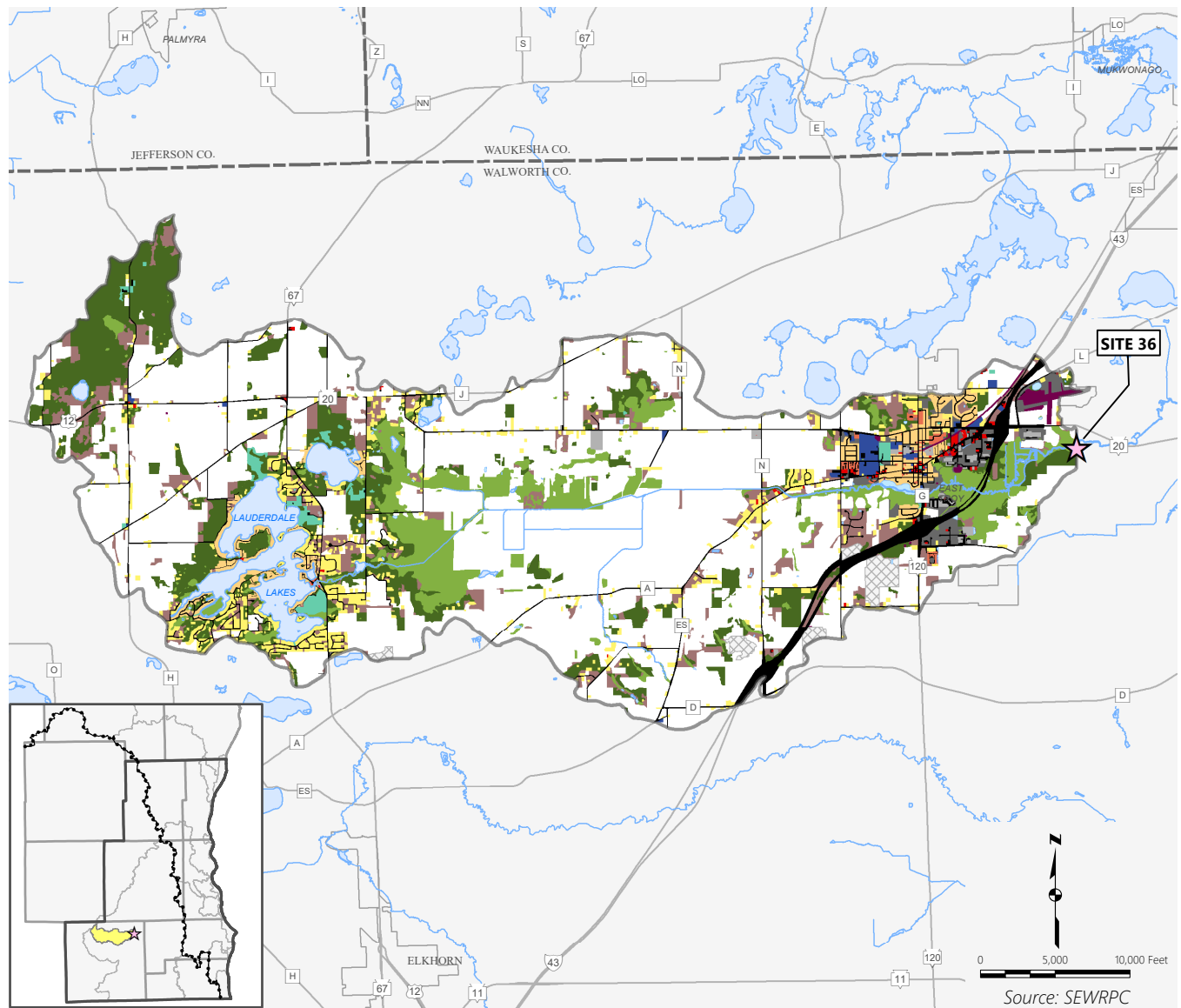


Facts at a Glance

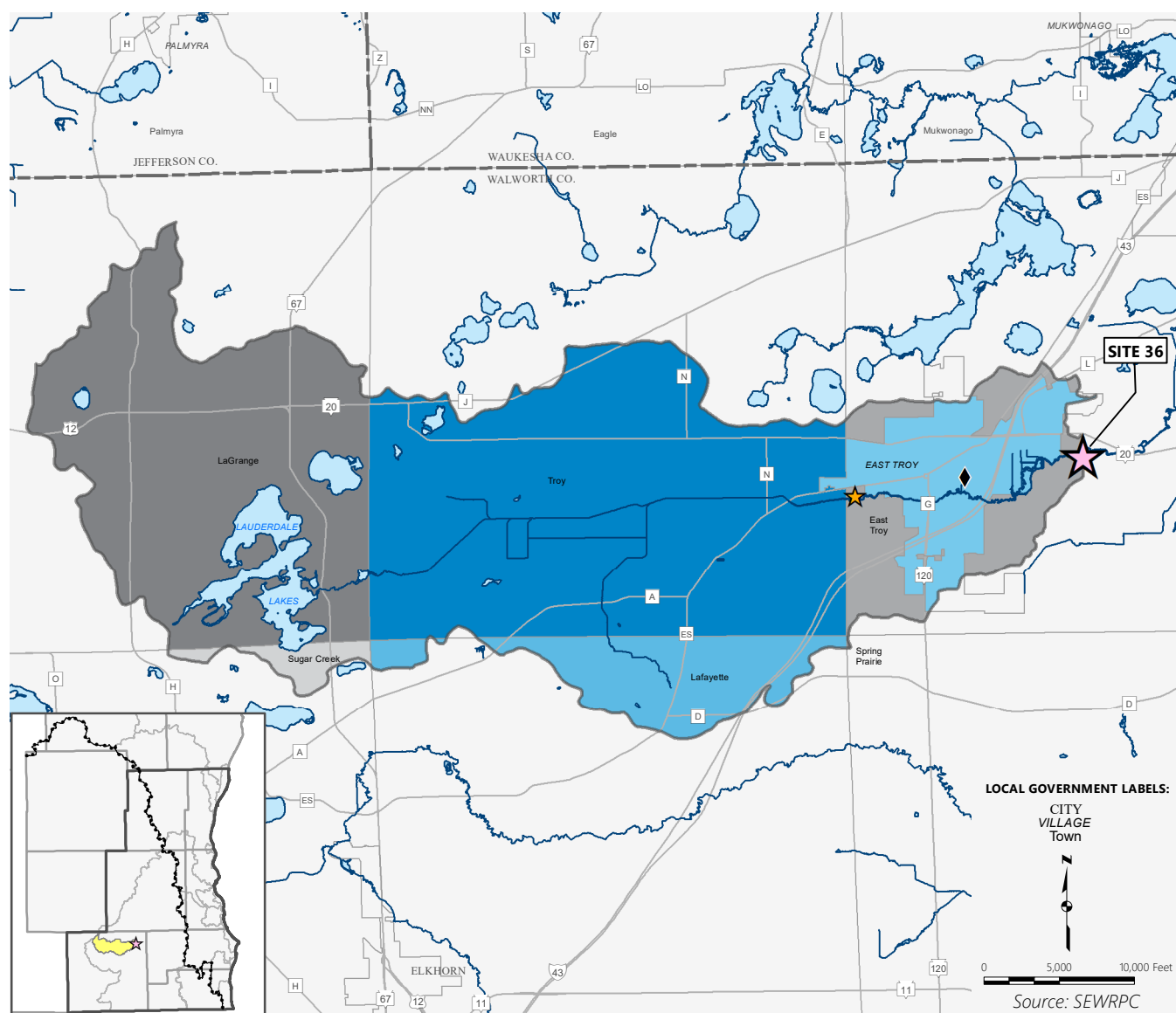
- ▶ **Drainage Area Size:** 38 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 10.4%; Rural – 89.6%
- ▶ **Roads and Parking Lots (% of drainage area):** 3.4
- ▶ **Estimated Population (2010):** 2,910
- ▶ **Estimated Households (2010):** 1,140 (0% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgauge:** None
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.49

Site 36: Honey Creek Downstream of East Troy Drainage Area – Existing Land Use



Map B.50
Site 36: Honey Creek Downstream of East Troy Drainage Area

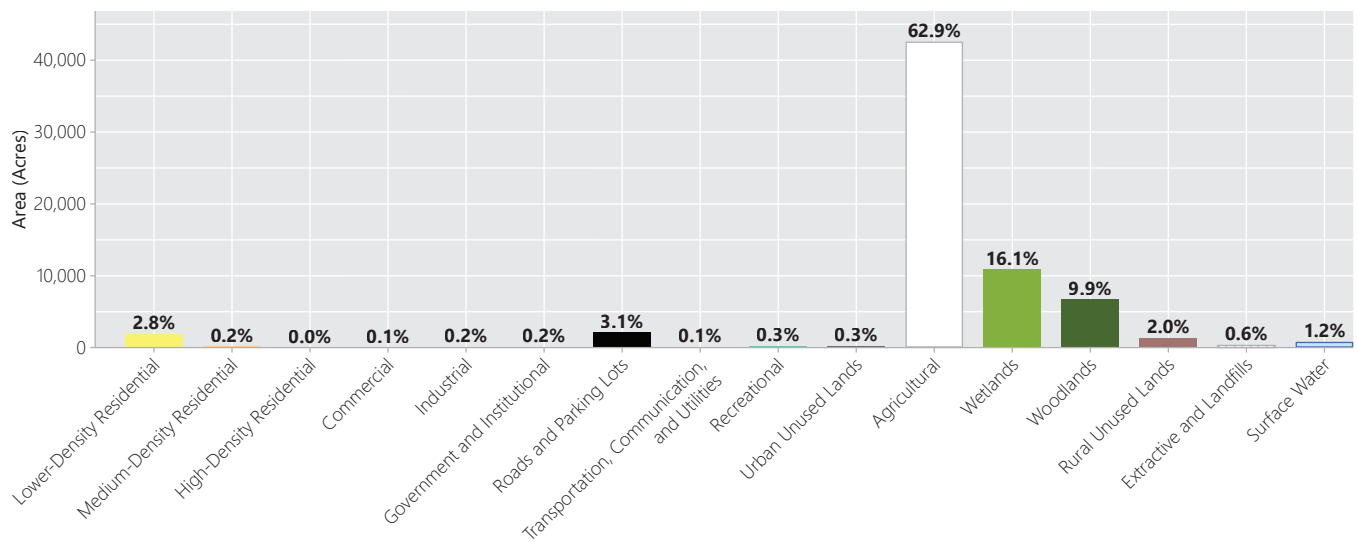
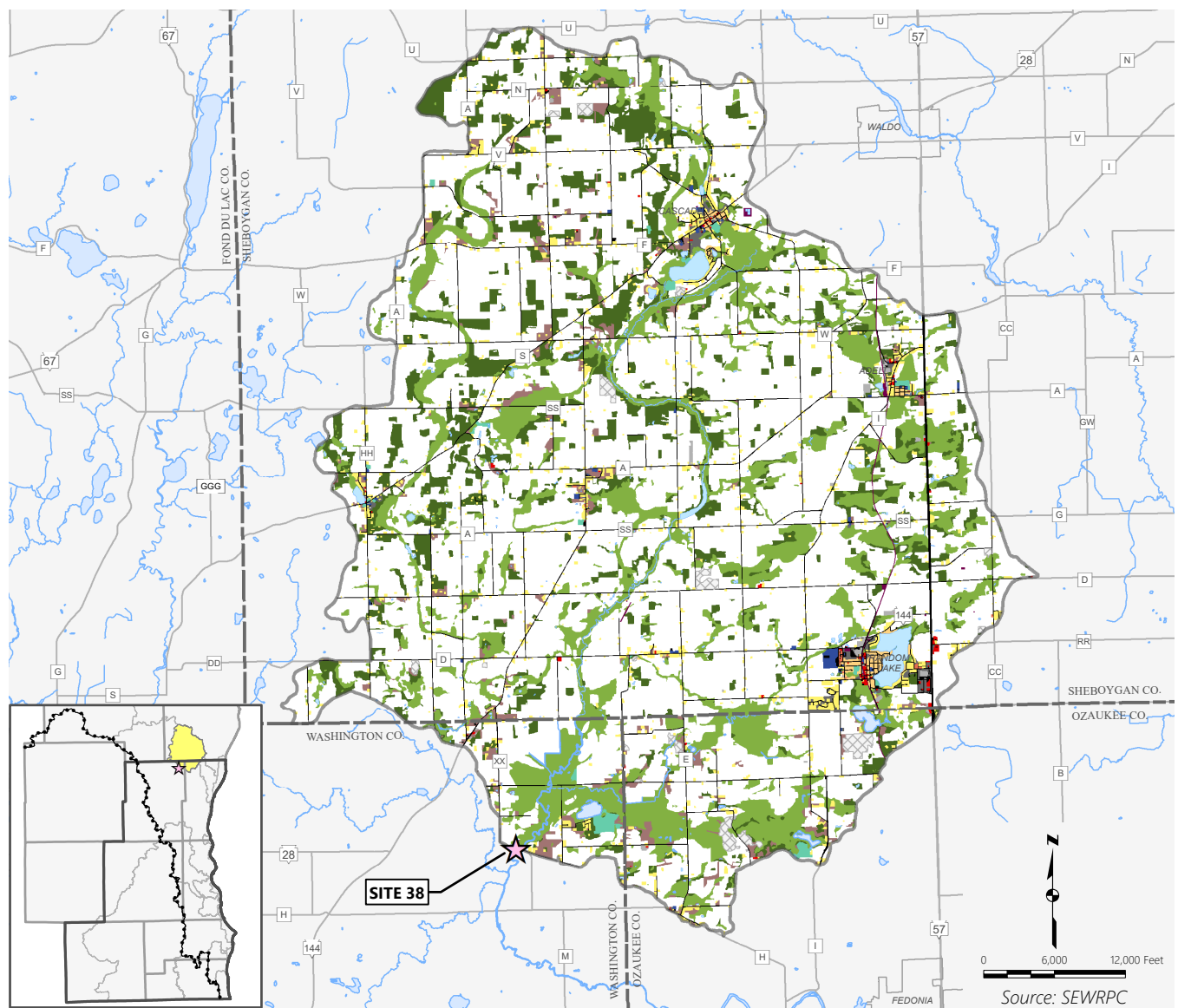


Facts at a Glance

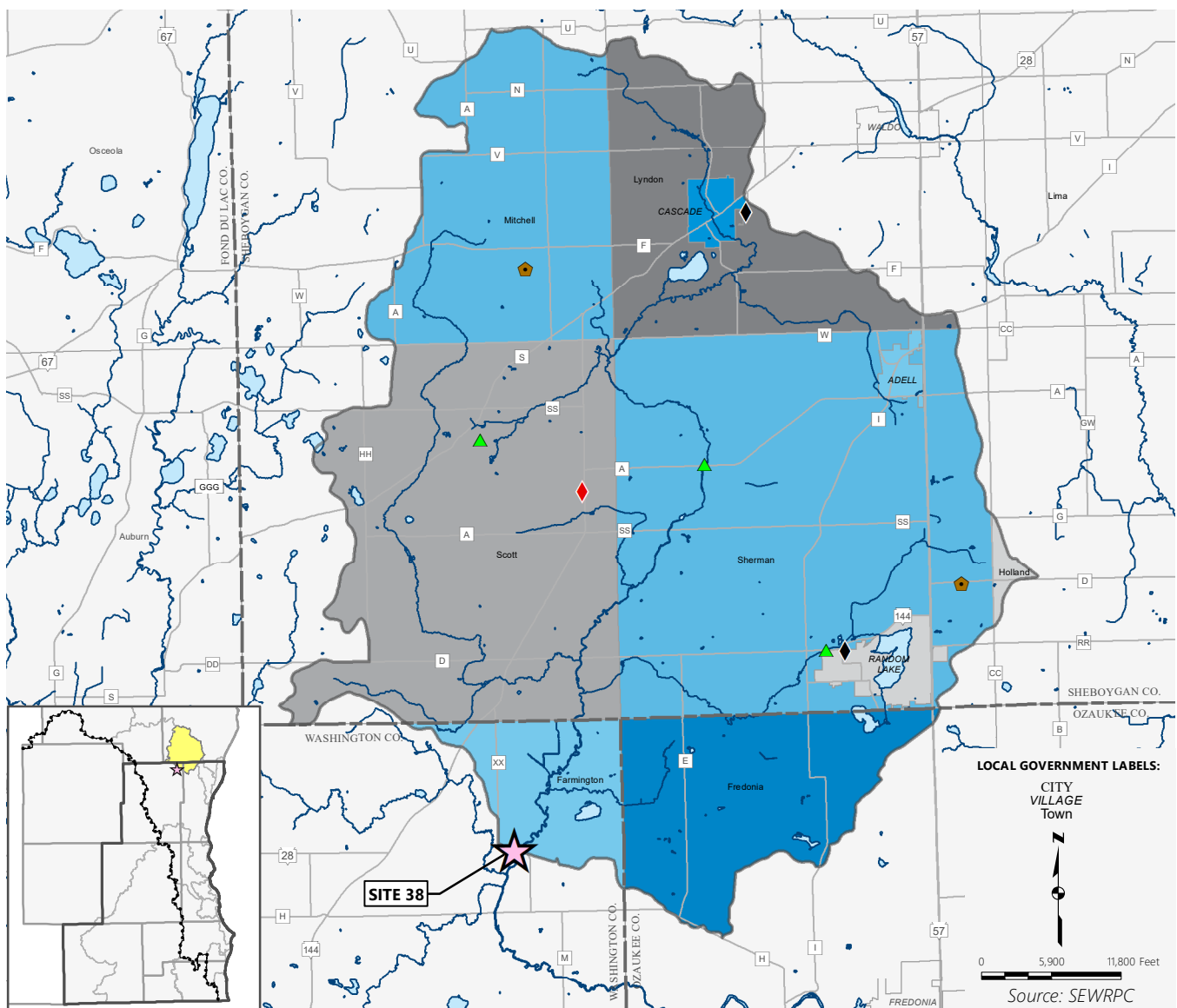
- ▶ **Drainage Area Size:** 45 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 15.3%; Rural – 84.7%
- ▶ **Roads and Parking Lots (% of drainage area):** 5.1
- ▶ **Estimated Population (2010):** 7,490
- ▶ **Estimated Households (2010):** 2,980 (60% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 35
- ▶ **Upstream Wastewater Treatment Facilities (◆):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.51

Site 38: North Branch Milwaukee River Drainage Area – Existing Land Use



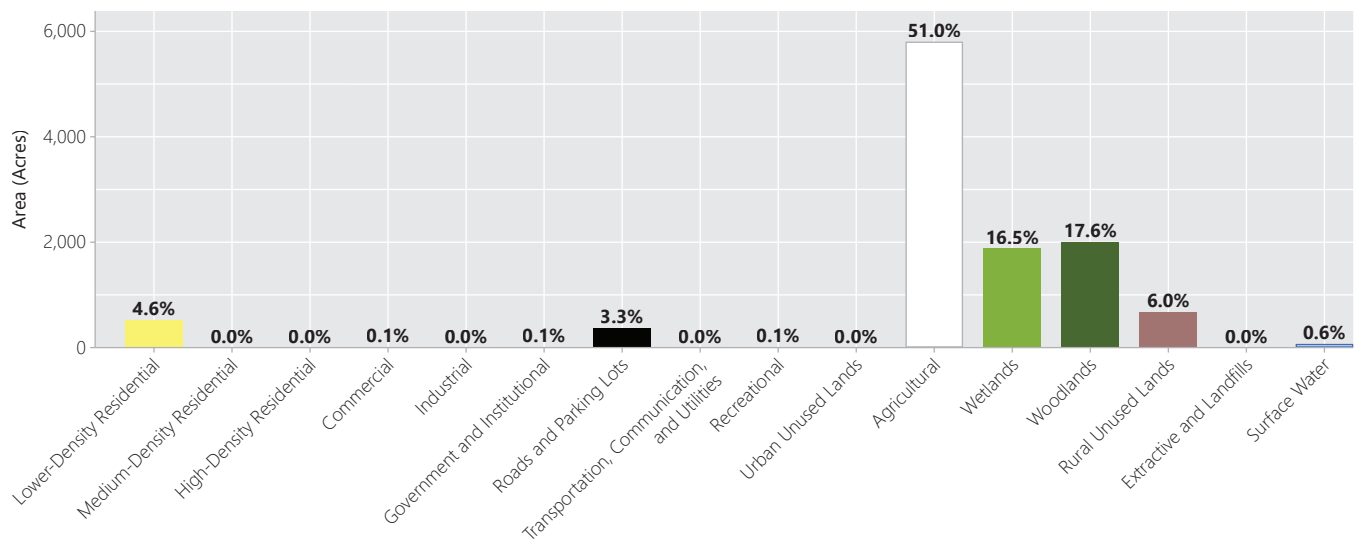
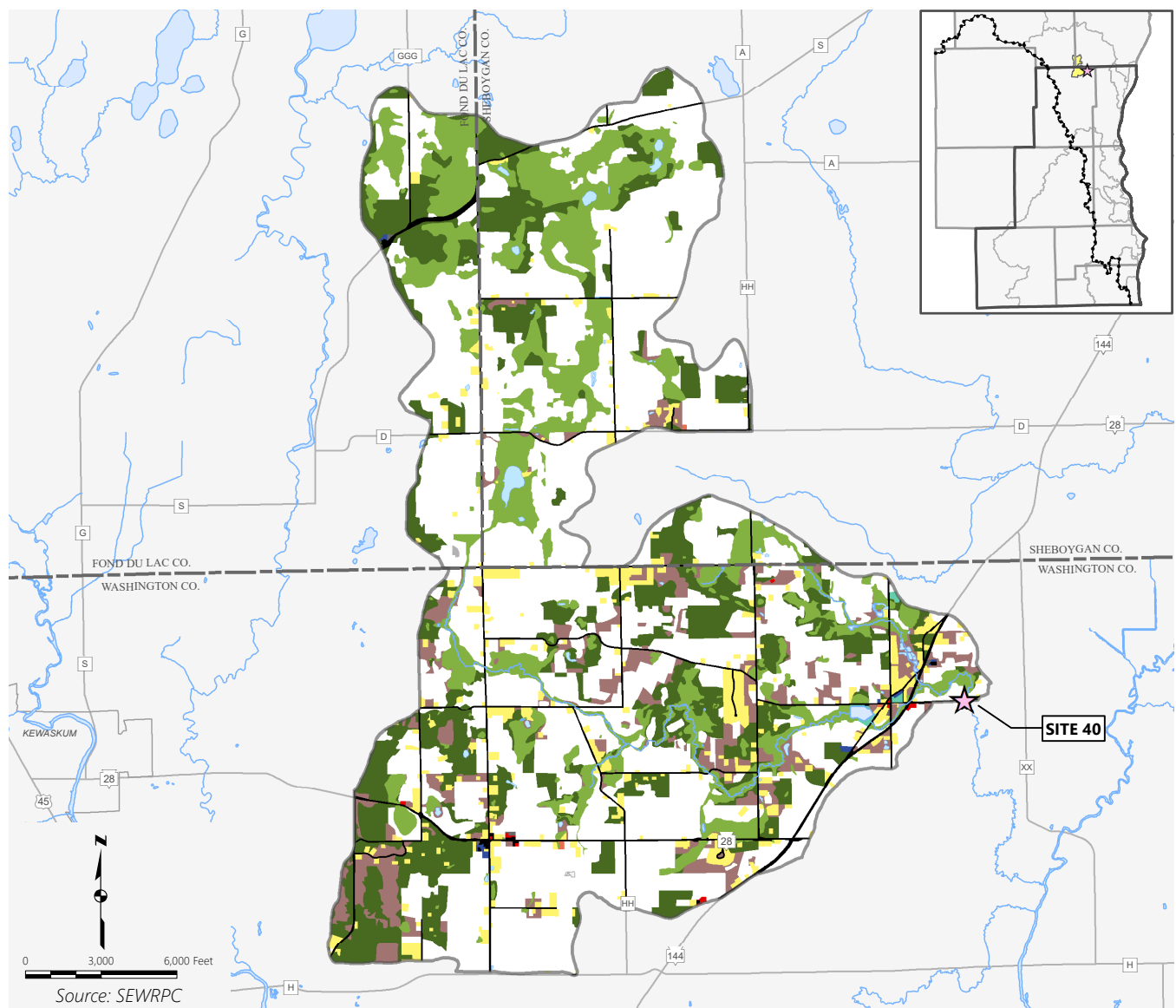
Map B.52
Site 38: North Branch Milwaukee River Drainage Area



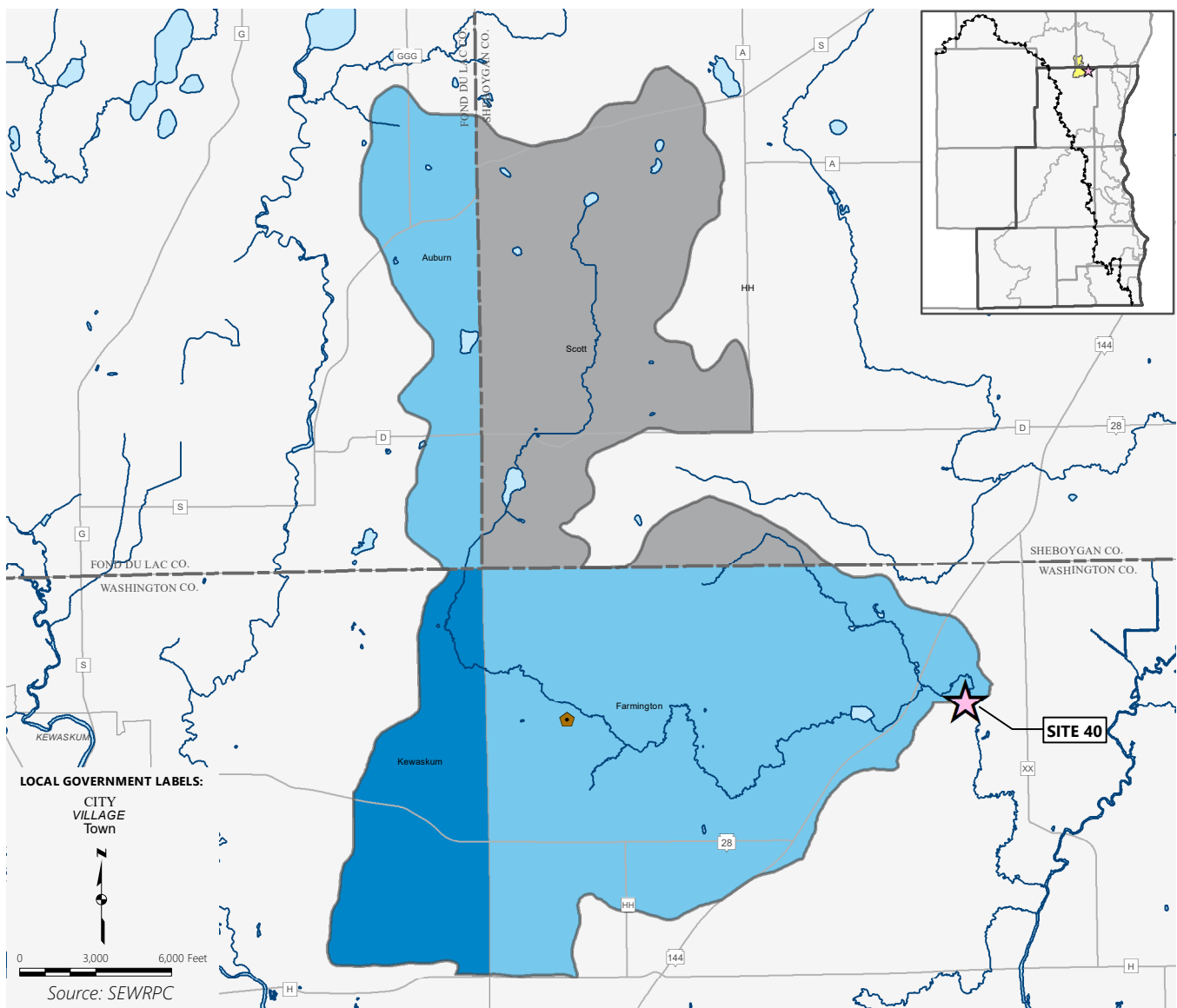
Facts at a Glance

- ▶ **Drainage Area Size:** 106 square miles
- ▶ **Major Watershed:** Milwaukee River
- ▶ **Land Use:** Urban – 7.4%; Rural – 92.6%
- ▶ **Roads and Parking Lots (% of drainage area):** 3.1
- ▶ **Estimated Population (2010):** 7,910
- ▶ **Estimated Households (2010):** 3,080 (37% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Upstream Wastewater Treatment Facilities (◆):** 2
 WWTF discharge to soil (◆): 1
- ▶ **Upstream Industrial Wastewater Dischargers (▲):** 3
- ▶ **Concentrated Animal Feeding Operations (🏠):** 2
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.53
Site 40: Stony Creek Drainage Area – Existing Land Use



Map B.54
Site 40: Stony Creek Drainage Area

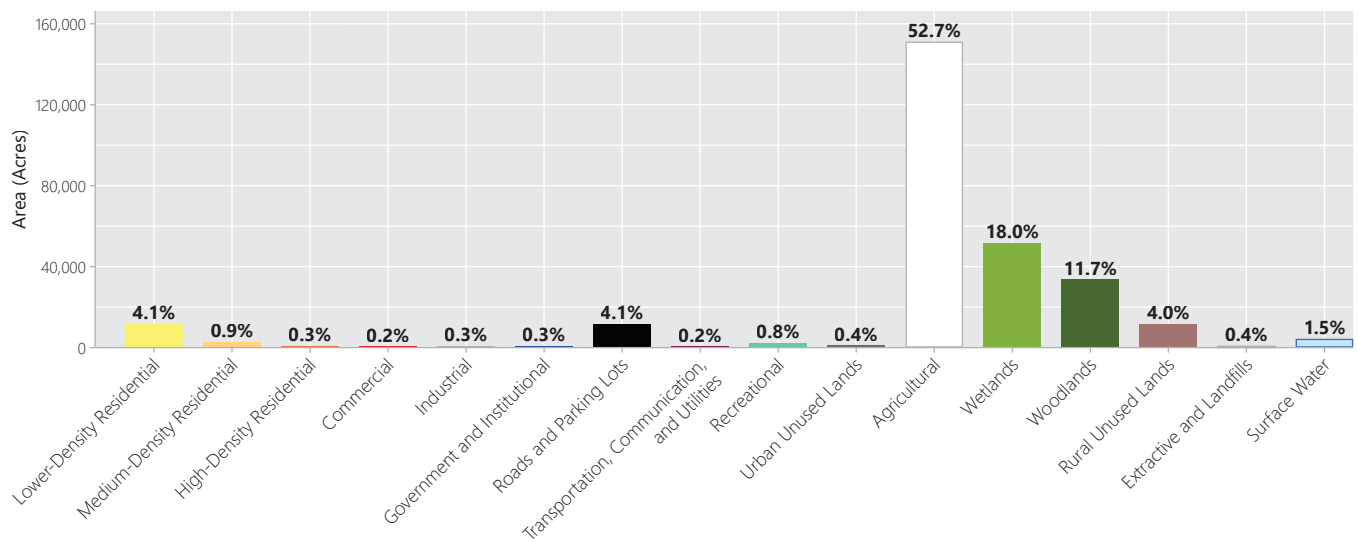
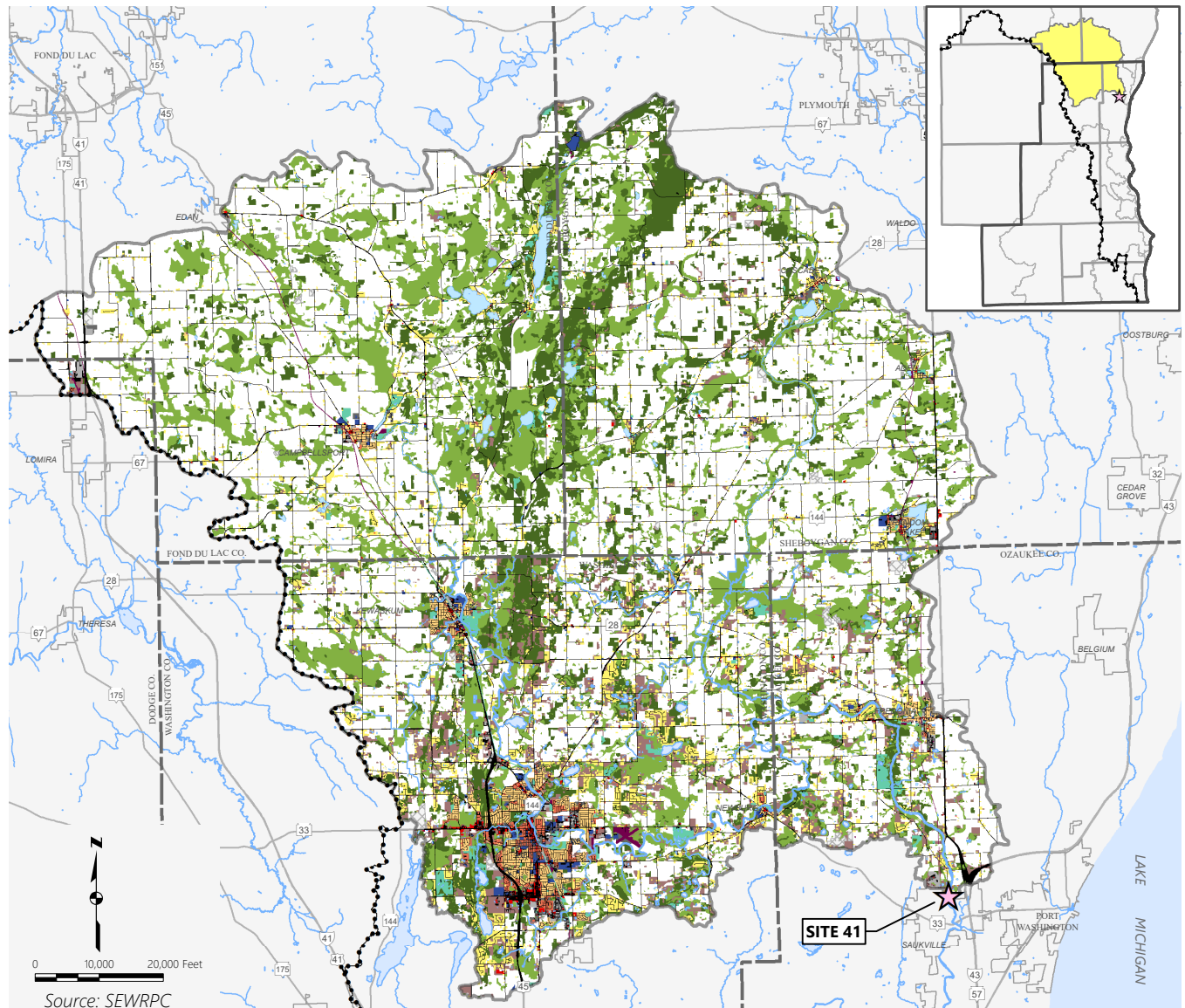


Facts at a Glance

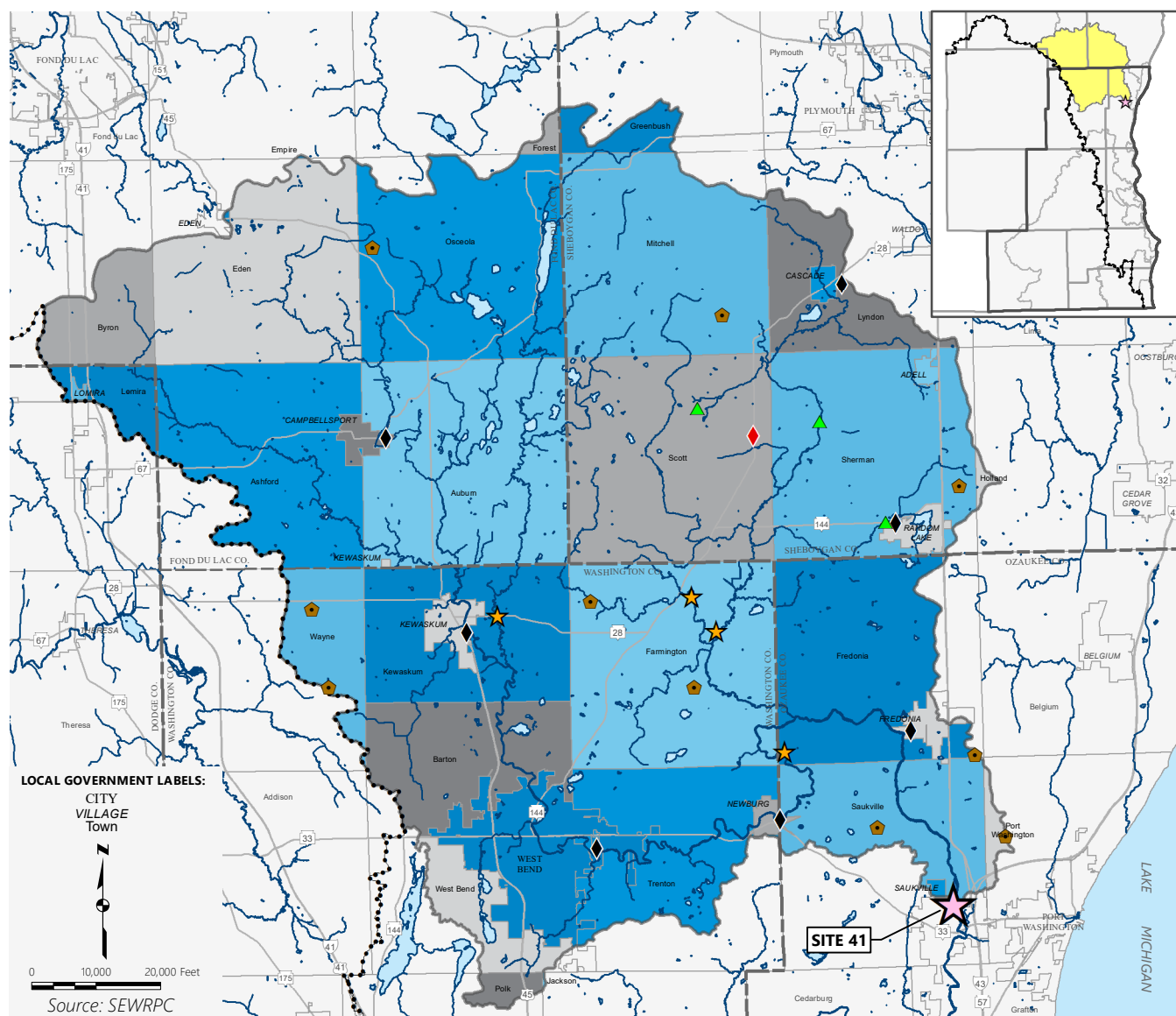
- ▶ **Drainage Area Size:** 18 square miles
- ▶ **Major Watershed:** Milwaukee River
- ▶ **Land Use:** Urban – 8.3%; Rural – 91.7%
- ▶ **Roads and Parking Lots (% of drainage area):** 3.3
- ▶ **Estimated Population (2010):** 1,280
- ▶ **Estimated Households (2010):** 480 (0% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Concentrated Animal Feeding Operations (🏠):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.55

Site 41: Milwaukee River near Saukville Drainage Area – Existing Land Use



Map B.56
Site 41: Milwaukee River near Saukville Drainage Area

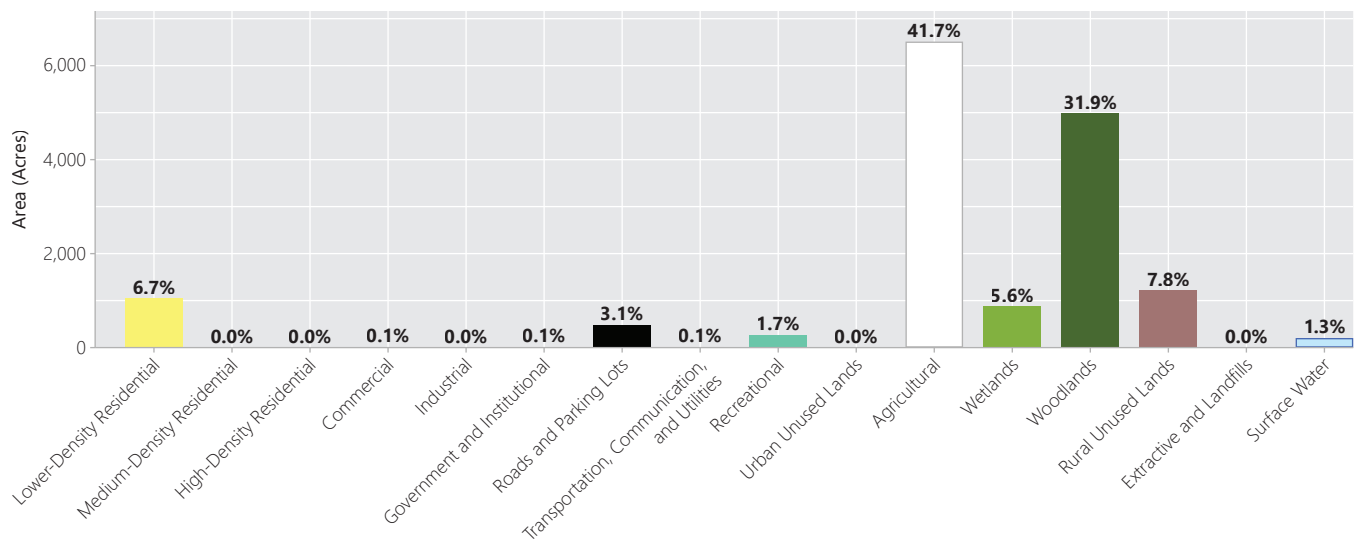
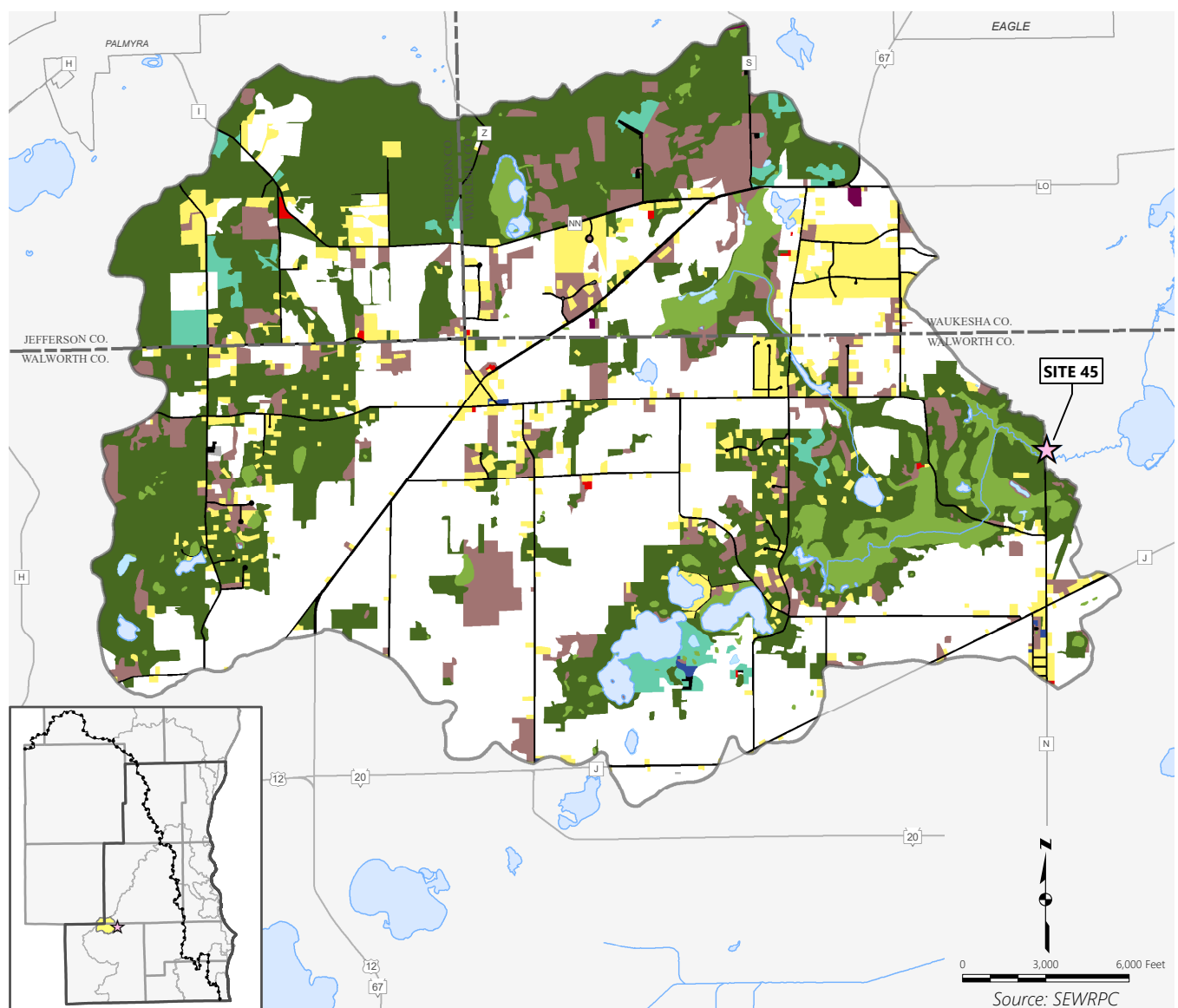


Facts at a Glance

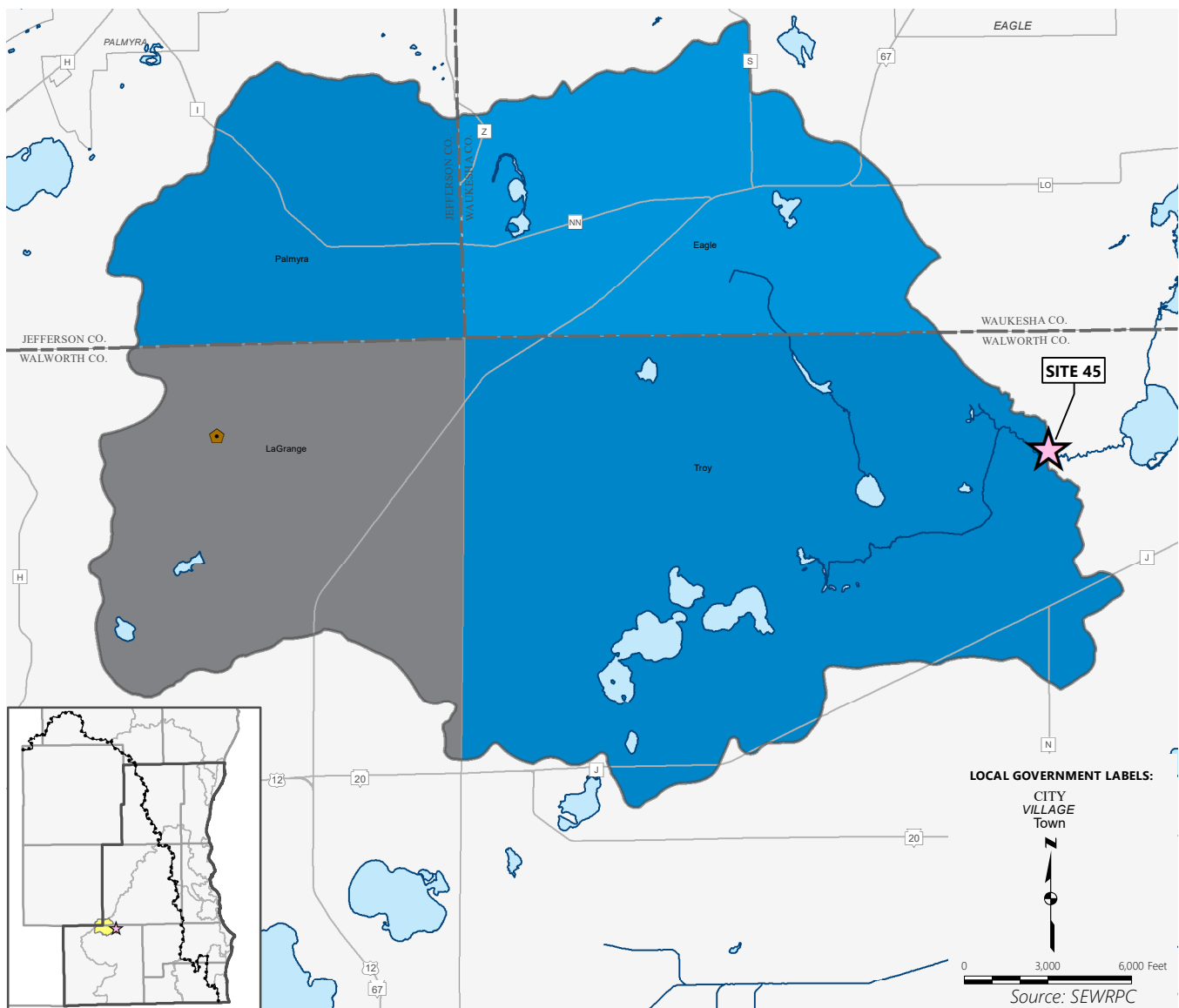
- ▶ **Drainage Area Size:** 448 square miles
- ▶ **Major Watershed:** Milwaukee River
- ▶ **Land Use:** Urban – 11.7%; Rural – 88.3%
- ▶ **Roads and Parking Lots (% of drainage area):** 4.1
- ▶ **Estimated Population (2010):** 74,210
- ▶ **Estimated Households (2010):** 28,800 (63% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 40, Site 38, Site 23, and Site 21
- ▶ **Upstream Wastewater Treatment Facilities (◆):** 7
 WWTF discharge to soil (♦): 1
- ▶ **Upstream Industrial Wastewater Dischargers (▲):** 3
- ▶ **Concentrated Animal Feeding Operations (⬠):** 10
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.57

Site 45: Mukwonago River at Nature Road Drainage Area – Existing Land Use



Map B.58
Site 45: Mukwonago River at Nature Road Drainage Area

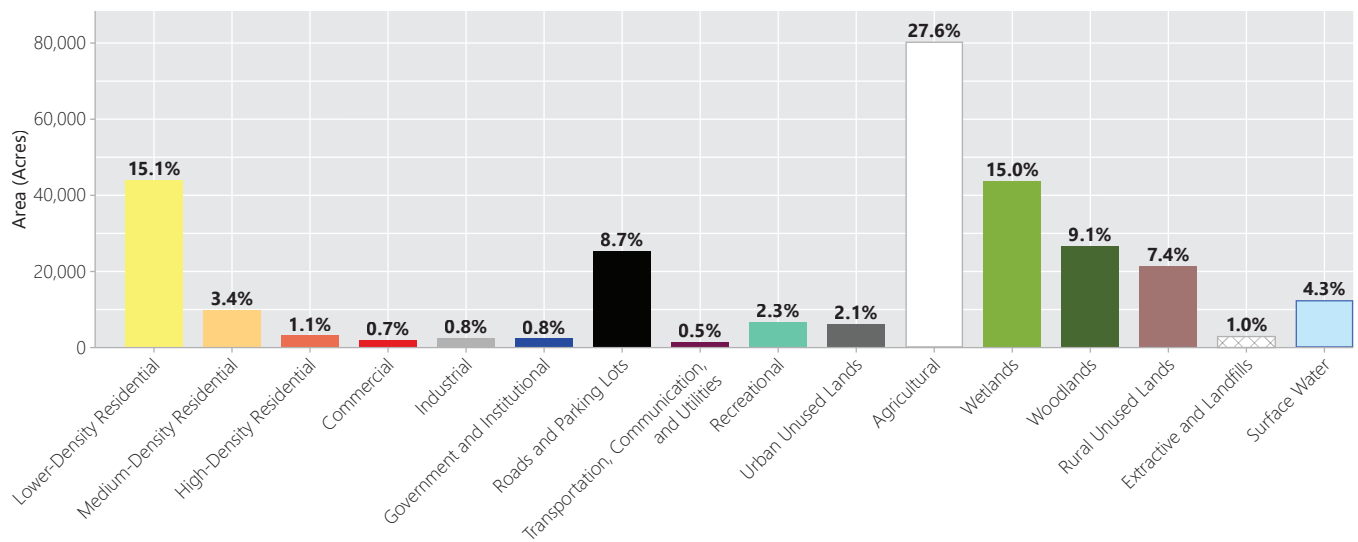
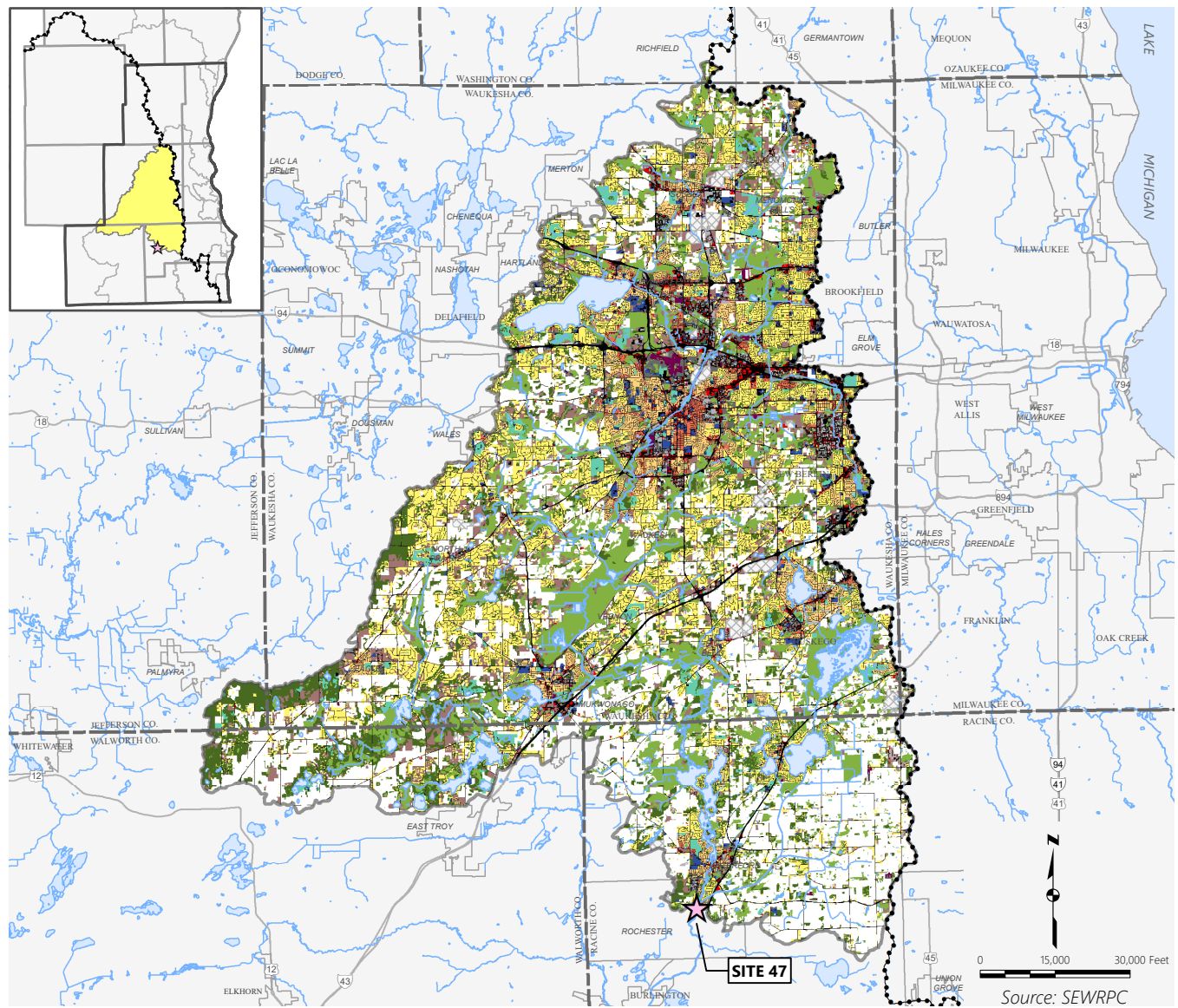


Facts at a Glance

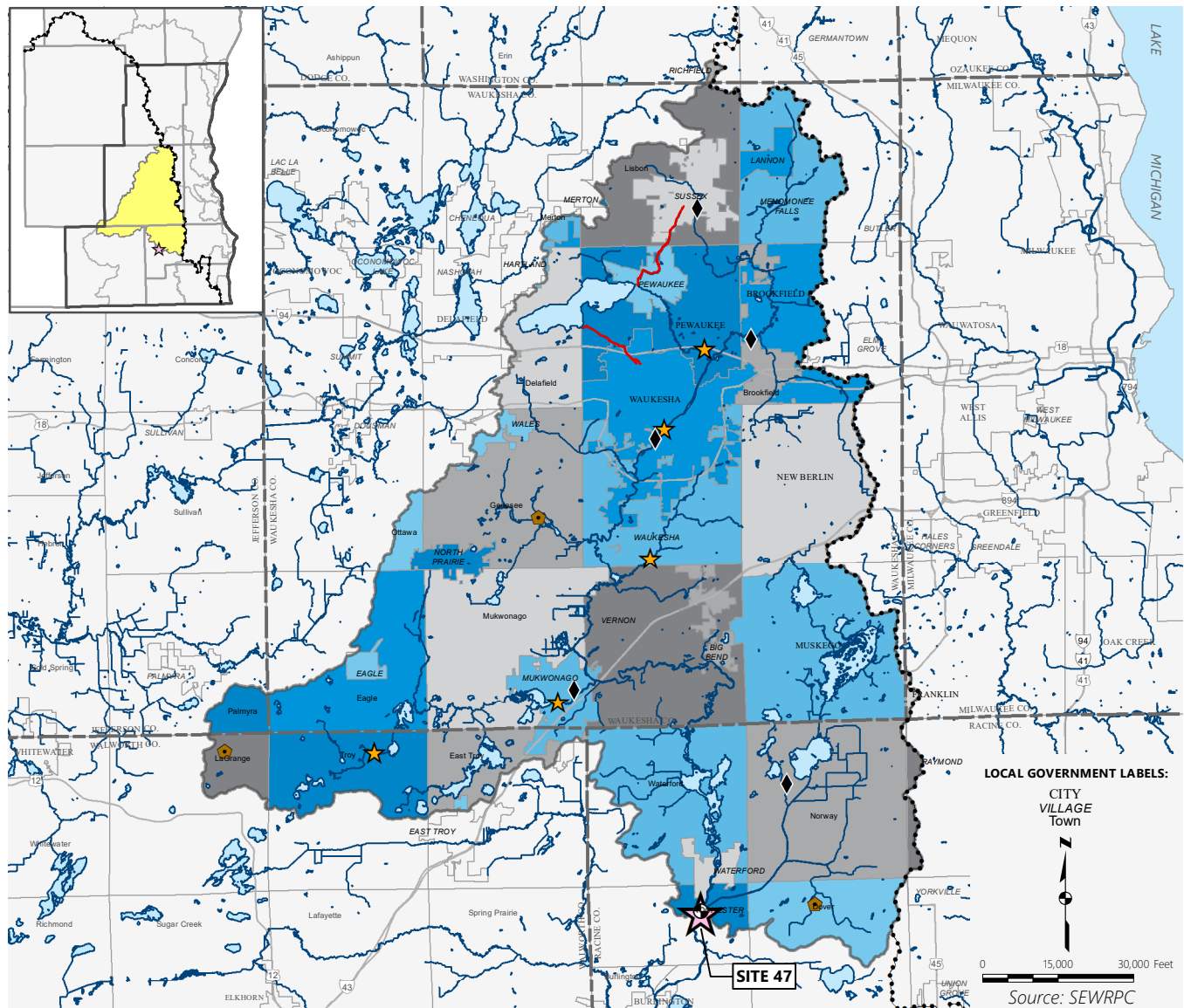
- ▶ **Drainage Area Size:** 24 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 11.8%; Rural – 88.2%
- ▶ **Roads and Parking Lots (% of drainage area):** 3.1
- ▶ **Estimated Population (2010):** 2,290
- ▶ **Estimated Households (2010):** 900 (28% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Concentrated Animal Feeding Operations (🏠):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.59

Site 47: Fox River at Rochester Drainage Area – Existing Land Use



Map B.60
Site 47: Fox River at Rochester Drainage Area

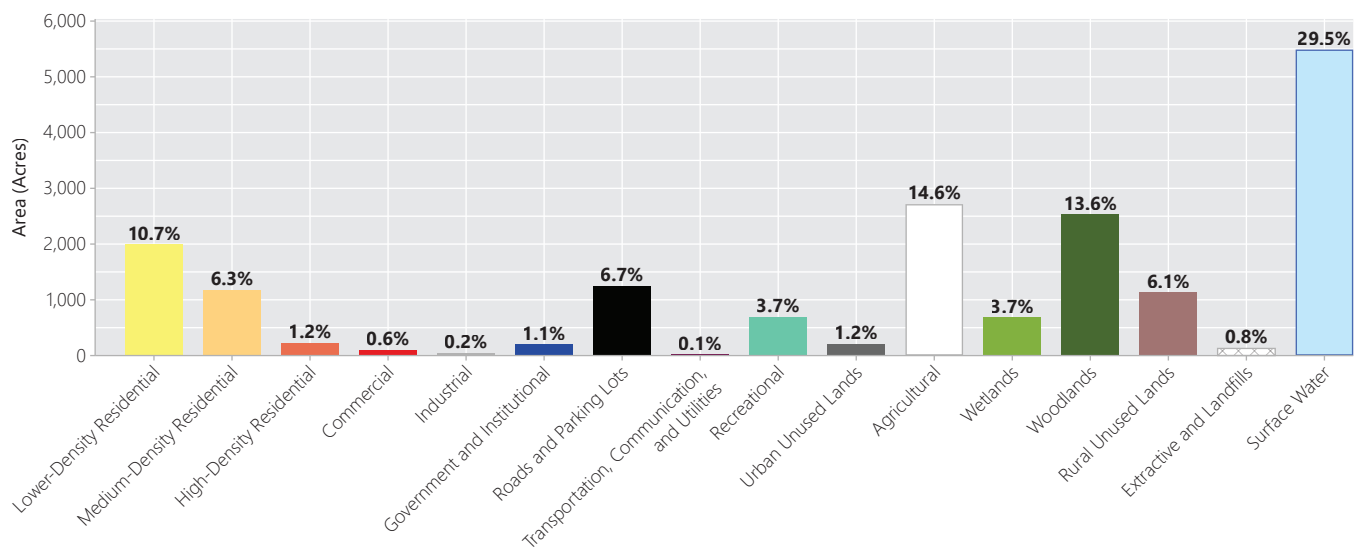
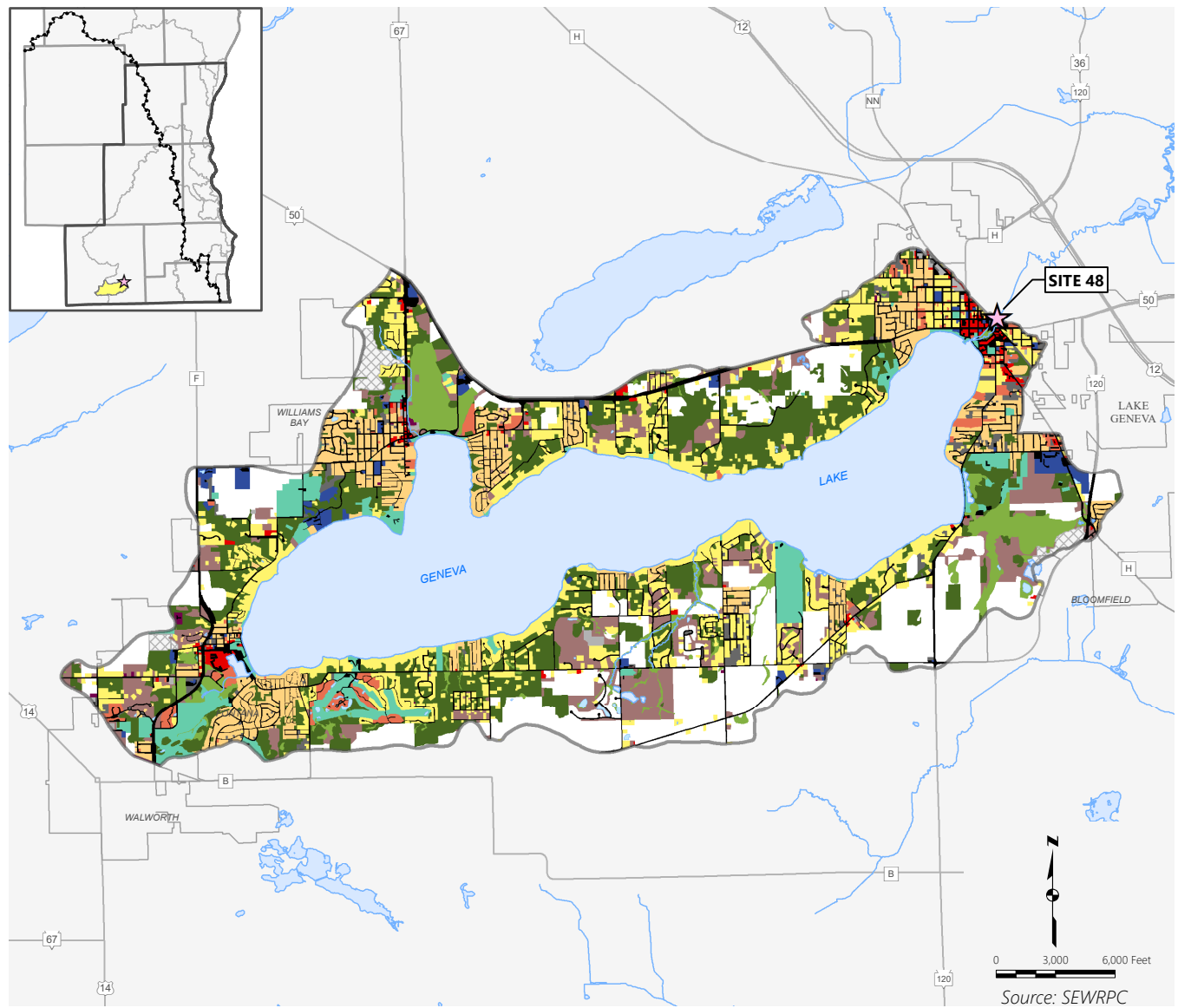


Facts at a Glance

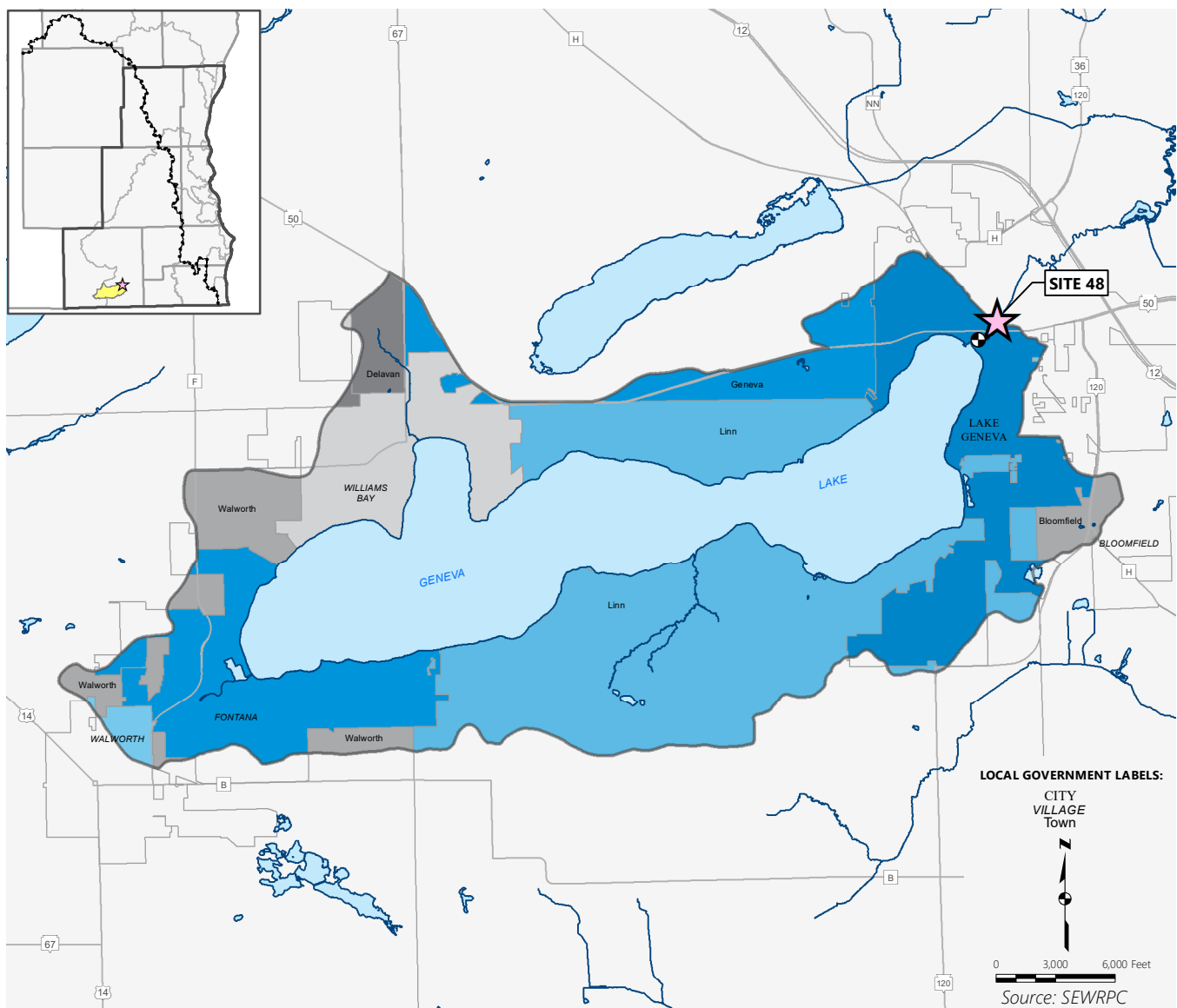
- ▶ **Drainage Area Size:** 456 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 35.6%; Rural – 64.4%
- ▶ **Roads and Parking Lots (% of drainage area):** 8.7
- ▶ **Estimated Population (2010):** 263,270
- ▶ **Estimated Households (2010):** 103,030 (78% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgauge (⊕):** Fox River at Rochester (05544475) – Stage gage only, no discharge
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 8, Site 1, Site 33, Site 45, and Site 3
- ▶ **Upstream Wastewater Treatment Facilities (◆):** 5
- ▶ **Concentrated Animal Feeding Operations (🏠):** 3
- ▶ **Chloride-Impaired Waters:**
 (—) Chronic Toxicity Impairment
- ▶ **Water Supply Source:** Groundwater and Lake Michigan (City of Waukesha converted from groundwater to Lake Michigan supply in October 2023)

Map B.61

Site 48: White River at Lake Geneva Drainage Area – Existing Land Use



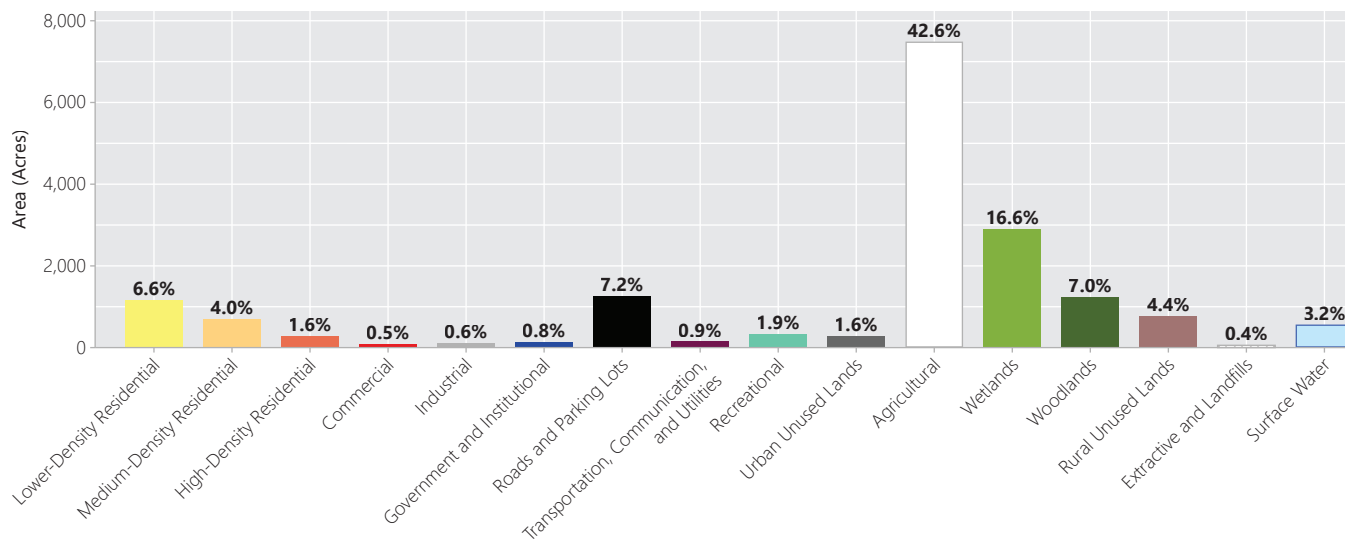
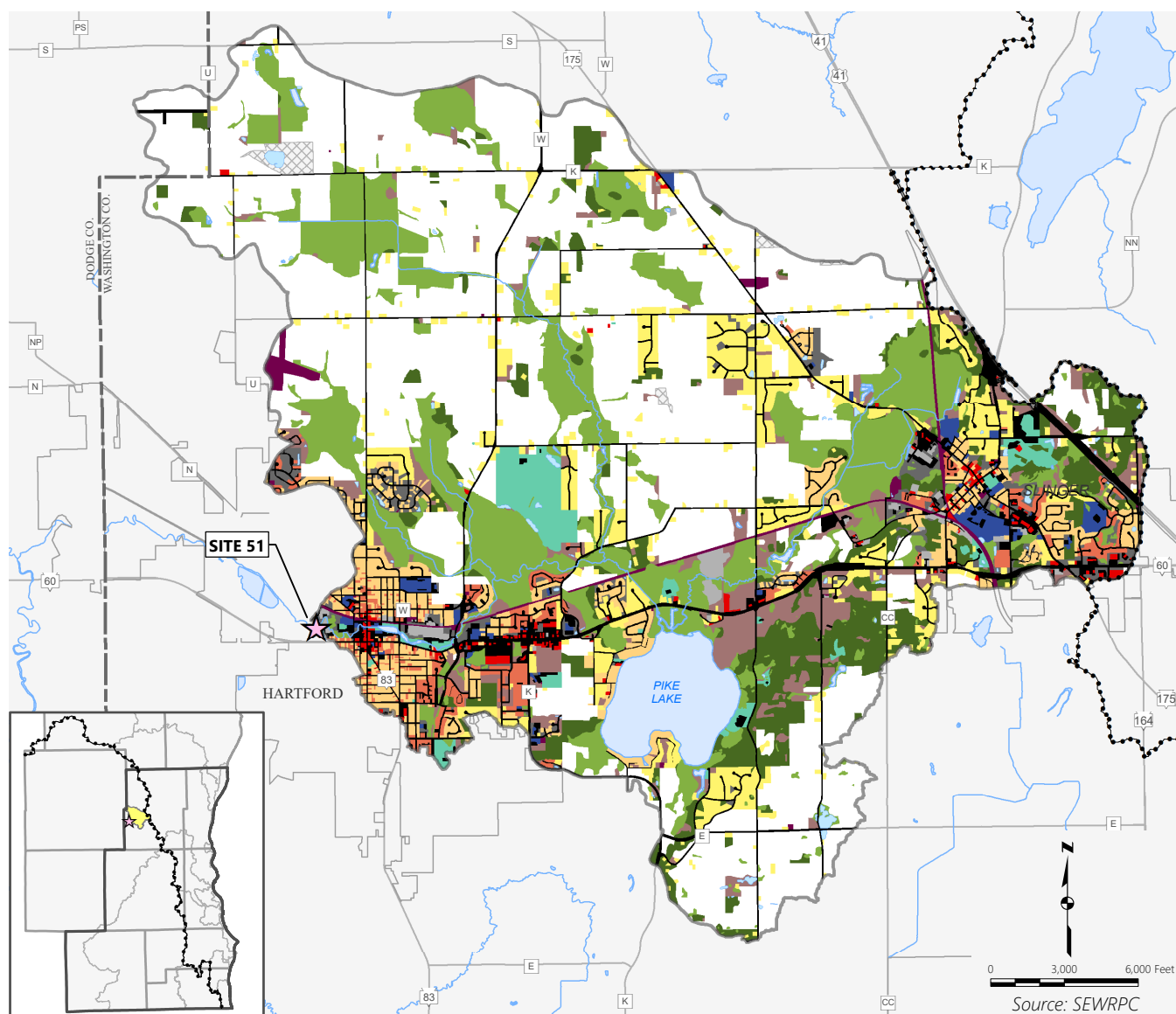
Map B.62
Site 48: White River at Lake Geneva Drainage Area



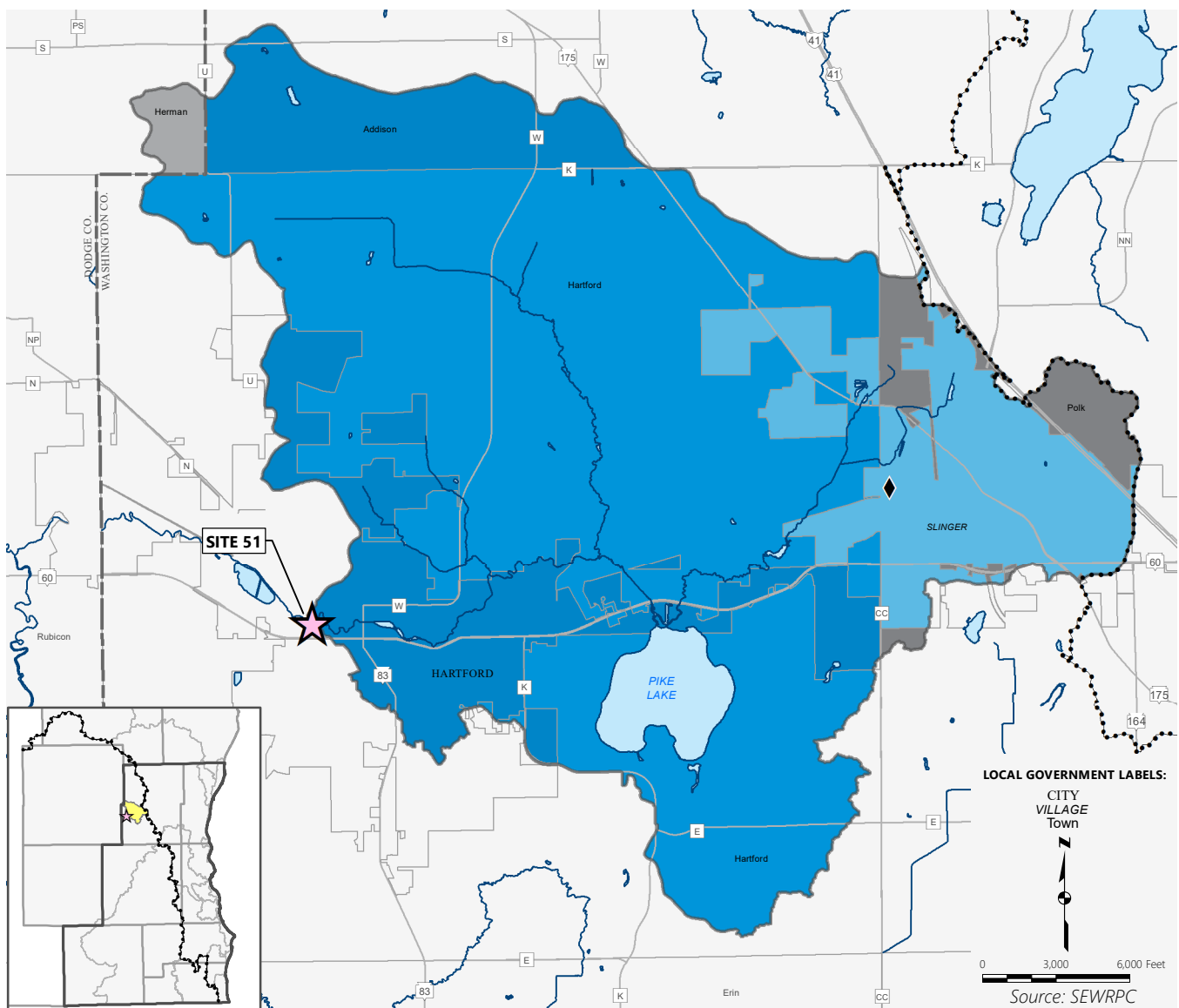
Facts at a Glance

- ▶ **Drainage Area Size:** 29 square miles
- ▶ **Major Watershed:** Fox River
- ▶ **Land Use:** Urban – 31.8%; Rural – 68.2%
- ▶ **Roads and Parking Lots (% of drainage area):** 6.7
- ▶ **Estimated Population (2010):** 9,910
- ▶ **Estimated Households (2010):** 4,280 (79% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (📍):** White River at Center Street (055451345)
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.63
Site 51: Rubicon River Drainage Area – Existing Land Use



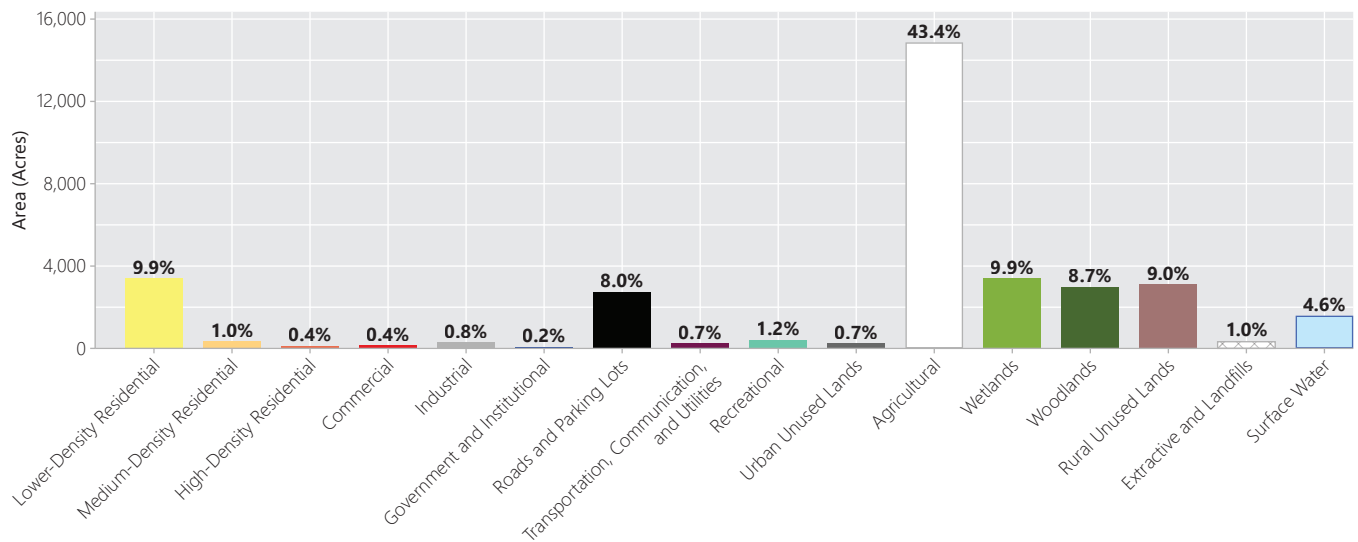
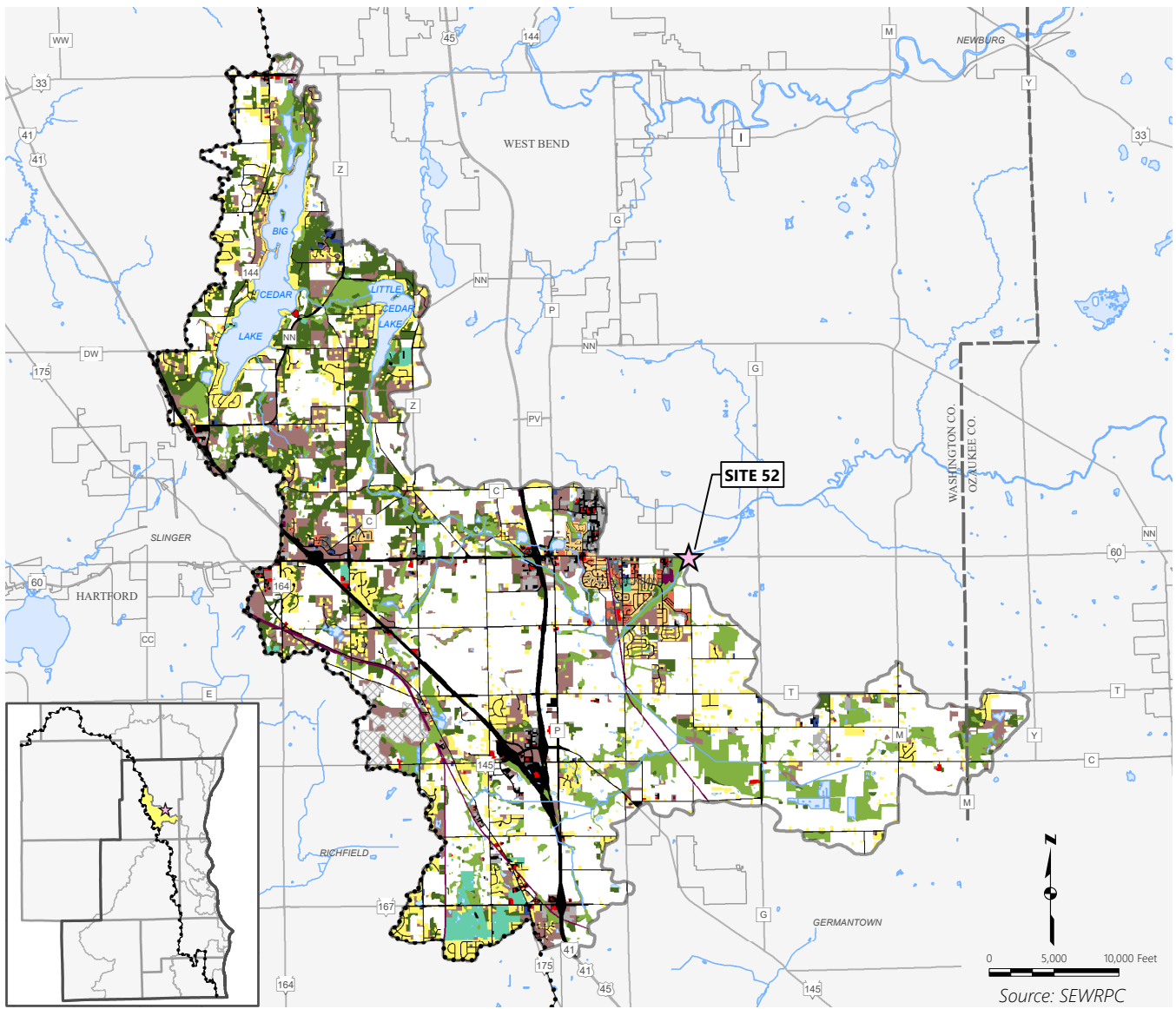
Map B.64
Site 51: Rubicon River Drainage Area



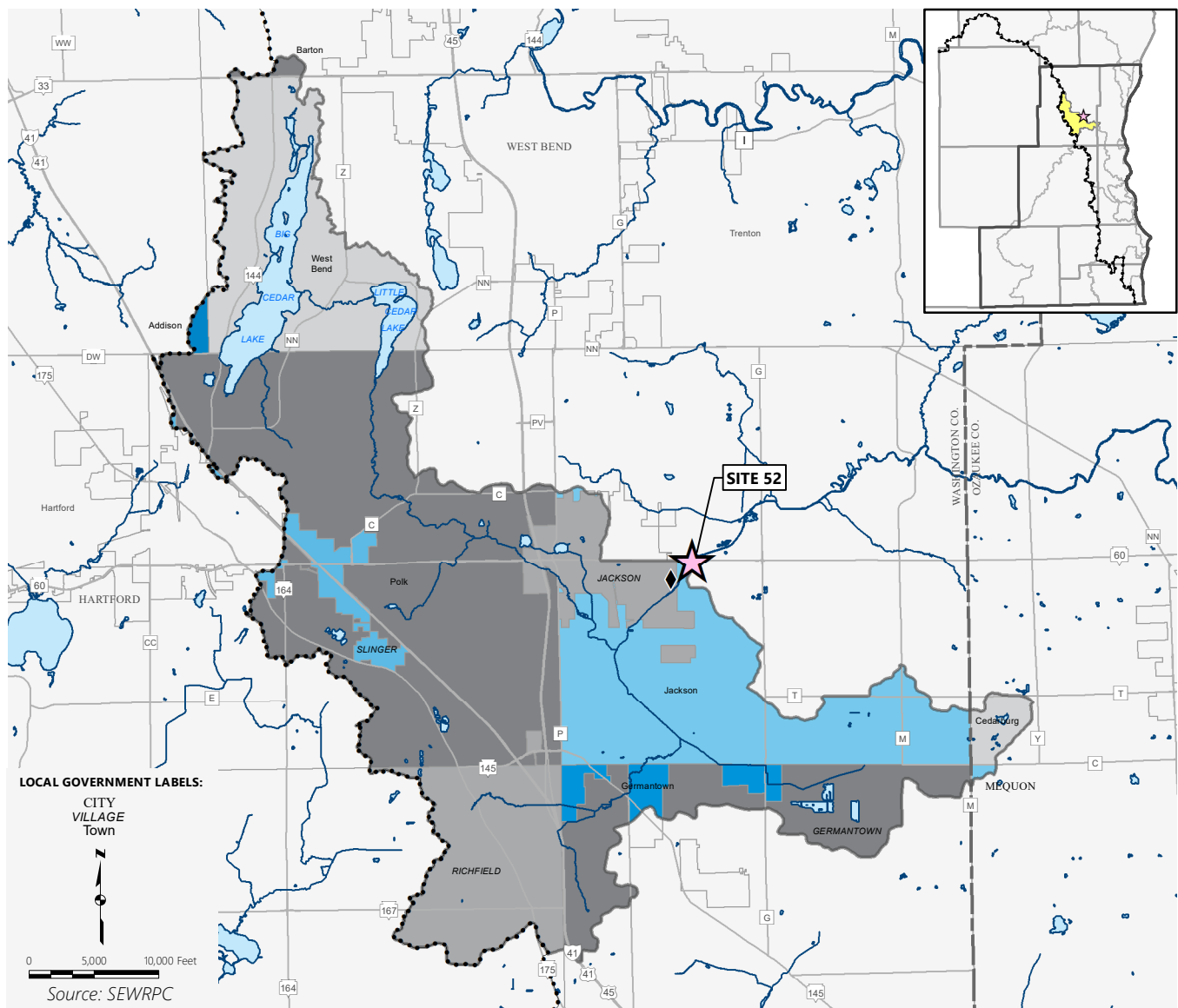
Facts at a Glance

- ▶ **Drainage Area Size:** 27 square miles
- ▶ **Major Watershed:** Rock River
- ▶ **Land Use:** Urban – 25.8%; Rural – 74.2%
- ▶ **Roads and Parking Lots (% of drainage area):** 7.2
- ▶ **Estimated Population (2010):** 14,160
- ▶ **Estimated Households (2010):** 5,830 (89% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Upstream Wastewater Treatment Facilities (◆):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.65
Site 52: Cedar Creek Drainage Area – Existing Land Use



Map B.66
Site 52: Cedar Creek Drainage Area

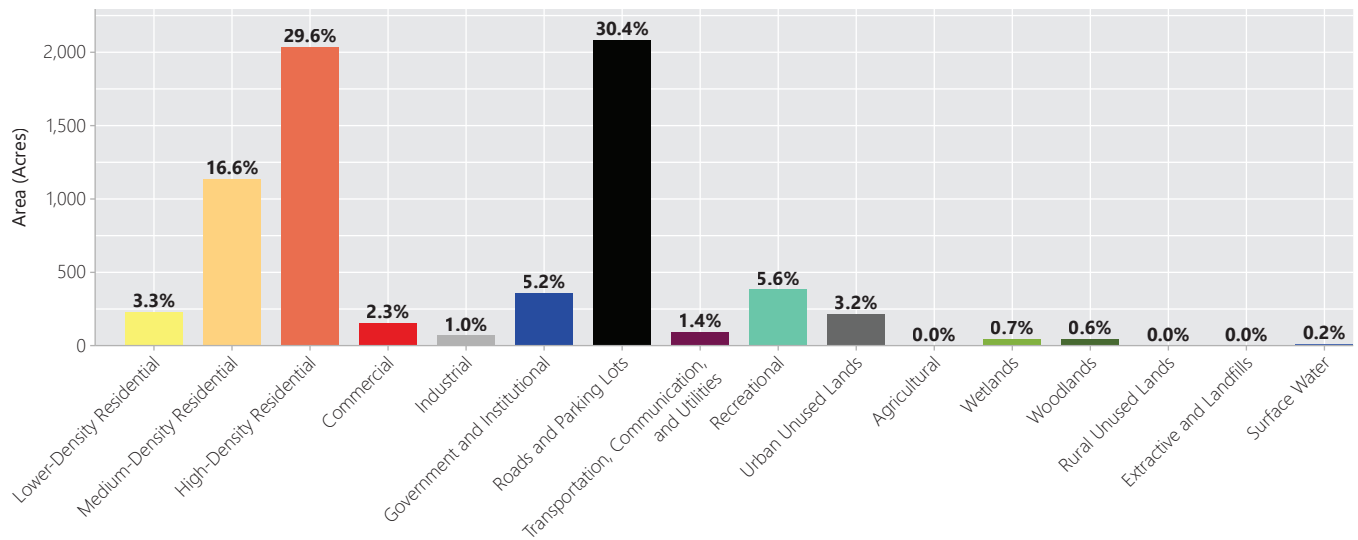
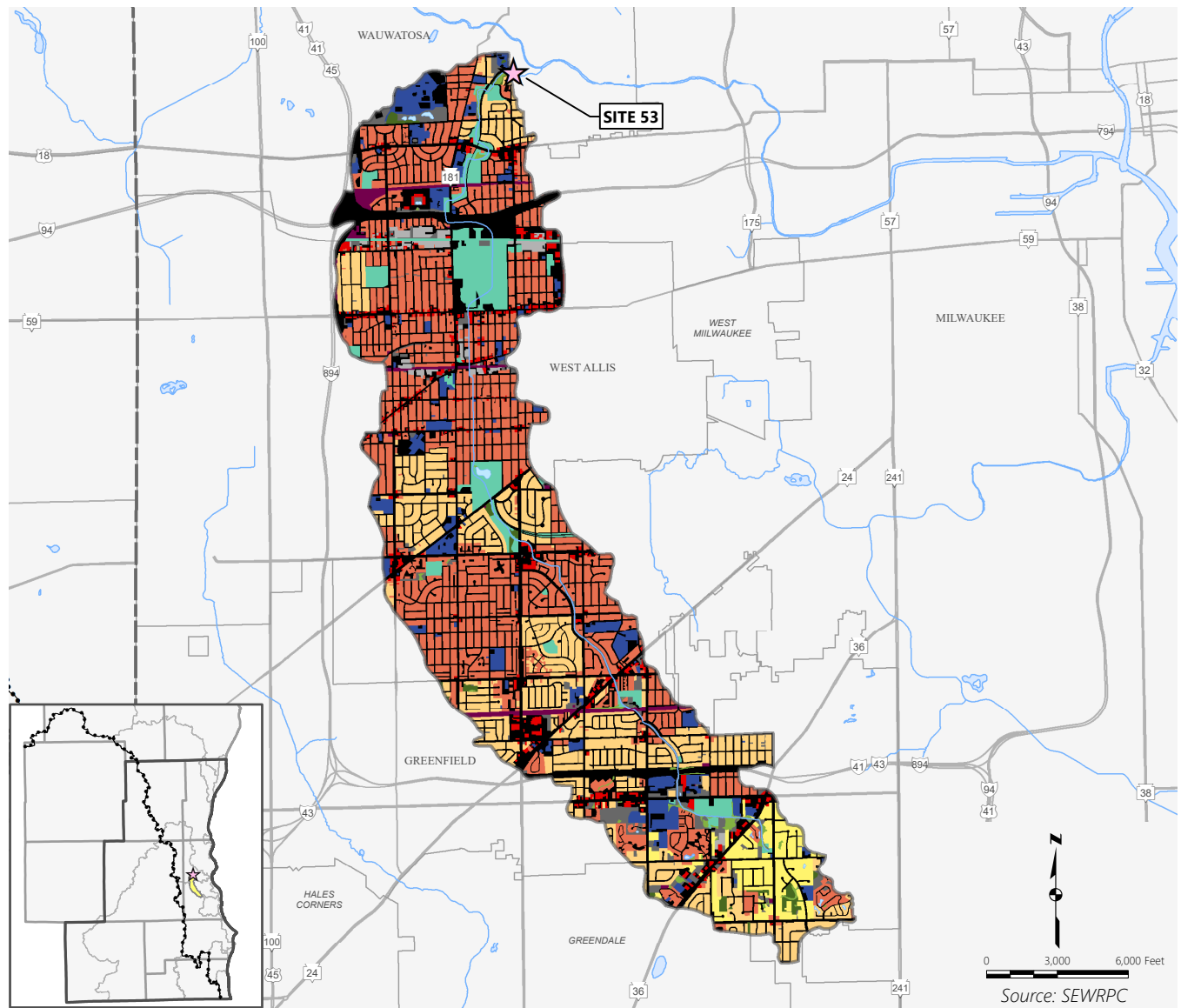


Facts at a Glance

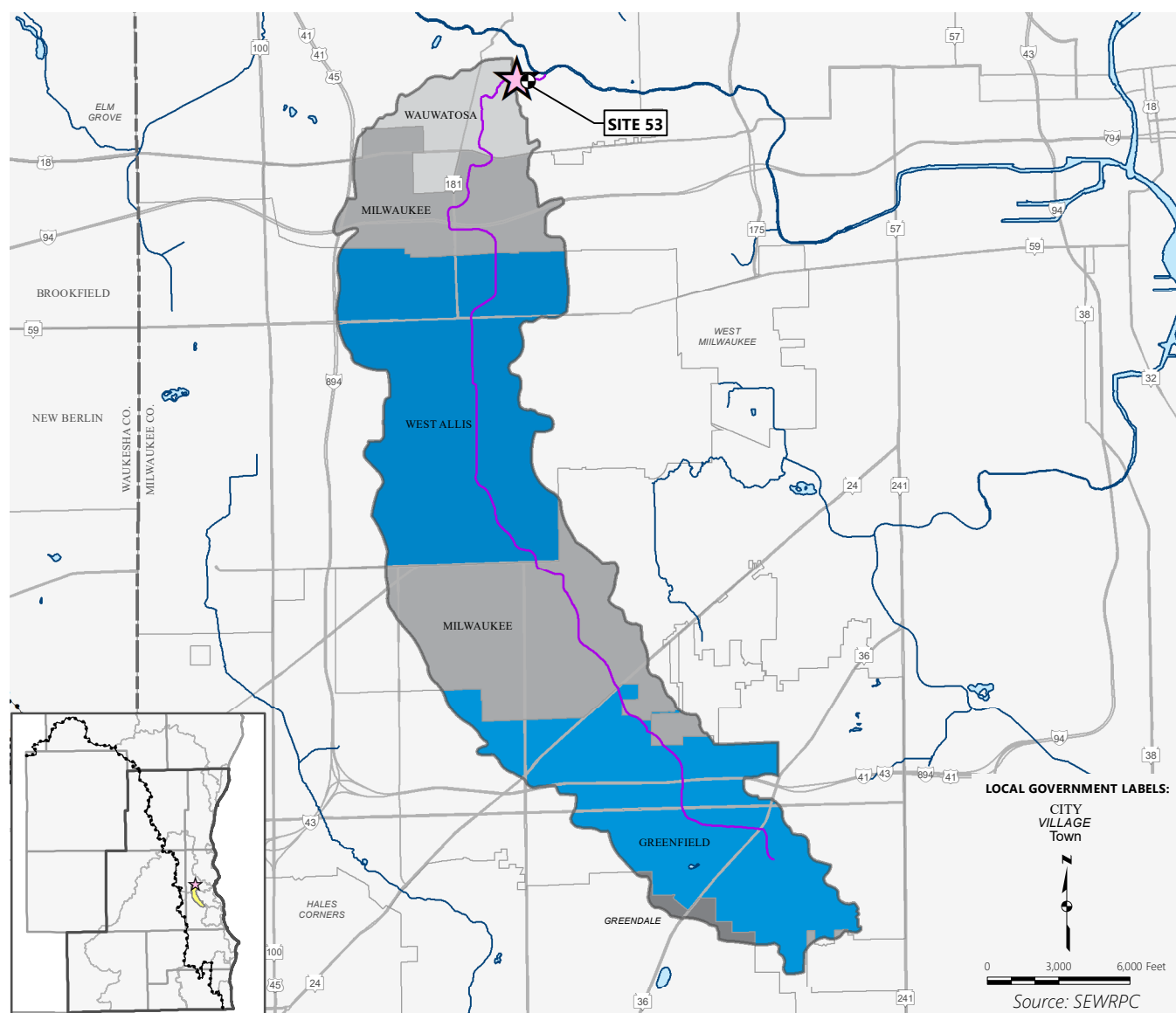
- ▶ **Drainage Area Size:** 54 square miles
- ▶ **Major Watershed:** Milwaukee River
- ▶ **Land Use:** Urban – 23.3%; Rural – 76.7%
- ▶ **Roads and Parking Lots (% of drainage area):** 8.0
- ▶ **Estimated Population (2010):** 13,460
- ▶ **Estimated Households (2010):** 5,380 (47% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Upstream Wastewater Treatment Facilities (♦):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.67

Site 53: Honey Creek at Wauwatosa Drainage Area – Existing Land Use



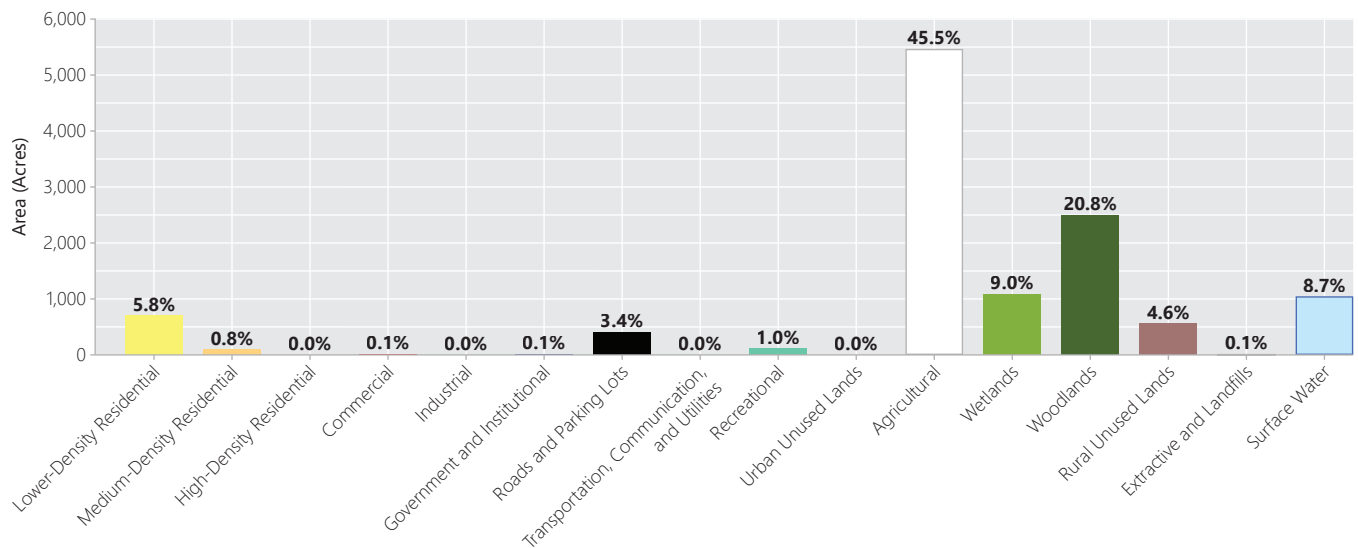
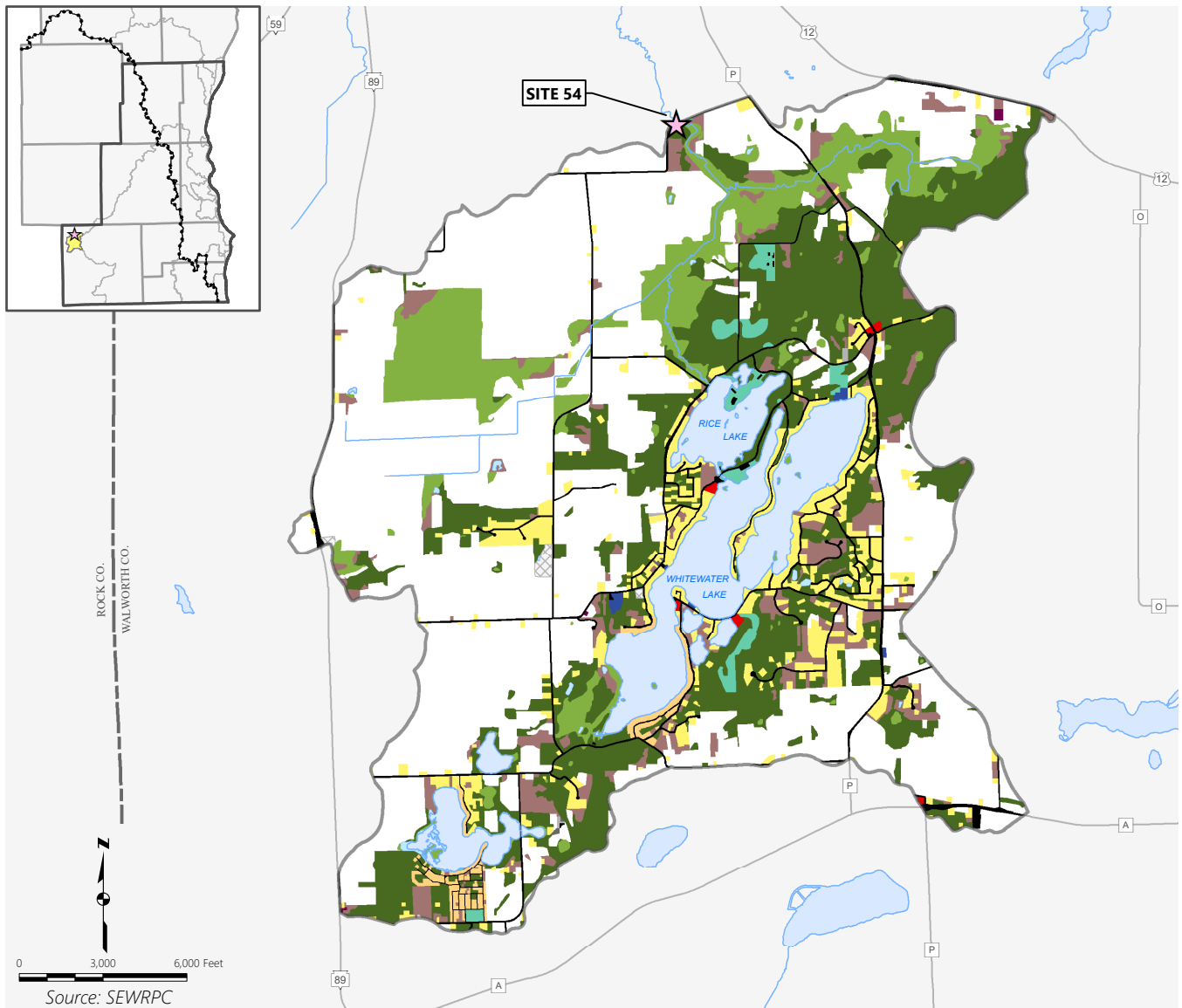
Map B.68
Site 53: Honey Creek at Wauwatosa Drainage Area



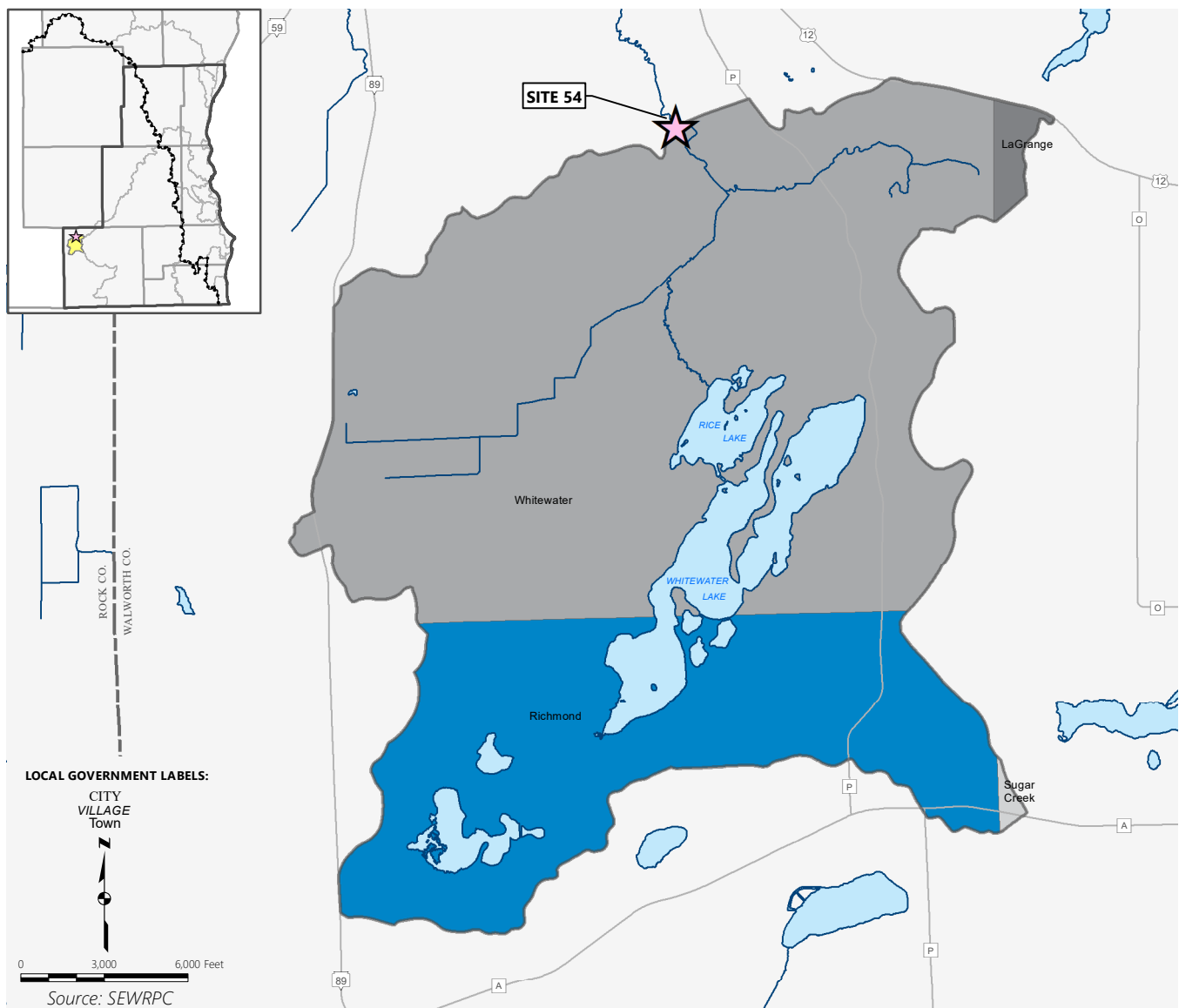
Facts at a Glance

- ▶ **Drainage Area Size:** 11 square miles
- ▶ **Major Watershed:** Menomonee River
- ▶ **Land Use:** Urban – 98.5%; Rural – 1.5%
- ▶ **Roads and Parking Lots (% of drainage area):** 30.4
- ▶ **Estimated Population (2010):** 59,170
- ▶ **Estimated Households (2010):** 26,680 (100% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (📍):** Honey Creek at Wauwatosa (04087119)
- ▶ **Chloride-Impaired Waters:** (—) Chronic and Acute Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan

Map B.69
Site 54: Whitewater Creek Drainage Area – Existing Land Use



Map B.70
Site 54: Whitewater Creek Drainage Area

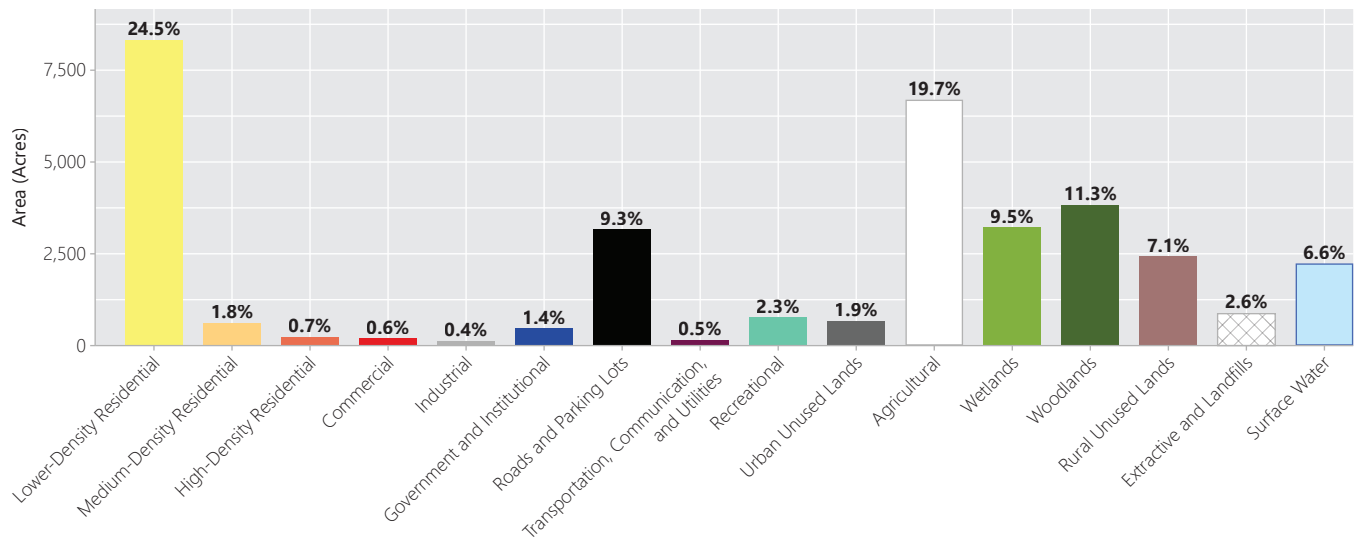
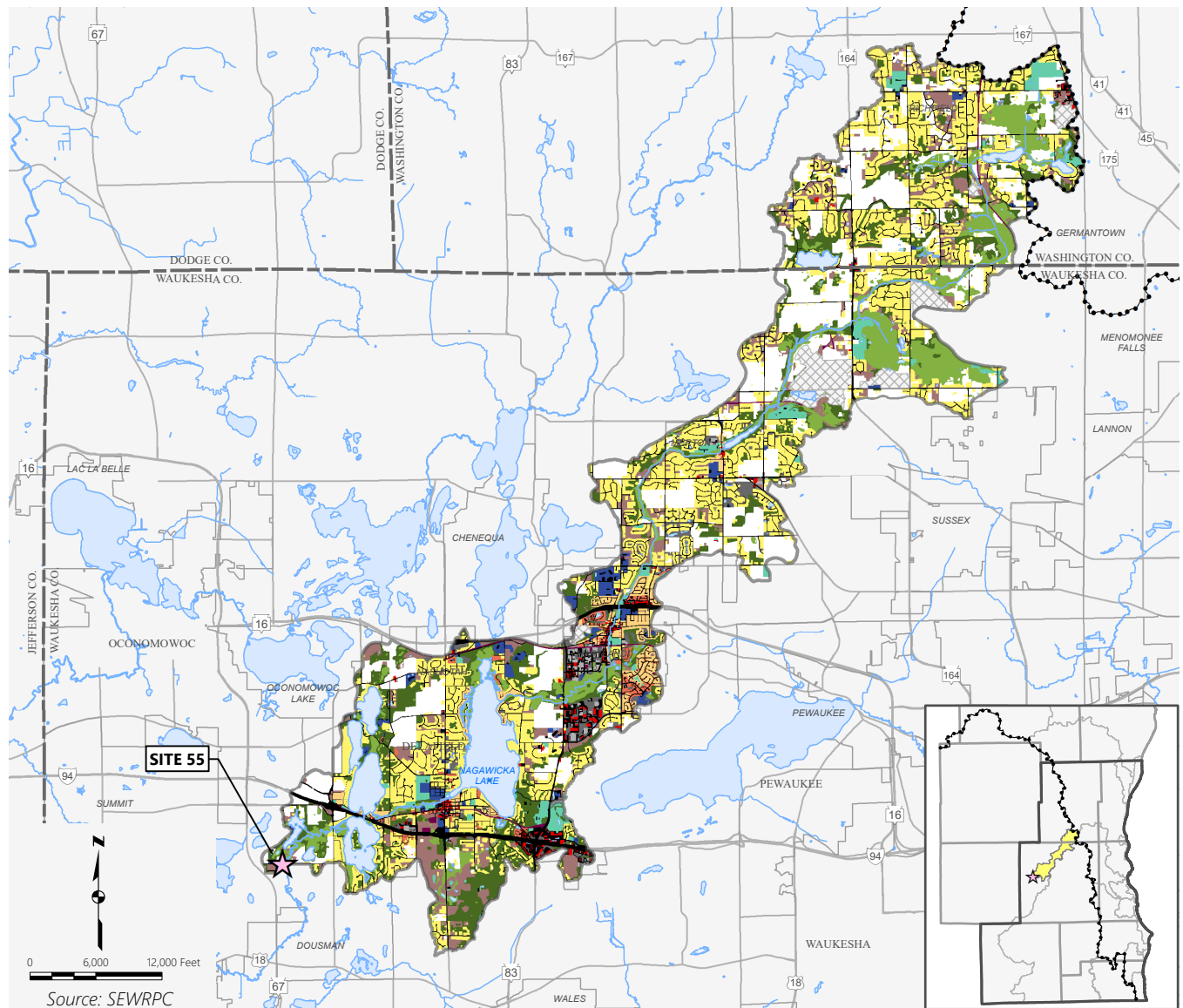


Facts at a Glance

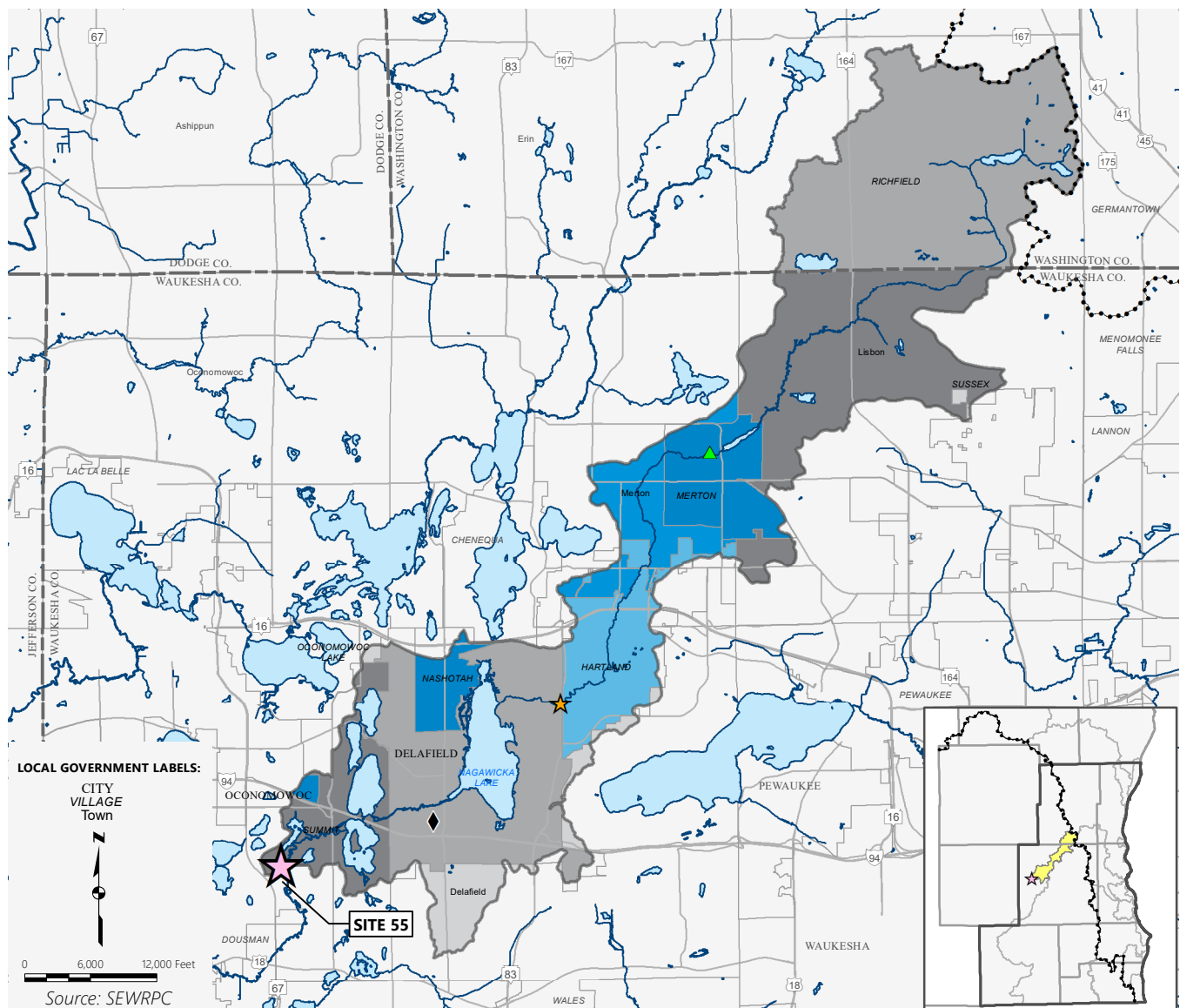
- ▶ **Drainage Area Size:** 19 square miles
- ▶ **Major Watershed:** Rock River
- ▶ **Land Use:** Urban – 11.2%; Rural – 88.8%
- ▶ **Roads and Parking Lots (% of drainage area):** 3.4
- ▶ **Estimated Population (2010):** 1,640
- ▶ **Estimated Households (2010):** 670 (0% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage:** None
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Map B.71

Site 55: Bark River Downstream Drainage Area – Existing Land Use



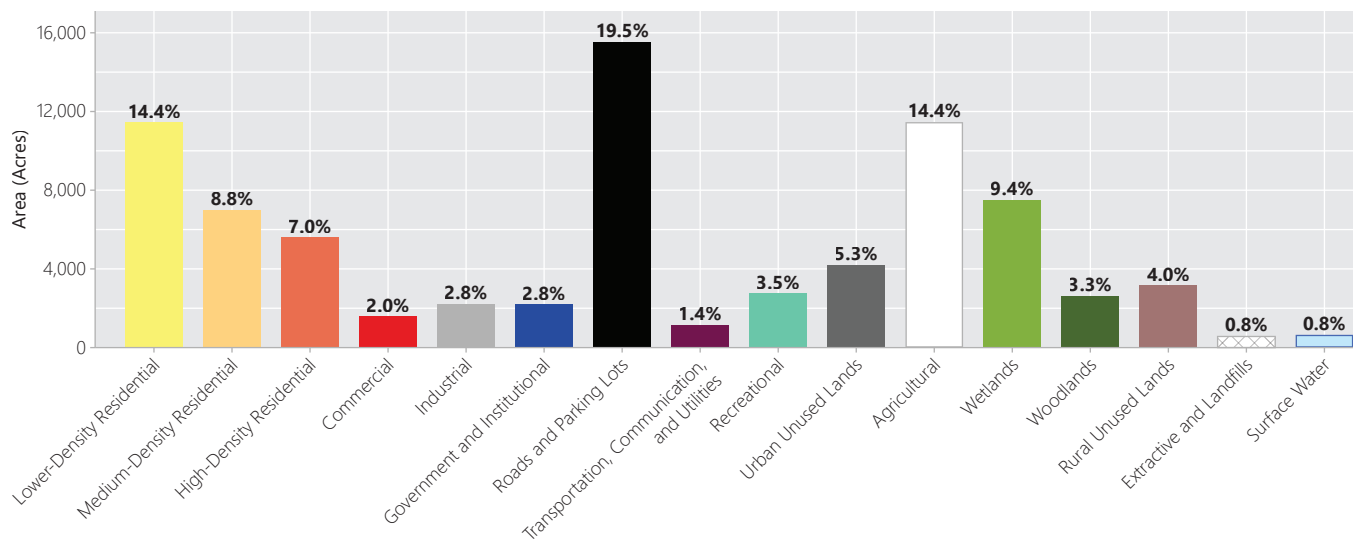
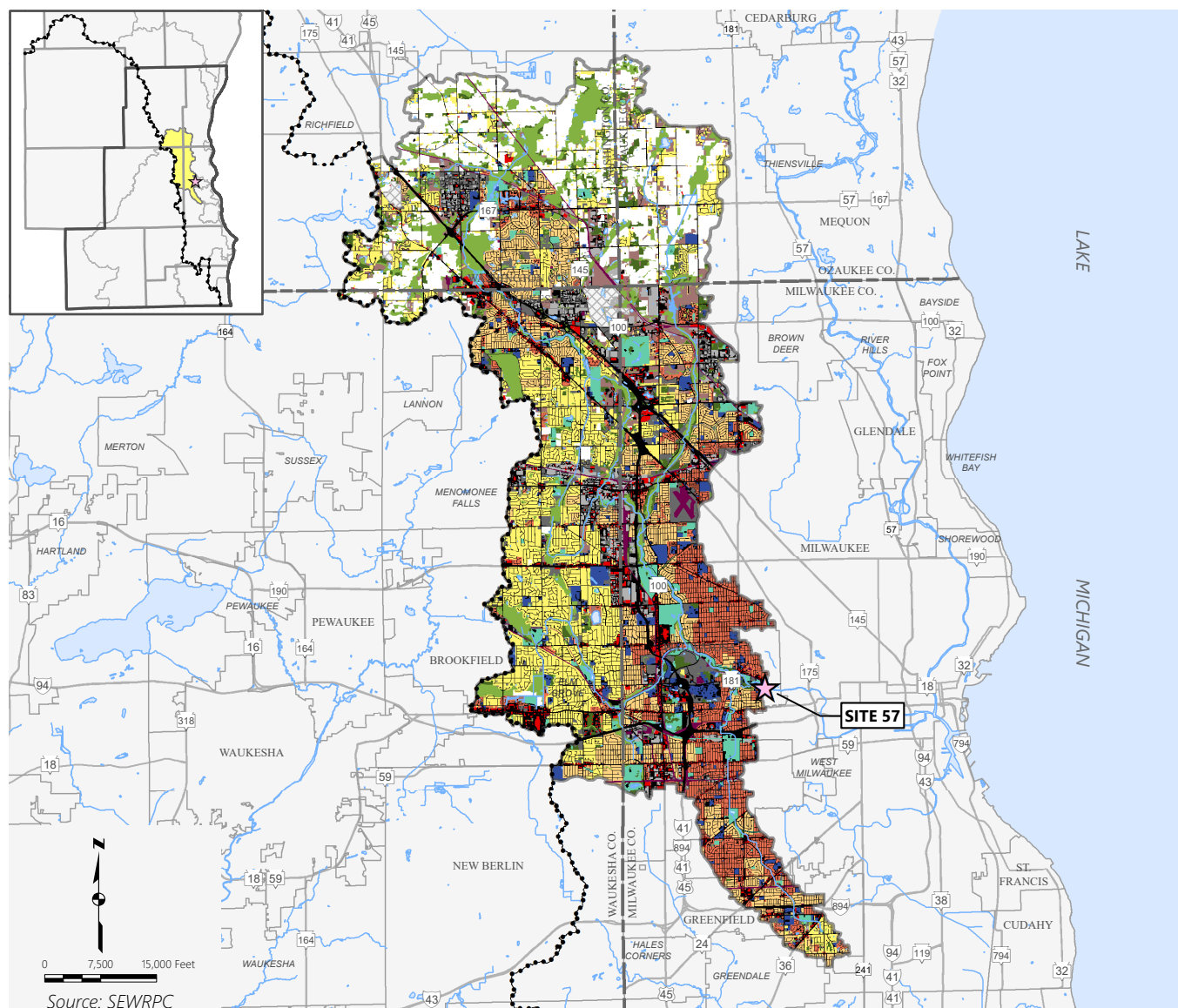
Map B.72
Site 55: Bark River Downstream Drainage Area



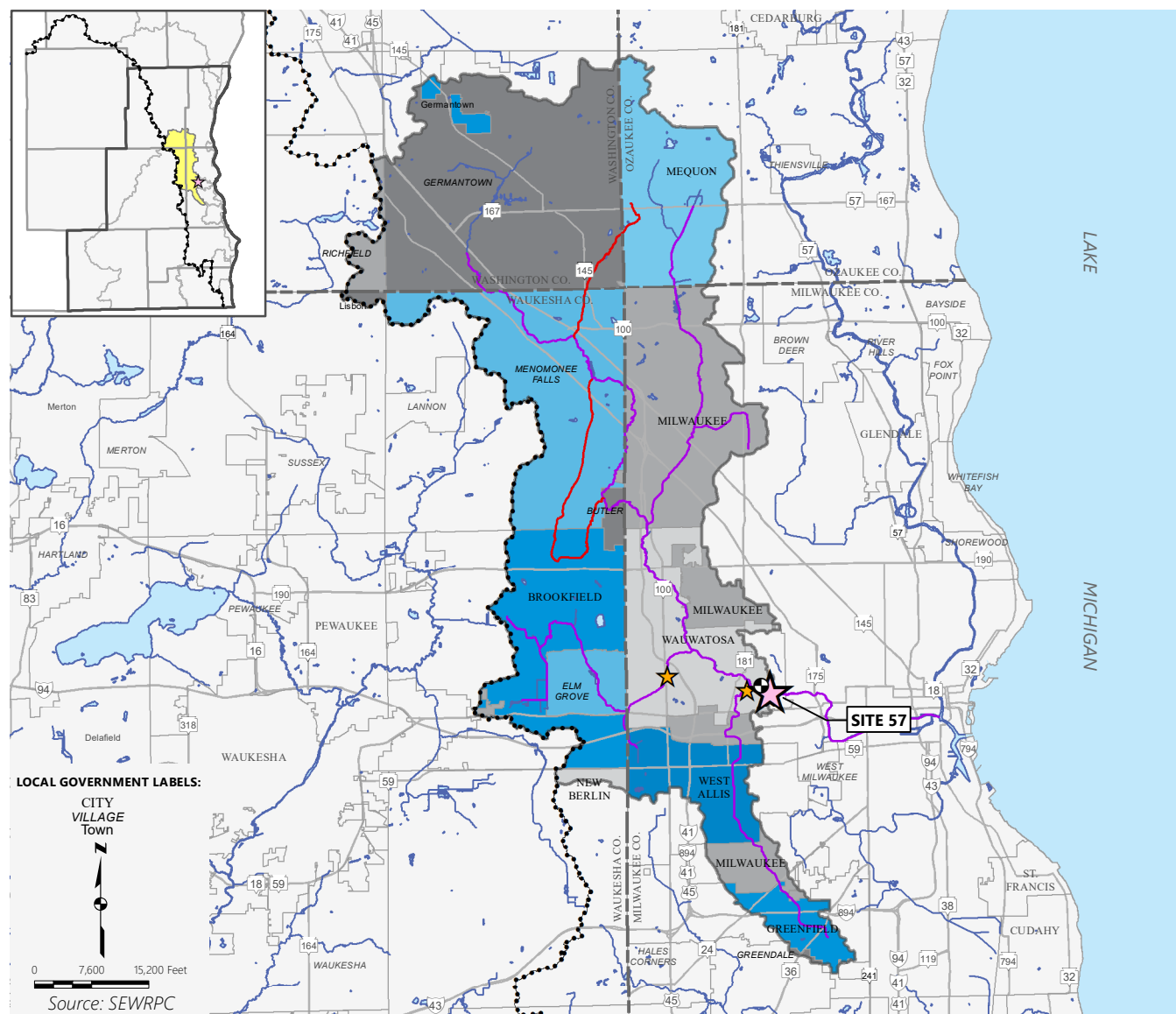
Facts at a Glance

- ▶ **Drainage Area Size:** 53 square miles
- ▶ **Major Watershed:** Rock River
- ▶ **Land Use:** Urban – 43.3%; Rural – 56.7%
- ▶ **Roads and Parking Lots (% of drainage area):** 9.3
- ▶ **Estimated Population (2010):** 29,490
- ▶ **Estimated Households (2010):** 10,860 (52% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgauge:** None
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 11
- ▶ **Upstream Wastewater Treatment Facilities (◆):** 1 (effluent from this facility is pumped and discharged downstream of Site 55)
- ▶ **Upstream Industrial Wastewater Dischargers (▲):** 1
- ▶ **Chloride-Impaired Waters:** None
- ▶ **Water Supply Source:** Groundwater

Site 57: Menomonee River at Wauwatosa Drainage Area – Existing Land Use



Map B.74
Site 57: Menomonee River at Wauwatosa Drainage Area

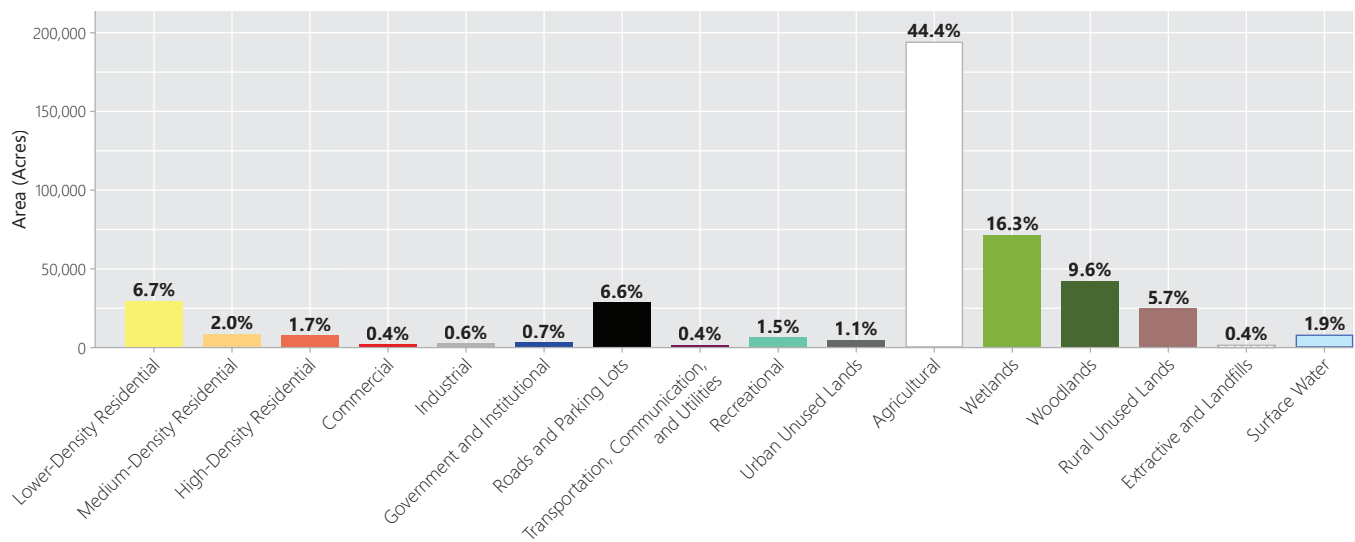
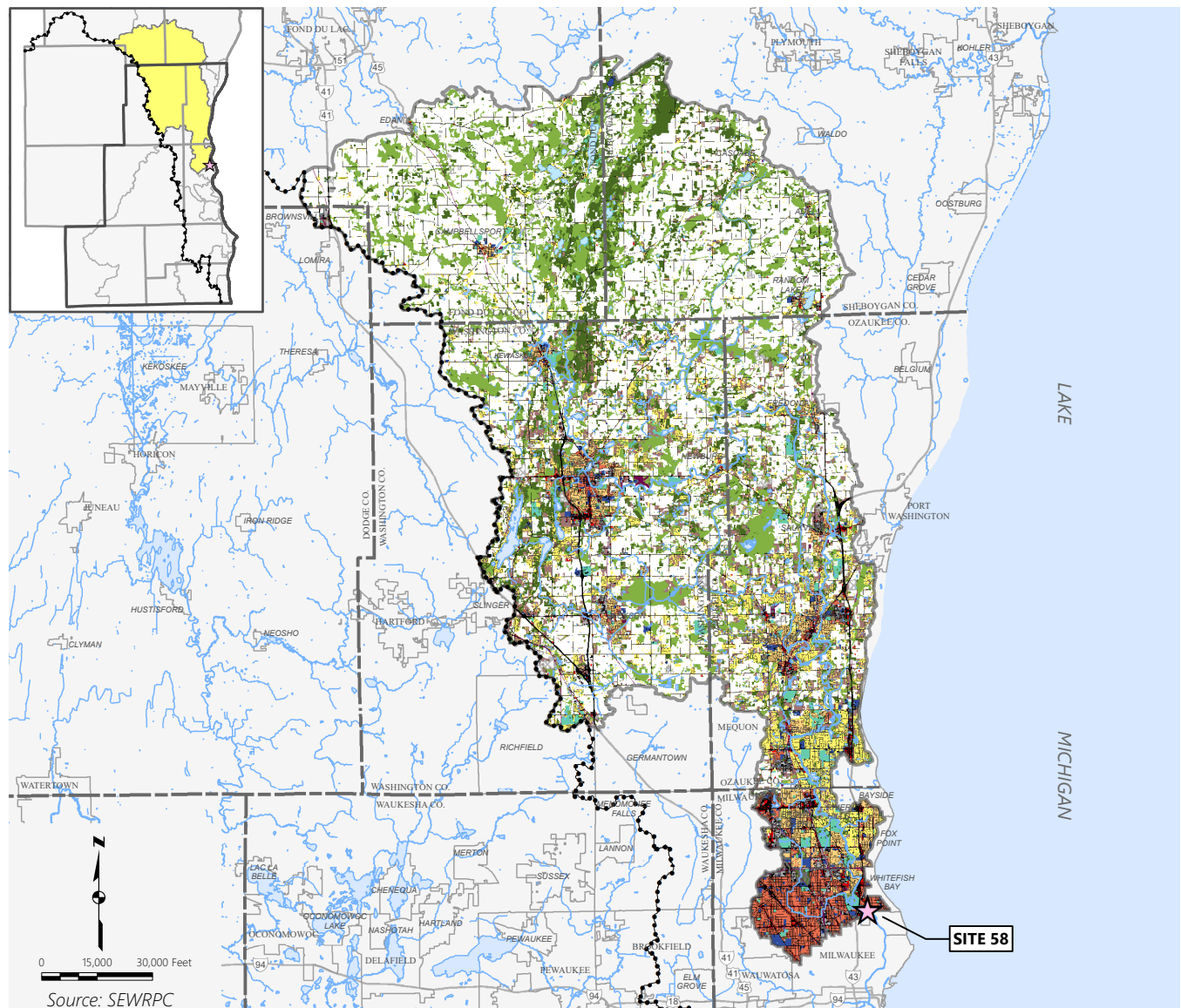


Facts at a Glance

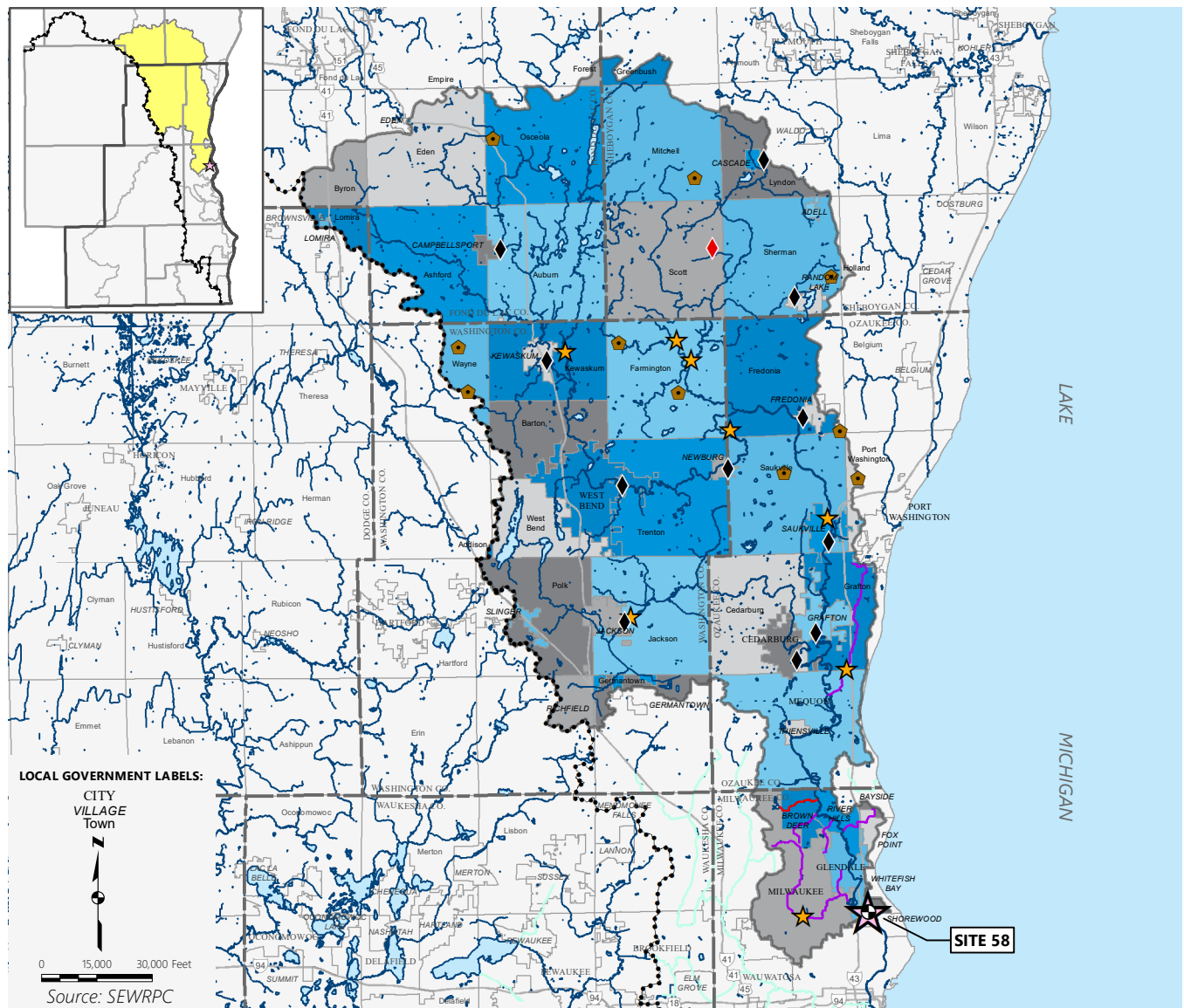
- ▶ **Drainage Area Size:** 124 square miles
- ▶ **Major Watershed:** Menomonee River
- ▶ **Land Use:** Urban – 67.3%; Rural – 32.7%
- ▶ **Roads and Parking Lots (% of drainage area):** 19.5
- ▶ **Estimated Population (2010):** 239,730
- ▶ **Estimated Households (2010):** 99,950 (98% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (📍):** Menomonee River at Wauwatosa (04087120)
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 53 and Site 87
- ▶ **Chloride-Impaired Waters:**
 - (—) Chronic Toxicity Impairment
 - (—) Chronic and Acute Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan and Groundwater

Map B.75

Site 58: Milwaukee River at Estabrook Park Drainage Area – Existing Land Use



Map B.76X
Site 58: Milwaukee River at Estabrook Drainage Area

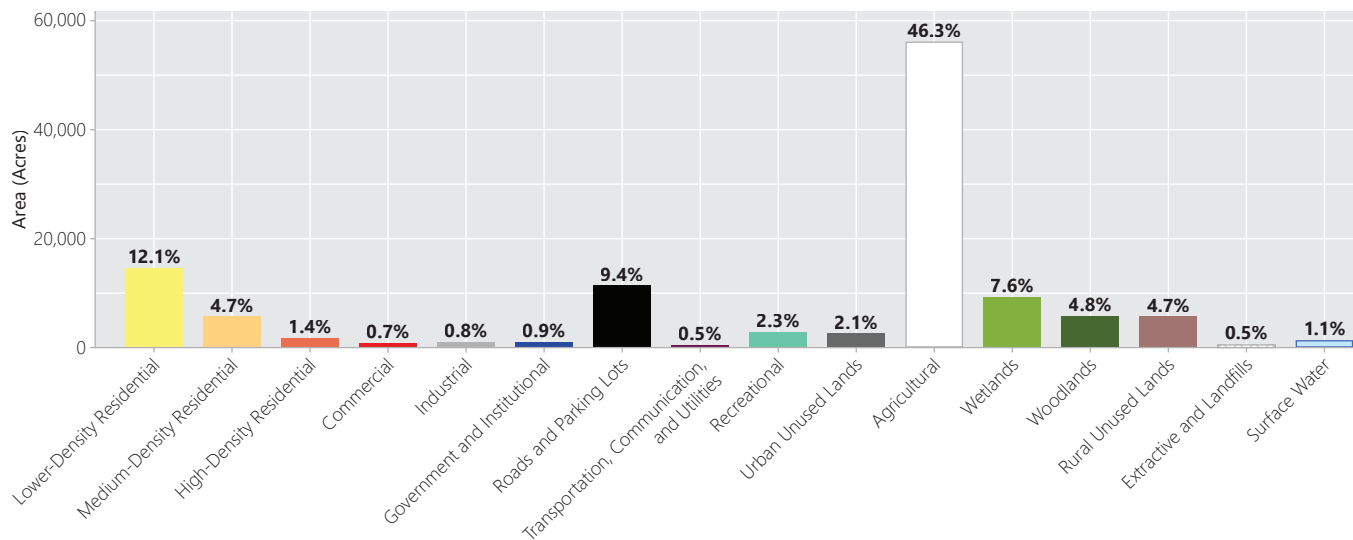
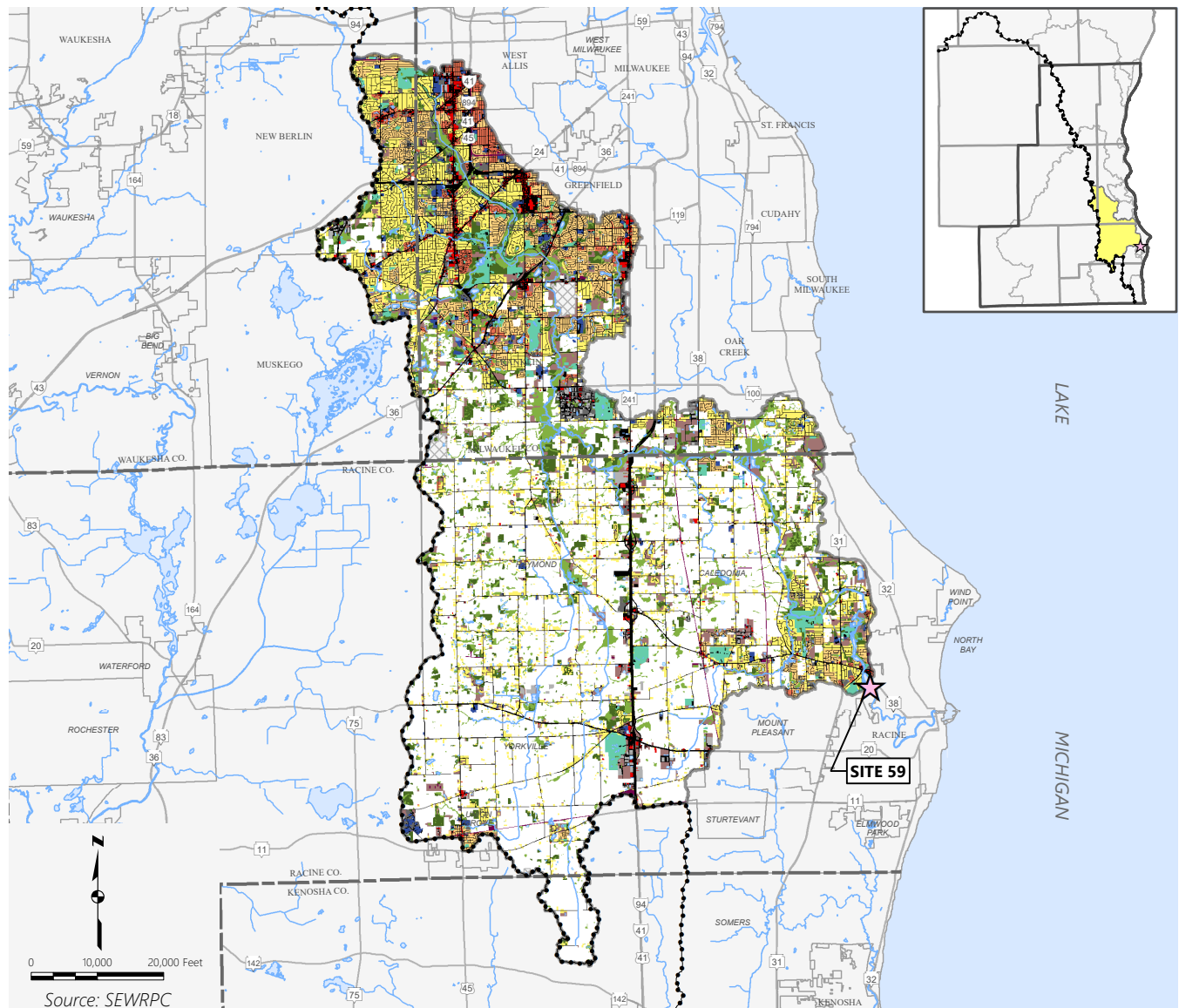


Facts at a Glance

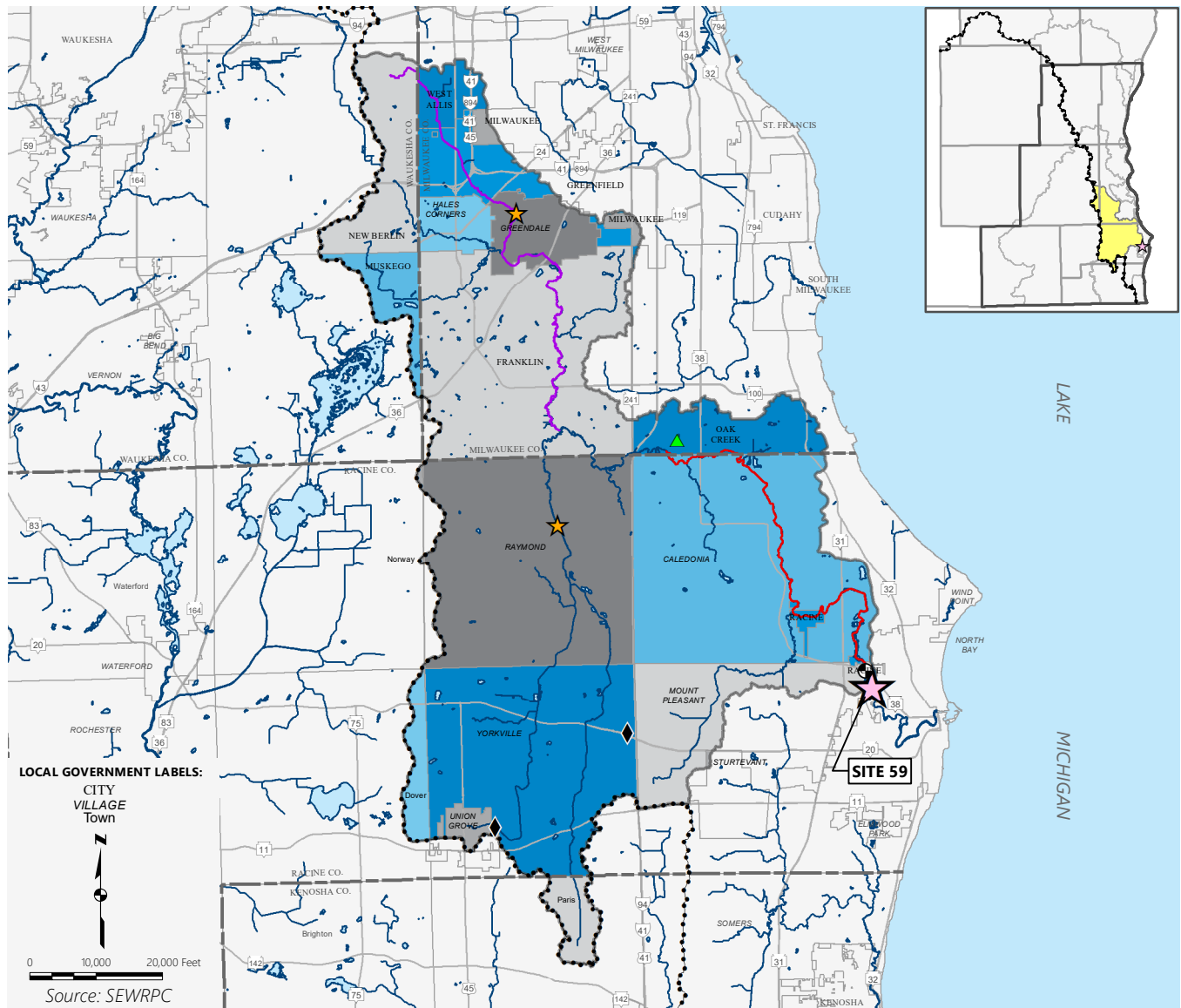
- ▶ **Drainage Area Size:** 685 square miles
- ▶ **Major Watershed:** Milwaukee River
- ▶ **Land Use:** Urban – 21.7%; Rural – 78.3%
- ▶ **Roads and Parking Lots (% of drainage area):** 6.6
- ▶ **Estimated Population (2010):** 336,700
- ▶ **Estimated Households (2010):** 132,100 (86% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgauge (📍):** Milwaukee River at Milwaukee (04087000)
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 21, Site 23, Site 40, Site 38, Site 41, Site 52, Site 13, and Site 12
- ▶ **Upstream Wastewater Treatment Facilities (♠):** 11
 WWTF discharge to soil (🔴): 1
- ▶ **Upstream Industrial Wastewater Dischargers (🔴):** 4
- ▶ **Concentrated Animal Feeding Operations (🐄):** 10
- ▶ **Chloride-Impaired Waters:**
 (—) Chronic Toxicity Impairment
 (—) Chronic and Acute Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan and Groundwater

Map B.77

Site 59: Root River near Horlick Dam Drainage Area – Existing Land Use



Map B.78
Site 59: Root River near Horlick Dam Drainage Area

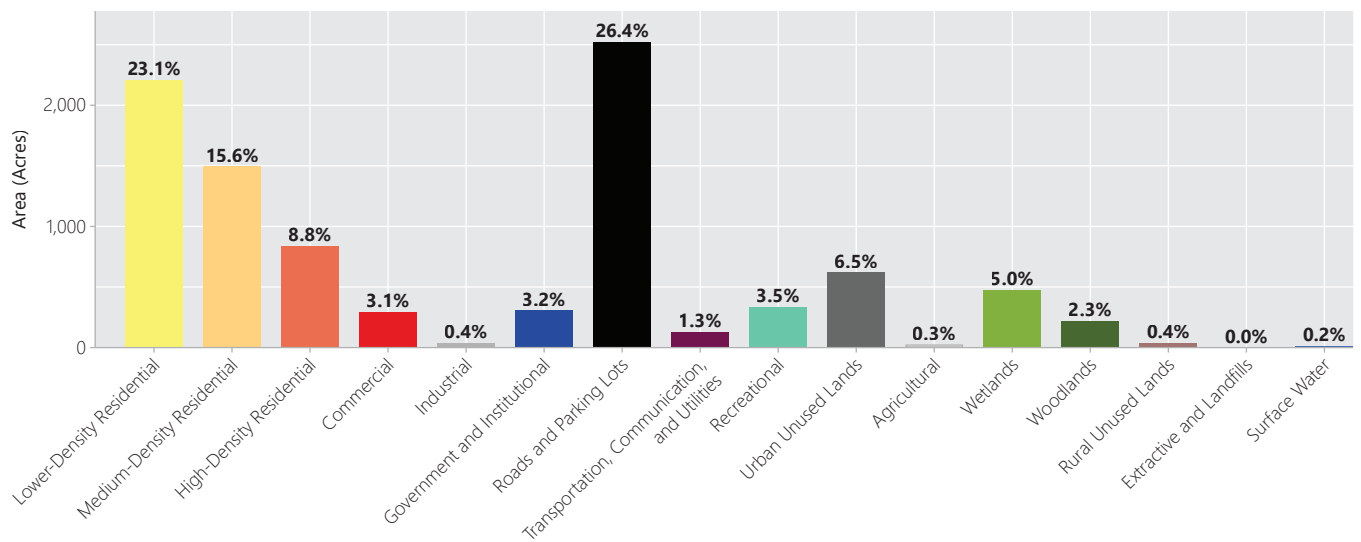
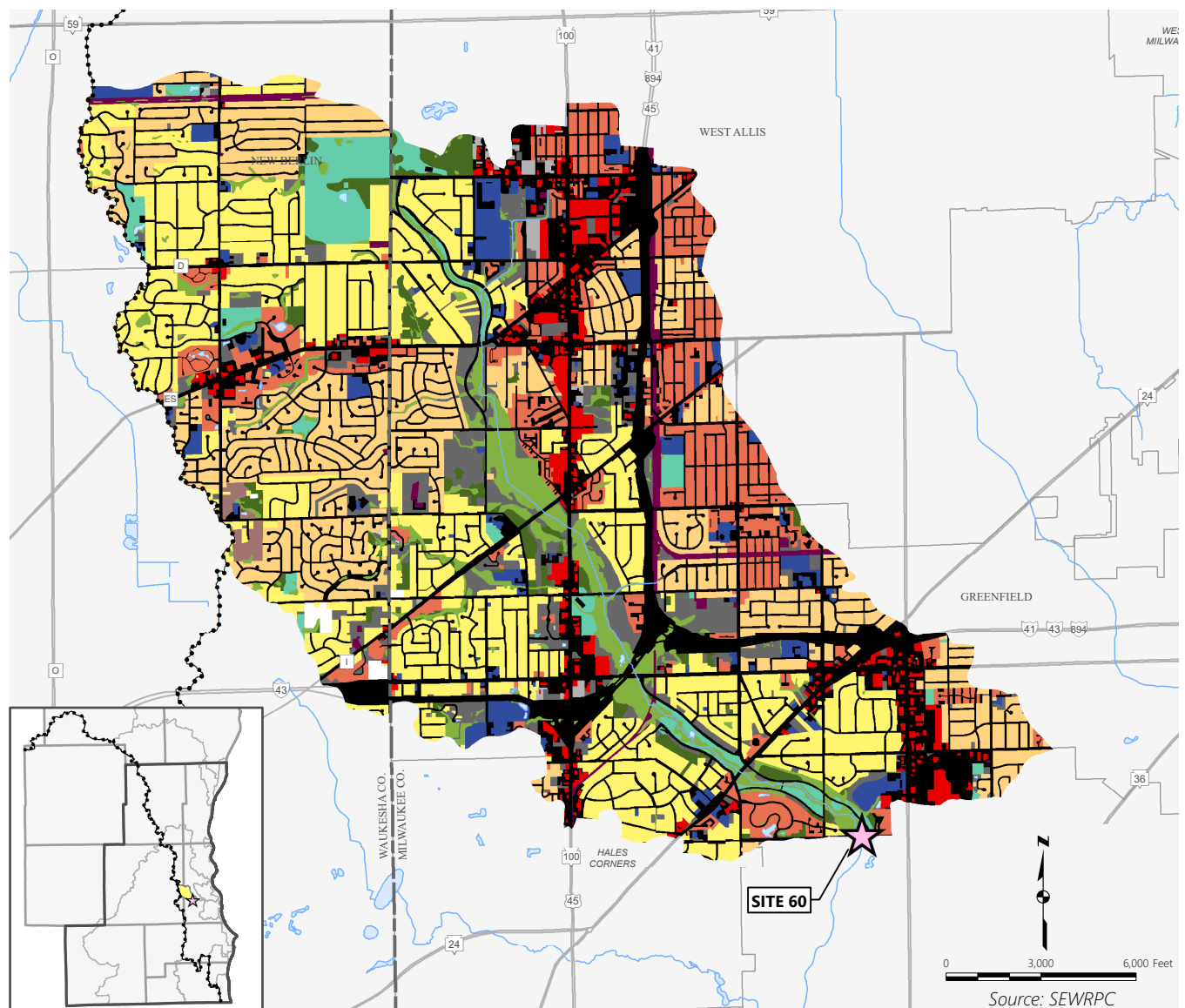


Facts at a Glance

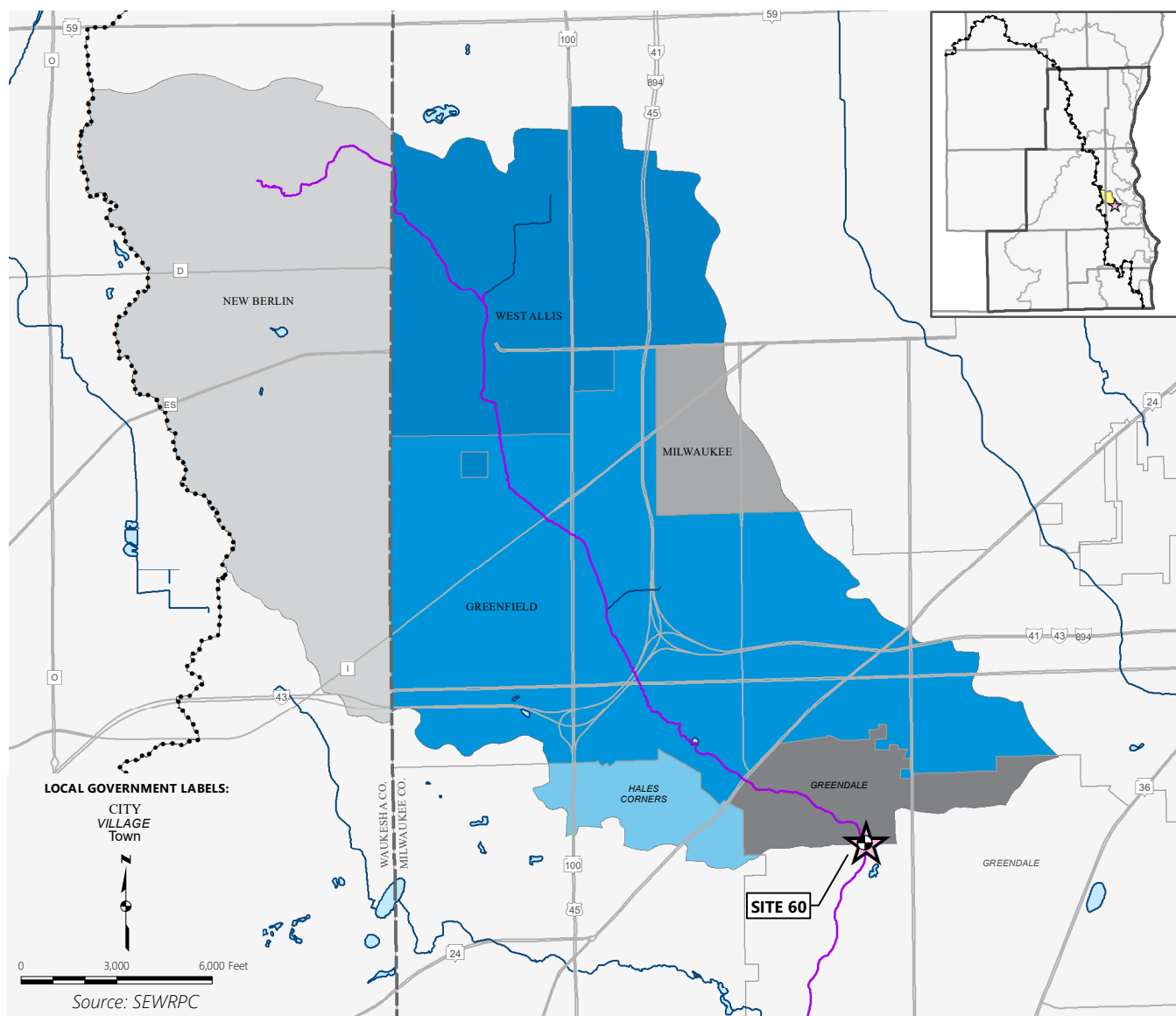
- ▶ **Drainage Area Size:** 190 square miles
- ▶ **Major Watershed:** Root River
- ▶ **Land Use:** Urban – 35.0%; Rural – 65.0%
- ▶ **Roads and Parking Lots (% of drainage area):** 9.4
- ▶ **Estimated Population (2010):** 141,920
- ▶ **Estimated Households (2010):** 57,370 (93% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgauge (📍):** Root River at Racine (04087240)
- ▶ **Other Monitoring Sites Within this Drainage Area (★):** Site 60 and Site 25
- ▶ **Upstream Wastewater Treatment Facilities (◆):** 2
- ▶ **Upstream Industrial Wastewater Dischargers (▲):** 1
- ▶ **Chloride-Impaired Waters:**
 - (—) Chronic Toxicity Impairment
 - (—) Chronic and Acute Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan and Groundwater

Map B.79

Site 60: Root River at Grange Avenue Drainage Area – Existing Land Use



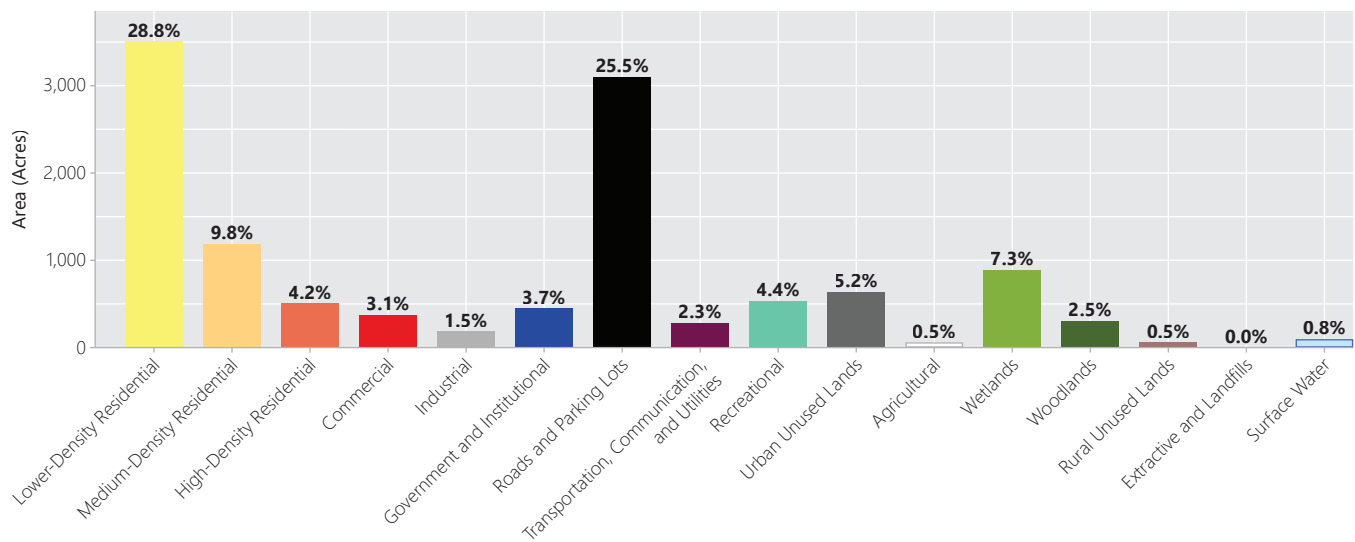
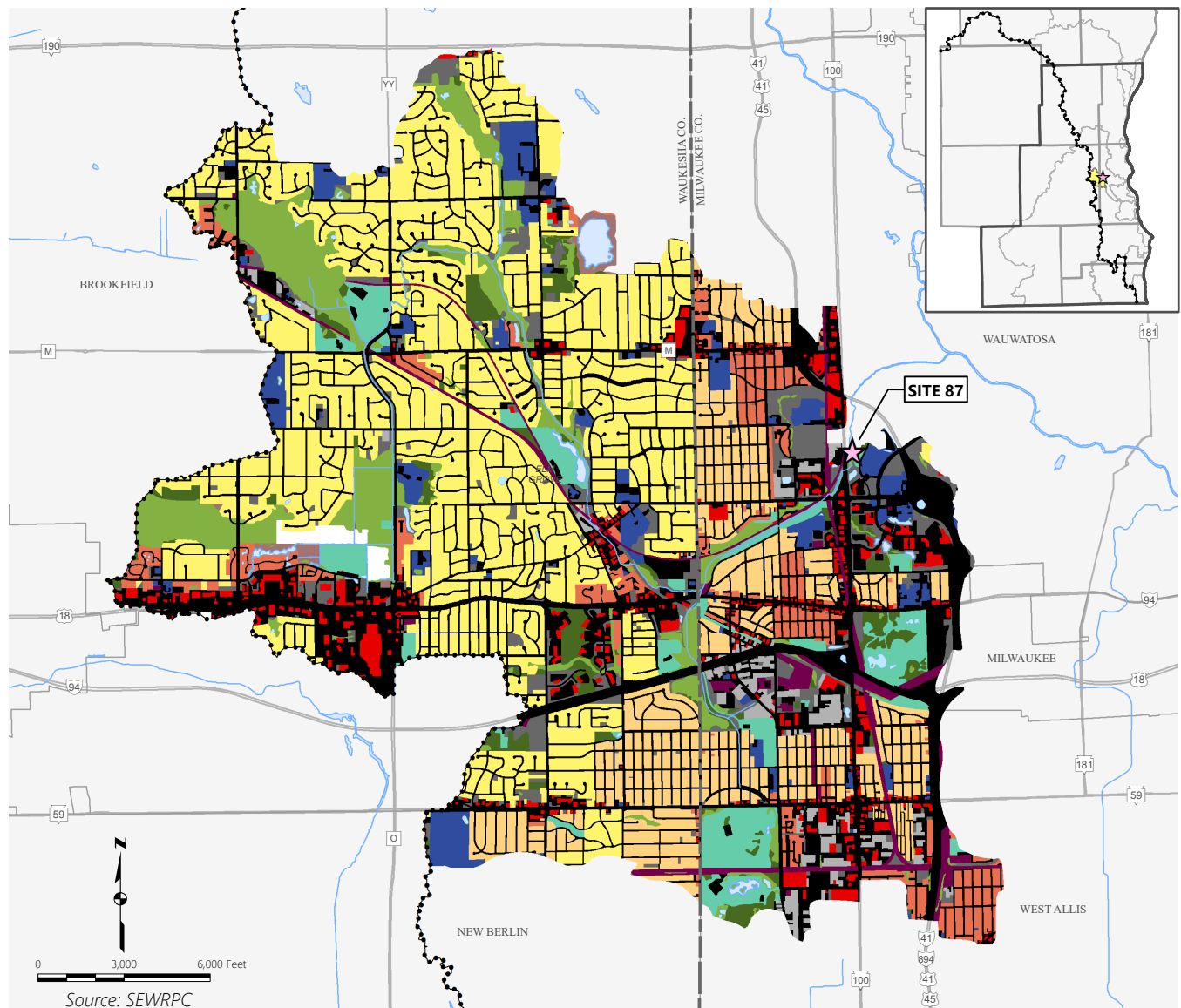
Map B.80
Site 60: Root River near Grange Avenue Drainage Area



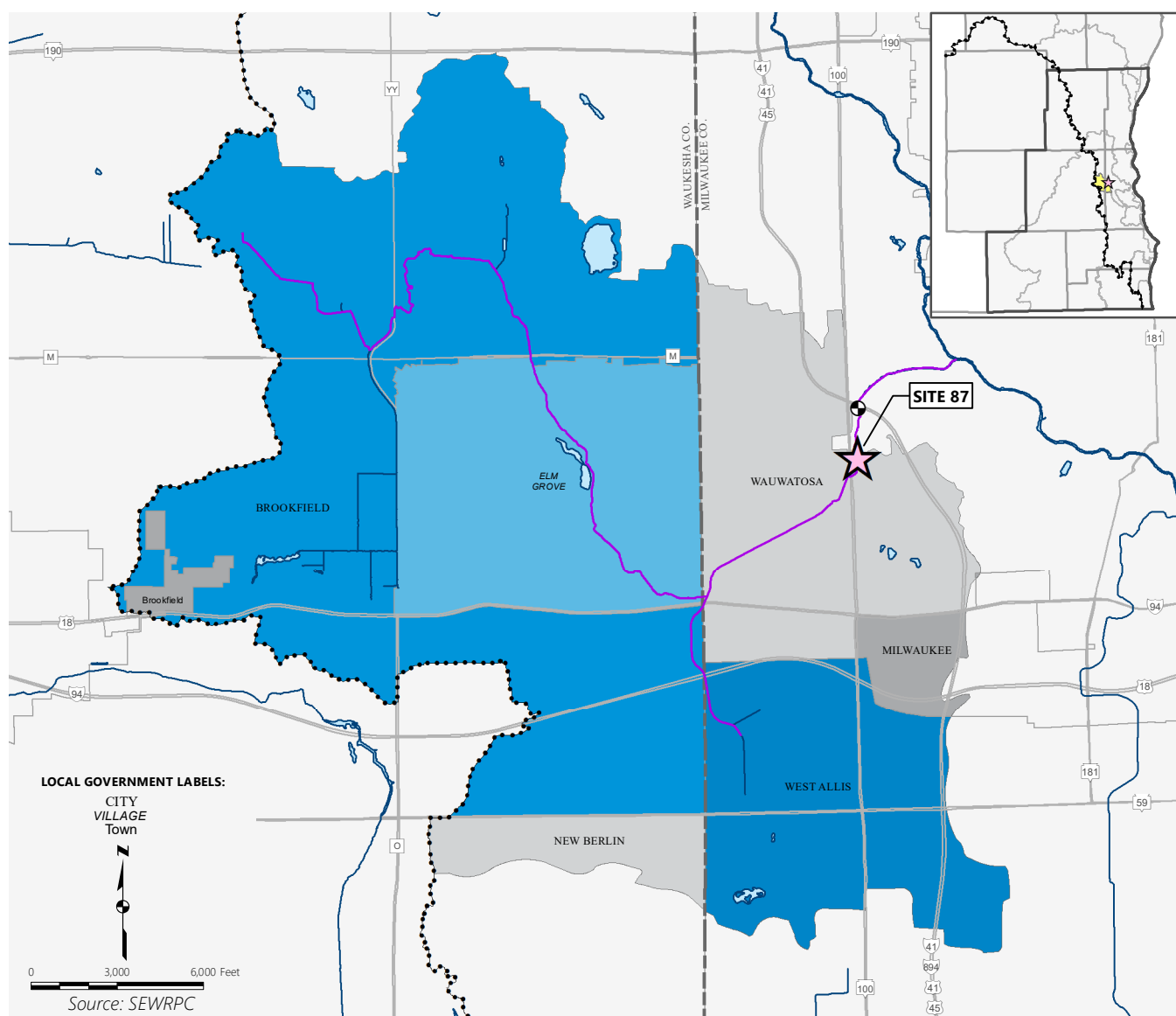
Facts at a Glance

- ▶ **Drainage Area Size:** 15 square miles
- ▶ **Major Watershed:** Root River
- ▶ **Land Use:** Urban – 91.9%; Rural – 8.1%
- ▶ **Roads and Parking Lots (% of drainage area):** 26.4
- ▶ **Estimated Population (2010):** 43,470
- ▶ **Estimated Households (2010):** 19,530 (100% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (📍):** Root River at Grange Avenue (04087214)
- ▶ **Chloride-Impaired Waters:**
 (—) Chronic and Acute Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan

Map B.81
Site 87: Underwood Creek Drainage Area – Existing Land Use



Map B.82
Site 87: Underwood Creek Drainage Area



Facts at a Glance

- ▶ **Drainage Area Size:** 19 square miles
- ▶ **Major Watershed:** Menomonee River
- ▶ **Land Use:** Urban – 88.4%; Rural – 11.6%
- ▶ **Roads and Parking Lots (% of drainage area):** 25.5
- ▶ **Estimated Population (2010):** 34,500
- ▶ **Estimated Households (2010):** 14,850 (100% served by public sanitary sewer)
- ▶ **Nearest USGS Streamgage (📍):** Underwood Creek at Wauwatosa (04087088)
- ▶ **Chloride-Impaired Waters:** (—) Chronic and Acute Toxicity Impairment
- ▶ **Water Supply Source:** Lake Michigan and Groundwater