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Deep River-Portage Burns Waterway Watershed Plan



Table of Contents

1	Introduction.....	17
1.1	Watershed Community Initiative	17
1.2	Project History	18
1.3	Stakeholder Concerns & Involvement.....	20
1.4	Water Quality Public Survey.....	23
1.4.1	Resident Attitudes	23
1.4.2	Resident Knowledge	23
1.4.3	Resident Actions	24
1.4.4	Motivating People to do the Right Thing	24
1.5	Steering Committee.....	25
2	Watershed Inventory- Part I.....	27
2.1	Watershed Location	27
2.2	Climate.....	29
2.3	Geology and Topography	31
2.3.1	Surficial Geology.....	31
2.3.2	Physiography	32
2.3.3	Elevation	33
2.3.4	Slope	33
2.4	Soils.....	35
2.4.1	Hydrologic Soil Groups	35
2.4.2	Highly Erodible Land.....	38
2.4.3	Hydric Soils	40
2.4.4	Soils Drainage Class	42
2.4.5	Septic System Soil Limitations	46
2.5	Hydrology	47
2.5.1	Surface Waterbody Features.....	49
2.5.2	Hydromodification.....	57
2.5.3	Water-Based Recreational Opportunities	63
2.5.4	Impaired Waterbodies.....	65
2.6	Land Cover & Land Use.....	68
2.6.1	Land Cover	69
2.6.2	Land Use	72

- 2.6.3 Agricultural Lands 73
- 2.6.4 Developed Lands 78
- 2.6.5 Natural Land Cover 94
- 2.6.6 Land Cover Change & Trends 98
- 2.7 Other Planning Efforts 101
 - 2.7.1 Total Maximum Daily Load Reports 101
 - 2.7.2 Watershed Management Plans 103
 - 2.7.3 Municipal Separate Storm Sewer System (Rule 13) & Rule 5 Programs 106
 - 2.7.4 Combined Sewer Overflow Long Term Control Plans 109
 - 2.7.5 Comprehensive Watershed Plan: Little Calumet River- Lake County Basin (LCRBDC) 110
 - 2.7.6 Indiana Coastal Nonpoint Pollution Control Plan 113
 - 2.7.7 Regional Land Use Planning 114
 - 2.7.8 Northwest Indiana Greenways & Blueways Plan 114
 - 2.7.9 Wellhead Protection Program 114
 - 2.7.10 Indiana Wetland Program Plan 115
 - 2.7.11 Hobart Marsh Plan 116
 - 2.7.12 Deep River Flood Risk Management Plan 116
 - 2.7.13 Chicago Wilderness Green Infrastructure Vision 2.1 119
 - 2.7.14 Ecosystem Services Valuation Study for Lake, Porter, and LaPorte Counties 120
- 2.8 Endangered, Threatened & Rare Species and High Quality Natural Areas 125
- 2.9 Exotic & Invasive Species 126
 - 2.9.1 Invasive Plant Species Commonly Found in the Deep River Watershed 128
 - 2.9.2 Invasive Plants Popular in Landscaping 130
 - 2.9.3 Early Detection Species Likely to Expand into the Watershed 130
 - 2.9.4 Invasive Forest Pests 131
 - 2.9.5 EAB Impacts on the Watershed 132
 - 2.9.6 ALB Impacts on the Deep River Watershed 132
- 2.10 Relevant Relationships 133
 - 2.10.1 Riparian Land Cover 133
 - 2.10.2 Wetland Loss 136
 - 2.10.3 Floodplain Land Cover 138
 - 2.10.4 Cultivated Land on Soils Classified as Highly Erodible Land 139
 - 2.10.5 Cultivated Land on Poorly Drained Soils 140

2.10.6 Unsewered Areas..... 142

3 Watershed Inventory- Part II..... 144

3.1 Water Quality Standards 144

3.2 Water Quality Parameters & Thresholds 147

 3.2.1 *E. coli*..... 149

 3.2.2 Biotic Communities: Fish & Macroinvertebrate Index of Biotic Integrity 149

 3.2.3 Water Temperature..... 150

 3.2.4 Dissolved Oxygen..... 150

 3.2.5 Nutrients: Phosphorus & Nitrogen..... 151

 3.2.6 Sediments: Suspended & Deposited 153

 3.2.7 Habitat: Qualitative Habitat Evaluation Index..... 154

3.3 Water Quality Data..... 155

 3.3.1 IDEM Baseline Assessment (2013-2014)..... 155

 3.3.2 Historical Water Quality Data..... 157

4 Subwatersheds of the Deep River-Portage Burns Waterway Watershed..... 163

4.1 Headwaters Main Beaver Dam Ditch (HUC 040400010501)..... 163

 4.1.1 Overview..... 163

 4.1.2 Water Quality 163

 4.1.3 Land Cover & Land Use..... 172

 4.1.4 Soils..... 174

4.2 Main Beaver Dam Ditch Subwatershed (HUC 040400010502) 175

 4.2.1 Overview..... 175

 4.2.2 Water Quality 175

 4.2.3 Land Cover & Land Use..... 183

 4.2.4 Soils..... 185

4.3 Headwaters Turkey Creek Subwatershed (HUC 0404000103)..... 187

 4.3.1 Overview..... 187

 4.3.2 Water Quality 187

 4.3.3 Land Use & Land Cover..... 195

 4.3.4 Soils..... 197

4.4 Deer Creek Subwatershed (HUC 0404000104) 199

 4.4.1 Overview..... 199

 4.4.2 Water Quality 199

- 4.4.3 Land Cover & Land Use..... 207
- 4.4.4 Soils..... 209
- 4.5 City of Merrillville Subwatershed (HUC 040400010505)..... 211
 - 4.5.1 Overview..... 211
 - 4.5.2 Water Quality 211
 - 4.5.3 Land Use & Land Cover..... 219
 - 4.5.4 Soils..... 221
- 4.6 Duck Creek Subwatershed (HUC 0404000106) 223
 - 4.6.1 Overview..... 223
 - 4.6.2 Water Quality 223
 - 4.6.3 Land Use & Land Cover..... 231
 - 4.6.4 Soils..... 232
- 4.7 Lake George Subwatershed (HUC 0404000107) 234
 - 4.7.1 Overview..... 234
 - 4.7.2 Water Quality 234
 - 4.7.3 Land Cover & Land Use..... 242
 - 4.7.4 Soils..... 244
- 4.8 Little Calumet River-Deep River Subwatershed (HUC 040400010508)..... 246
 - 4.8.1 Overview..... 246
 - 4.8.2 Water Quality 246
 - 4.8.3 Land Cover & Land Use..... 254
 - 4.8.4 Soils..... 255
- 4.9 Willow Creek-Burns Ditch Subwatershed (HUC 040400010509)..... 257
 - 4.9.1 Overview..... 257
 - 4.9.2 Water Quality 257
 - 4.9.3 Land Use & Land Cover..... 265
 - 4.9.4 Soils..... 267
- 5 Watershed Inventory- Part III..... 269
 - 5.1 Watershed Inventory Summary 269
 - 5.1.1 Patterns & Trends Affecting Full Body Contact Recreational Use..... 269
 - 5.1.2 Patterns & Trends Affecting Aquatic Life Use 270
 - 5.2 Analysis of Stakeholder Concerns 287
- 6 Problems & Causes 295

7 Pollutant Sources and Pollutant Loads..... 298

7.1 Potential Pollutant Sources 298

7.2 Current Runoff Volume & Pollutant Loads..... 302

7.2.1 Pollutant Load Modeling 302

7.2.2 HSPF Modeling Results 303

7.2.3 STEPL Modeling Results..... 304

7.3 Pollutant Load Reductions Needed 309

8 Watershed Restoration Goals 316

8.1 Recreational Use..... 316

8.2 Aquatic Life Use 316

9 Watershed Critical Areas 319

9.1 Identification Process 319

9.1.1 Loads & Stressors 319

9.1.2 Stakeholder Concerns..... 320

9.1.3 Final Determination..... 324

9.2 Critical Area Summary of Potential Problems & Sources..... 326

10 Priority Preservation Areas..... 331

11 Best Management Practices 333

11.1 Urban Area BMPs 333

11.1.1 LID BEST MANAGEMENT PRACTICE SELECTION CONSIDERATIONS 334

11.2 Agricultural Area BMPs..... 336

11.3 Priority Preservation Areas BMPs..... 337

11.4 Watershed-Wide BMPs 338

11.5 BMP Recommendations for Critical Areas 338

11.6 Estimated Load Reductions from BMPs 341

12 Watershed Restoration Action Register 348

12.1 Recreational Use..... 349

12.1.1 Reduce E. coli Loads 349

12.2 Aquatic Life Use 350

12.2.1 Improve Dissolved Oxygen Levels 350

12.2.2 Reduce Nutrient & Sediment Loads 351

12.2.3 Restore Riparian Vegetation..... 354

12.2.4 Improve Bed Form Diversity..... 354

- 12.2.5 Improve Channel Stability 355
- 12.2.6 Provide Floodplain Connectivity..... 356
- 12.2.7 Reduce Storm Water Runoff Volume & Rates..... 357
- 13 Tracking Effectiveness 359
 - 13.1 Pollutant Load Modelling 359
 - 13.2 Water Quality & Biological Assessment 359
 - 13.3 Hydrologic & Geomorphology Assessment..... 359
 - 13.4 Administrative Indicators 359
 - 13.5 Implementation Tracking 360
- 14 Future Considerations 361

List of Figures

Figure 1 Watershed location	17
Figure 2 Previous Watershed Planning Efforts in the Current Project Area	18
Figure 3 Project history timeline	19
Figure 4 Subwatersheds & municipalities	27
Figure 5 Precipitation & temperature	29
Figure 6 Precipitation depth-duration frequency curves	30
Figure 7 Surficial geology.....	31
Figure 8 Physiography	32
Figure 9 Elevation	33
Figure 10 Slope	34
Figure 11 Hydrologic soil groups	36
Figure 12 HEL/Potential HEL soils in the watershed.....	40
Figure 13 Hydric soils rating	42
Figure 14 Soil Drainage Class	44
Figure 15 Septic System Soil Limitation Rating.....	47
Figure 16 Stream Flow Directions.....	49
Figure 17 Surface Waterbody Features.....	50
Figure 18 Monthly mean flow data for Deep River gage at Deep River Lake George Outlet Gaging Station	51
Figure 19 Flow duration-curve comparison between Deep and Galena River.	52
Figure 20 Trend Data for Annual Peak Discharge & Precipitation at Deep River Lake George Outlet Gaging Station .	52
Figure 21 Floodplains (Flood Hazard)	54
Figure 22 Wetlands.....	57
Figure 23 County Regulated Drains	59
Figure 24 Deep River Dam	61
Figure 25 Hobart Deep River Dam Location	62
Figure 26 Recreational facilities with access to water	65
Figure 27 Impaired Waterbodies.....	66
Figure 28 Land cover by subwatershed.....	69
Figure 29 Land Cover (2010).....	70
Figure 30 Existing land use	73
Figure 31 Conservation Tillage Data.....	75
Figure 32 Livestock facilities	78
Figure 33 Population Density	80
Figure 34 Relationship between Impervious Cover & Stream Quality.....	80
Figure 35 Impervious surface cover	82
Figure 36 Wastewater treatment plants	83
Figure 37 Combined sewer overflows	86
Figure 38 Sanitary sewer overflows	88
Figure 39 Remediation and waste sites.....	94
Figure 40 Natural land cover	95
Figure 41 Forest fragmentation data (1996-2006).....	96
Figure 42 Forest Habitat	97
Figure 43 Municipal tree canopy cover	98

Figure 44 Land Cover Change (1985-2010) 99

Figure 45 Successive Development Pattern for Watershed (1985-2010) 100

Figure 46 MS4 areas 108

Figure 47 Chicago Wilderness Green Infrastructure Vision Ecological Network..... 120

Figure 48 GIV ecosystem services water purification..... 122

Figure 49 GIV ecosystem services water flow regulation..... 123

Figure 50 GIV ecosystem services groundwater recharge 124

Figure 51 Endangered, Threatened & Rare Species and High Quality Natural Areas in Relation to Managed Lands 126

Figure 52 Riparian Buffer Widths & Benefits..... 133

Figure 53 Riparian human land use/land cover..... 134

Figure 54 Subwatershed Riparian Area Land Cover 135

Figure 55 Riparian Buffer Analysis Results 136

Figure 56 Wetland Loss 138

Figure 57 Floodplain Land Cover Composition..... 138

Figure 58 Floodplain land cover 139

Figure 59 Cultivated Crops on Soils Classified as HEL..... 140

Figure 60 Cultivated Land on Poorly Drained Soil Classes..... 142

Figure 61 Approximate Unsewered Area 143

Figure 62 Conceptual diagram illustrating causal pathways, from sources to impairments, related to temperature 150

Figure 63 Conceptual diagram illustrating causal pathways, from sources to impairments, related to dissolved oxygen 151

Figure 64 Conceptual diagram illustrating causal pathways, from sources to impairments, related to nutrients..... 153

Figure 65 Conceptual diagram illustrating causal pathways, from sources to impairments, related to sediment 154

Figure 66 Conceptual diagram illustrating causal pathways, from sources to impairments, related to physical habitat 155

Figure 67 IDEM baseline assessment stream monitoring sites and their catchments..... 157

Figure 68 IDEM historical water quality monitoring sites 158

Figure 69 Stream sampling sites monitored during development of Deep River-Turkey Creek Watershed Plan..... 159

Figure 70 Stream monitoring sites for West Branch Little Calumet River Watershed Plan..... 161

Figure 71 Stream Impairments within the Headwaters Main Beaver Dam Ditch Subwatershed..... 163

Figure 72 Box plot illustrating site E. coli concentrations within the Headwaters Main Beaver Dam Ditch Subwatershed..... 164

Figure 73 Box plot illustrating site water temperature observations within the Headwaters Main Beaver Dam Ditch Subwatershed..... 166

Figure 74 Box plot illustrating site dissolved oxygen concentrations within the Headwaters Main Beaver Dam Ditch Subwatershed..... 166

Figure 75 Box plot illustrating site TOC concentrations within the Headwaters Main Beaver Dam Ditch Subwatershed 167

Figure 76 Box plot illustrating site total phosphorus concentrations within the Headwaters Main Beaver Dam Ditch Subwatershed..... 168

Figure 77 Box plot illustrating site nitrate concentrations within the Main Beaver Dam Ditch Subwatershed 168

Figure 78 Box plot illustrating site total kjehldahl nitrogen concentrations within the Headwaters Main Beaver Dam Ditch Subwatershed 169

Figure 79 Box plot illustrating site ammonia concentrations within the Headwaters Main Beaver Dam Ditch Subwatershed..... 169

Figure 80 Box plot illustrating site total suspended solid concentrations within the Headwaters Main Beaver Dam Ditch Subwatershed 170

Figure 81 Box plot illustrating site turbidity levels within the Headwaters Main Beaver Dam Ditch Subwatershed . 171

Figure 82 Site qualitative habitat evaluation index scoring within the Headwaters Main Beaver Dam Ditch Subwatershed..... 171

Figure 83 Percent land cover within the Headwaters Main Beaver Dam Ditch Subwatershed..... 172

Figure 84 Land cover and land use in the Headwaters Main Beaver Dam Ditch subwatershed 173

Figure 85 Hydric, highly erodible, & steep slope soils within the Headwaters Main Beaver Dam Ditch Subwatershed 174

Figure 86 Stream impairments within the Main Beaver Dam Ditch Subwatershed 175

Figure 87 Box plot illustrating site E. coli concentrations within the Main Beaver Dam Ditch Subwatershed..... 176

Figure 88 Box plot illustrating site water temperatures within the Main Beaver Dam Ditch Subwatershed..... 177

Figure 89 Box plot illustrating site dissolved oxygen concentrations within the Main Beaver Dam Ditch Subwatershed..... 178

Figure 90 Box plot illustrating site TOC concentrations within the Main Beaver Dam Ditch Subwatershed 178

Figure 91 Box plot illustrating site total phosphorus concentrations within the Main Beaver Dam Ditch Subwatershed..... 179

Figure 92 Box plot illustrating site nitrate concentrations within the Main Beaver Dam Ditch Subwatershed 180

Figure 93 Box plot illustrating site total kjeldahl nitrogen concentrations within the Main Beaver Dam Ditch Subwatershed..... 180

Figure 94 Box plot illustrating site ammonia concentrations within the Main Beaver Dam Ditch Subwatershed..... 181

Figure 95 Box plot illustrating site total suspended solids concentrations within the Main Beaver Dam Ditch Subwatershed..... 182

Figure 96 Box plot illustrating site turbidity levels within the Main Beaver Dam Ditch Subwatershed 182

Figure 97 Site qualitative habitat evaluation index scores within the Main Beaver Dam Ditch Subwatershed 183

Figure 98 Percent land cover within the Main Beaver Dam Ditch Subwatershed 183

Figure 99 Land cover and land use within the Main Beaver Dam Ditch Subwatershed 185

Figure 100 Hydric, highly erodible and steep slope soils within the Main Beaver Dam Ditch Subwatershed..... 186

Figure 101 Impaired streams within the Headwaters Turkey Creek Subwatershed..... 187

Figure 102 Box plot illustrating site E. coli concentrations within the Headwaters Turkey Creek Subwatershed 188

Figure 103 Box plot illustrating site temperatures within the Headwaters Turkey Creek Subwatershed..... 189

Figure 104 Box plot illustrating site dissolved oxygen concentrations within the Headwaters Turkey Creek Subwatershed..... 190

Figure 105 Box plot illustrating site TOC concentrations within the Headwaters Turkey Creek Subwatershed 190

Figure 106 Box plot illustrating site total phosphorus concentrations within the Headwaters Turkey Creek Subwatershed..... 191

Figure 107 Box plot illustrating site nitrate concentrations within the Headwaters Turkey Creek Subwatershed.... 191

Figure 108 Box plot illustrating site total kjeldahl nitrogen concentrations within the Headwaters Turkey Creek Subwatershed..... 192

Figure 109 Box plot illustrating site ammonia concentrations within the Headwaters Turkey Creek Subwatershed 193

Figure 110 Box plot illustrating site total suspended solids concentrations within the Headwaters Turkey Creek Subwatershed..... 193

Figure 111 Box plot illustrating site turbidity levels within the Headwaters Turkey Creek Subwatershed 194

Figure 112 Site qualitative habitat evaluation index scores within the Headwaters Turkey Creek Subwatershed.... 195

Figure 113 Percent land cover within the Headwaters Turkey Creek Subwatershed..... 195

Figure 114 Land cover and land use within the Headwaters Turkey Creek Subwatershed 197

Figure 115 Soils within the Headwaters Turkey Creek Subwatershed..... 198

Figure 116 Stream impairments within the Deer Creek Subwatershed..... 199

Figure 117 Box plot illustrating site E. coli concentrations within the Deer Creek Subwatershed..... 200

Figure 118 Box plot illustrating site temperatures within the Deer Creek Subwatershed 201

Figure 119 Box plot illustrating site dissolved oxygen concentrations within the Deer Creek Subwatershed 202

Figure 120 Box plot illustrating site TOC concentrations within the Deer Creek Subwatershed..... 202

Figure 121 Box plot illustrating site total phosphorus concentrations within the Deer Creek Subwatershed..... 203

Figure 122 Box plot illustrating site nitrate concentrations within the Deer Creek Subwatershed 204

Figure 123 Box plot illustrating site total Kjeldahl nitrogen concentrations within the Deer Creek Subwatershed . 204

Figure 124 Box plot illustrating site ammonia concentrations within the Deer Creek Subwatershed 205

Figure 125 Box plot illustrating site total suspended solids concentrations within the Deer Creek Subwatershed .. 206

Figure 126 Box plot illustrating turbidity levels within the Deer Creek Subwatershed 206

Figure 127 Site qualitative habitat evaluation index scores within the Deer Creek Subwatershed 207

Figure 128 Percent land cover within the Deer Creek Subwatershed 207

Figure 129 Land cover and land use within the Deer Creek Subwatershed..... 209

Figure 130 Soils within the Deer Creek Subwatershed 210

Figure 131 Impaired streams within the City of Merrillville Subwatershed..... 211

Figure 132 Box plot illustrating site E. coli concentrations within the City of Merrillville Subwatershed 212

Figure 133 Box plot illustrating site water temperature within the City of Merrillville Subwatershed..... 213

Figure 134 Box plot illustrating site dissolved oxygen concentrations within the City of Merrillville Subwatershed 214

Figure 135 Box plot illustrating site TOC concentrations within the City of Merrillville Subwatershed 214

Figure 136 Box plot illustrating site total phosphorus concentrations within the City of Merrillville Subwatershed 215

Figure 137 Box plot illustrating site nitrate concentrations within the City of Merrillville Subwatershed..... 215

Figure 138 Box plot illustrating site total Kjeldahl nitrogen concentrations within the City of Merrillville Subwatershed..... 216

Figure 139 Box plot illustrating site ammonia concentrations within the City of Merrillville Subwatershed 216

Figure 140 Box plot illustrating site total suspended solids concentrations within the City of Merrillville Subwatershed..... 217

Figure 141 Box plot illustrating site turbidity levels within the City of Merrillville Subwatershed..... 218

Figure 142 Site Qualitative Habitat Evaluation Index scores within the City of Merrillville Subwatershed 219

Figure 143 Percent land cover within the City of Merrillville Subwatershed..... 219

Figure 144 Land cover and land use within the City of Merrillville Subwatershed..... 221

Figure 145 Soils within the City of Merrillville Subwatershed..... 222

Figure 146 Impaired streams within the Duck Creek Subwatershed 223

Figure 147 Box plot illustrating site E. coli concentrations within the Duck Creek Subwatershed..... 224

Figure 148 Box plot illustrating site water temperatures within the Duck Creek Subwatershed..... 225

Figure 149 Box plot illustrating site dissolved oxygen concentrations within the Duck Creek Subwatershed..... 226

Figure 150 Box plot illustrating site TOC concentrations within the Duck Creek Subwatershed 226

Figure 151 Box plot illustrating site total phosphorus concentrations within the Duck Creek Subwatershed 227

Figure 152 Box plot illustrating site nitrate concentrations within the Duck Creek Subwatershed 227

Figure 153 Box plot illustrating site total Kjeldahl nitrogen concentrations within the Duck Creek Subwatershed .. 228

Figure 154 Box plot illustrating site ammonia concentrations within the Duck Creek Subwatershed 228

Figure 155 Box plot illustrating site total suspended solids concentrations within the Duck Creek Subwatershed .. 229

Figure 156 Box plot illustrating site turbidity levels within the Duck Creek Subwatershed 229

Figure 157 Site qualitative habitat evaluation index scores within the Duck Creek Subwatershed 230

Figure 158 Percent land cover within the Duck Creek Subwatershed 231

Figure 159 Land use and land cover within the Duck Creek Subwatershed 232

Figure 160 Soils within the Duck Creek Subwatershed 233

Figure 161 Impaired streams within the Lake George Subwatershed 234

Figure 162 Box plot illustrating site E. coli concentrations within the Lake George Subwatershed..... 235

Figure 163 Box plot illustrating site water temperature within the Lake George Subwatershed 236

Figure 164 Box plot illustrating site dissolved oxygen concentrations within the Lake George Subwatershed..... 237

Figure 165 Box plot illustrating site TOC concentrations within the Lake George Subwatershed..... 237

Figure 166 Box plot illustrating site total phosphorus concentrations within the Lake George Subwatershed..... 238

Figure 167 Box plot illustrating site nitrate concentrations within the Lake George Subwatershed 239

Figure 168 Box plot illustrating site total kjeldahl nitrogen concentrations within the Lake George Subwatershed 239

Figure 169 Box plot illustrating site ammonia concentrations within the Lake George Subwatershed 240

Figure 170 Box plot illustrating site total suspended solids concentrations within the Lake George Subwatershed 240

Figure 171 Box plot illustrating site turbidity levels within the Lake George Subwatershed 241

Figure 172 Site qualitative habitat evaluation index scores within the Lake George Subwatershed 242

Figure 173 Percent land cover within the Lake George Subwatershed 242

Figure 174 Land cover and land use within the Lake George Subwatershed 244

Figure 175 Soils within the Lake George Subwatershed 245

Figure 176 Impaired streams within the Little Calumet River Subwatershed 246

Figure 177 Box plot illustrating site E. coli concentrations within the Little Calumet River Subwatershed 247

Figure 178 Box plot illustrating site water temperatures within the Little Calumet River Subwatershed 248

Figure 179 Box plot illustrating site dissolved oxygen concentrations within the Little Calumet River Subwatershed
..... 249

Figure 180 Box plot illustrating site TOC concentrations within the Little Calumet River Subwatershed..... 249

Figure 181 Box plot illustrating site total phosphorus concentrations within the Little Calumet River Subwatershed
..... 250

Figure 182 Box plot illustrating site nitrate concentrations within the Little Calumet River Subwatershed..... 250

Figure 183 Box plot illustrating site total Kjeldahl nitrogen concentrations within the Little Calumet River
Subwatershed..... 251

Figure 184 Box plot illustrating site ammonia concentrations within the Little Calumet River Subwatershed 251

Figure 185 Box plot illustrating site total suspended solids concentrations within the Little Calumet River
Subwatershed..... 252

Figure 186 Box plot illustrating site turbidity levels within the Little Calumet River Subwatershed..... 253

Figure 187 Site qualitative habitat evaluation index scores within the Little Calumet River Subwatershed 253

Figure 188 Percent land cover within the Little Calumet River Subwatershed..... 254

Figure 189 Land cover and land use within the Little Calumet River Subwatershed 255

Figure 190 Soils within the Little Calumet River Subwatershed..... 256

Figure 191 Impaired streams withing the Willow Creek Subwatershed 257

Figure 192 Box plot illustrating E. coli concentrations within the Willow Creek Subwatershed 258

Figure 193 Box plot illustrating water temperatures within the Willow Creek Subwatershed 259

Figure 194 Box plot illustrating dissolved oxygen concentrations within the Willow Creek Subwatershed 260

Figure 195 Box plot illustrating TOC concentrations within the Willow Creek Subwatershed 260

Figure 196 Box plot illustrating total phosphorus concentrations within the Willow Creek Subwatershed 261

Figure 197 Box plot illustrating nitrate concentrations within the Willow Creek Subwatershed 262

Figure 198 Box plot illustrating total Kjeldahl nitrogen concentrations within the Willow Creek Subwatershed 262

Figure 199 Box plot illustrating ammonia concentrations within the Willow Creek Subwatershed 263

Figure 200 Box plot illustrating total suspended solids concentrations within the Willow Creek Subwatershed 263

Figure 201 Box plot illustrating turbidity levels within the Willow Creek Subwatershed 264

Figure 202 Site qualitative habitat evaluation index scores within the Willow Creek Subwatershed 265

Figure 203 Percent land cover within the Willow Creek Subwatershed 265

Figure 204 Land cover and land use within the Willow Creek Subwatershed 267

Figure 205 Soils within the Willow Creek Subwatershed 268

Figure 206 E. coli impaired stream reaches and sites with elevated E. coli concentrations 269

Figure 207 Box plot illustrating site E. coli concentrations within the watershed 270

Figure 208 Box plot illustrating monthly E. coli concentrations within the watershed 270

Figure 209 Biotic impairment and stressor co-occurrences 271

Figure 210 Box plots illustrating site temperature, dissolved oxygen, total organic carbon, sediment, and nutrient concentrations within the watershed 273

Figure 211 Site Qualitative Habitat Evaluation Index scores within the watershed 274

Figure 212 Box plots illustrating monthly dissolved oxygen, sediment and nutrient concentrations within the watershed 280

Figure 213 Fish Community Cluster Analysis 281

Figure 214 Macroinvertebrate community cluster analysis 282

Figure 215 Fish community principle component analysis results 284

Figure 216 Macroinvertebrate community principal component analysis results 285

Figure 217 Stream functions pyramid 286

Figure 218 Percent land cover contribution to runoff volume (STEPL) 305

Figure 219 Estimated total annual pollutant load by source (STEPL) 308

Figure 220 Pollutant load and stressor indicators with stakeholder indicators overlay 324

Figure 221 Critical areas 326

Figure 222 Deep River-Hobart Marsh Conservation Corridor 332

Figure 223 Decision making process for BMP selection 334

List of Tables

Table 1 Stakeholder Watershed Values 20

Table 2 Stakeholder Watershed Concerns 22

Table 3 Steering Committee Members and Representative 26

Table 4 Subwatershed drainage area and downstream subwatershed 28

Table 5 Monthly precipitation data during baseline assessment monitoring period 29

Table 6 Hydrologic soil groups data 37

Table 7 HEL/Potential HEL soil units by county 38

Table 8 HEL/ Potentially HEL soil units by subwatershed..... 39

Table 9 Hydric Soils Data 41

Table 10 Drainage Class Data 45

Table 11 Natural and Cultural Benefits of Floodplains..... 53

Table 12 Subwatershed Wetland Data 56

Table 13 Watershed Wetland Type Statistics..... 56

Table 14 Dams 60

Table 15 Recreational facilities with access to water..... 64

Table 16 Impaired Waterbodies 67

Table 17 Land cover summary data..... 71

Table 18 Land use summary data..... 72

Table 19 Agricultural Animals..... 77

Table 20 Estimated number of livestock facilities by subwatershed 77

Table 21 Development Impacts on Streams..... 79

Table 22 Population Change by Municipality 79

Table 23 Impervious Cover Model Category Observation Descriptions 81

Table 24 Subwatershed Percent Impervious Cover 82

Table 25 Wastewater treatment plants 85

Table 26 Combined sewer overflows 87

Table 27 Sanitary sewer overflows..... 88

Table 28 NPDES permitted industrial facilities 90

Table 29 Wastewater treatment plant summary of inspections and permit compliance 92

Table 30 Summary of remediation and waste sites 93

Table 31 Load reductions required from TMDL 103

Table 32 LCRBDC Comprehensive Watershed Plan project opportunities to improve conveyance and storage..... 113

Table 33 Ecosystem services 121

Table 34 Riparian Buffer Analysis Results..... 135

Table 35 Wetland Loss Data 137

Table 36 Acres & Percentage of Cultivated Land on Poorly Drained Soil Classes 141

Table 37 Aquatic Life Use Support Criteria..... 146

Table 38 Water Quality Targets for Watershed Improvement & Protection..... 148

Table 39 IDEM Stream Water Quality Monitoring Site Information t..... 156

Table 40 Site catchment drainage area size 156

Table 41 IDEM historical stream monitoring site information 158

Table 42 Physical water quality parameter data collected for Deep River-Turkey Creek Watershed Plan..... 160

Table 43 Chemical and bacterial data collected for Deep River-Turkey Creek Watershed Plan 160

Table 44 Water quality data collected for West Branch Little Calumet River Watershed Plan 161

Table 45 E. coli data collected for West Branch Little Calumet River Watershed Plan..... 162

Table 46 Site fish index of biotic integrity scores within the Headwaters Main Beaver Dam Ditch Subwatershed ... 165

Table 47 Site macroinvertebrate index of biotic integrity scores within the Headwaters Main Beaver Dam Ditch Subwatershed..... 165

Table 48 Site percent land cover within the Headwaters Main Beaver Dam Ditch Subwatershed 172

Table 49 Site percent riparian land cover within the Headwaters Main Beaver Dam Ditch Subwatershed 173

Table 50 Site fish index of biotic integrity scores within the Main Beaver Dam Ditch Subwatershed 176

Table 51 Site macroinvertebrate index of biotic integrity scores within the Main Beaver Dam Ditch Subwatershed 177

Table 52 Site percent land cover within the Main Beaver Dam Ditch Subwatershed 184

Table 53 Site percent riparian land cover within the Main Beaver Dam Ditch Subwatershed 184

Table 54 Site fish index of biotic integrity scores within the Headwaters Turkey Creek Subwatershed 188

Table 55 Site macroinvertebrate index of biotic integrity scores within the Headwaters Turkey Creek Subwatershed 189

Table 56 Site percent land cover within the Headwaters Turkey Creek Subwatershed 196

Table 57 Site percent riparian land cover within the Headwaters Turkey Creek Subwatershed 196

Table 58 Site fish index of biotic integrity scores within the Deer Creek Subwatershed 200

Table 59 Site macroinvertebrate index of biotic integrity scores within the Deer Creek Subwatershed 201

Table 60 Site percent land cover within the Deer Creek Subwatershed 208

Table 61 Site percent riparian land cover within the Deer Creek Subwatershed 208

Table 62 Site fish index of biotic integrity scores within the City of Merrillville Subwatershed 212

Table 63 Site macroinvertebrate index of biotic integrity scores within the City of Merrillville Subwatershed 213

Table 64 Site percent land cover within the City of Merrillville Subwatershed 220

Table 65 Site percent riparian land cover within the City of Merrillville Subwatershed 220

Table 66 Site fish index of biotic integrity scores within the Duck Creek Subwatershed 224

Table 67 Site macroinvertebrate index of biotic integrity scores within the Duck Creek Subwatershed 225

Table 68 Site percent land cover within the Duck Creek Subwatershed 231

Table 69 Site percent riparian land cover within the Duck Creek Subwatershed 231

Table 70 Site fish index of biotic integrity scores within the Lake George Subwatershed 235

Table 71 Site macroinvertebrate index of biotic integrity scores within the Lake George Subwatershed 236

Table 72 Site percent land cover within the Lake George Subwatershed 243

Table 73 Site percent riparian land cover within the Lake George Subwatershed 243

Table 74 Site fish index of biotic integrity scores within the Little Calumet River Subwatershed 247

Table 75 Site macroinvertebrate index of biotic integrity scores within the Little Calumet River Subwatershed 248

Table 76 Site percent land cover within the Little Calumet River Subwatershed 254

Table 77 Site percent riparian land cover within the Little Calumet River Subwatershed 254

Table 78 Site fish index of biotic integrity scores within the Willow Creek Subwatershed 258

Table 79 Site macroinvertebrate index of biotic integrity scores within the Willow Creek Subwatershed 259

Table 80 Site percent land cover within the Willow Creek Subwatershed 266

Table 81 Site percent riparian land cover within the Willow Creek Subwatershed 266

Table 82 Biotic impairment and candidate cause co-occurrence scoring 275

Table 83 Water quality correlation analysis results 276

Table 84 Water quality land cover correlation analysis results 277

Table 85 Variables significantly predictive of the fish and macroinvertebrate community structure 283

Table 86 Analysis of stakeholder concerns 294

Table 87 Problems reflecting stakeholder concerns 296

Table 88 Potential causes for identified problems 297

Table 89 Potential causes and sources of habitat degradation 298

Table 90 Potential causes and sources of turbid streams and algal blooms 299

Table 91 Potential causes and sources of pathogens 300

Table 92 Potential causes and sources resulting in poor quality fish communities 300

Table 93 Potential causes and sources of hydromodication negatively affecting aquatic life and recreational use . 300

Table 94 Potential causes and sources of sediment and nutrient loading..... 301

Table 95 Potential sources streambank erosion and downstream flooding related to habitat loss 302

Table 96 Estimated E. coli loads by subwatershed (HSPF) 303

Table 97 Estimated E. coli load by land use (HSPF) 304

Table 98 Estimated nitrate loads by subwatershed (HSPF)..... 304

Table 99 Estimated annual runoff (STEPL) 306

Table 100 Estimated annual pollutant loading by catchment (STEPL) 307

Table 101 Estimated total annual pollutant load by source..... 307

Table 102 Summary of E. coli site data from TMDL 309

Table 103 TMDL water quality targets compared to the watershed restoration plan targets 309

Table 104 Nitrogen load reductions needed by catchment (STEPL) 310

Table 105 Phosphorus load reductions needed by catchment (STEPL) 311

Table 106 BOD load reductions needed by catchment (STEPL) 312

Table 107 Sediment load reductions needed by catchment (STEPL) 313

Table 108 E. coli load reductions needed by catchment (TMDL)..... 314

Table 109 Overall current and target loads and load reductions needed for the watershed 315

Table 110 Pollutant load and stressor indicators used in critical area identification process 320

Table 111 Stakeholder concern indicators used in critical area identification process 320

Table 112 Top 25% worst values for each water quality indicator highlighted in red 321

Table 113 Top 25% worst values for each stakeholder concern indicator highlighted in red 322

Table 114 Number of times site identified..... 323

Table 115 Classification scoring breaks 324

Table 116 Final step in critical area determination 325

Table 117 Tier 1 critical area problems 326

Table 118 Human activities, sources and site evidence tied to dissolved oxygen problems in tier 1 critical areas ... 327

Table 119 Human activities, sources and site evidence tied to nutrient problems in tier 1 critical areas 327

Table 120 Human activities, sources and site evidence tied to sediment problems in tier 1 critical areas 328

Table 121 Human activities, sources and site evidence tied to ammonia toxicity problems in tier 1 critical areas... 328

Table 122 Human activities, sources and site evidence tied to physical habitat problems in tier 1 critical areas 329

Table 123 Suitability of LID practices in various urban land uses..... 335

Table 124 Function, cost, and maintenance of LID practices..... 336

Table 125 BMP recommendations for tier 1 critical areas..... 341

Table 126 Summary of load reductions anticipated with each BMP 342

Table 127 Anticipated load reductions from cover crops 343

Table 128 Anticipated load reductions from reduced tillage 344

Table 129 Anticipated load reductions from bioretention..... 345

Table 130 Anticipated load reductions from conservation cover 346

Table 131 Anticipated load reductions from streambank stabilization 347

Table 132 Action register to reduce pathogen loading from agricultural and urban land uses 350

Table 133 Action register to improve dissolved oxygen levels 351

Table 134 Action register to reduce nutrient and sediment loading 353

Table 135 Action register to restore riparian vegetation 354

Table 136 Action register to improve bed form diversity 355

Table 137 Action register to improve channel stability..... 356
Table 138 Action register to increase floodplain connectivity 357
Table 139 Action register to reduce storm water runoff volume and rates 358

Deep River-Portage Burns Waterway Watershed

1 Introduction

1.1 Watershed Community Initiative

Our watershed of interest is the Deep River-Portage Burns Waterway watershed (Figure 1). It is the largest of six watersheds located within the Little Calumet-Galien sub-basin, draining approximately 180 square miles of north central Lake and Porter Counties to Lake Michigan. Some the major streams located within the watershed include Deep River, Main Beaver Dam Ditch, Turkey Creek, and the Little Calumet River’s West Branch. This watershed management plan is the result of numerous communities and organizations coming together to establish a framework to restore the nearly 125 miles of impaired stream within its boundaries.

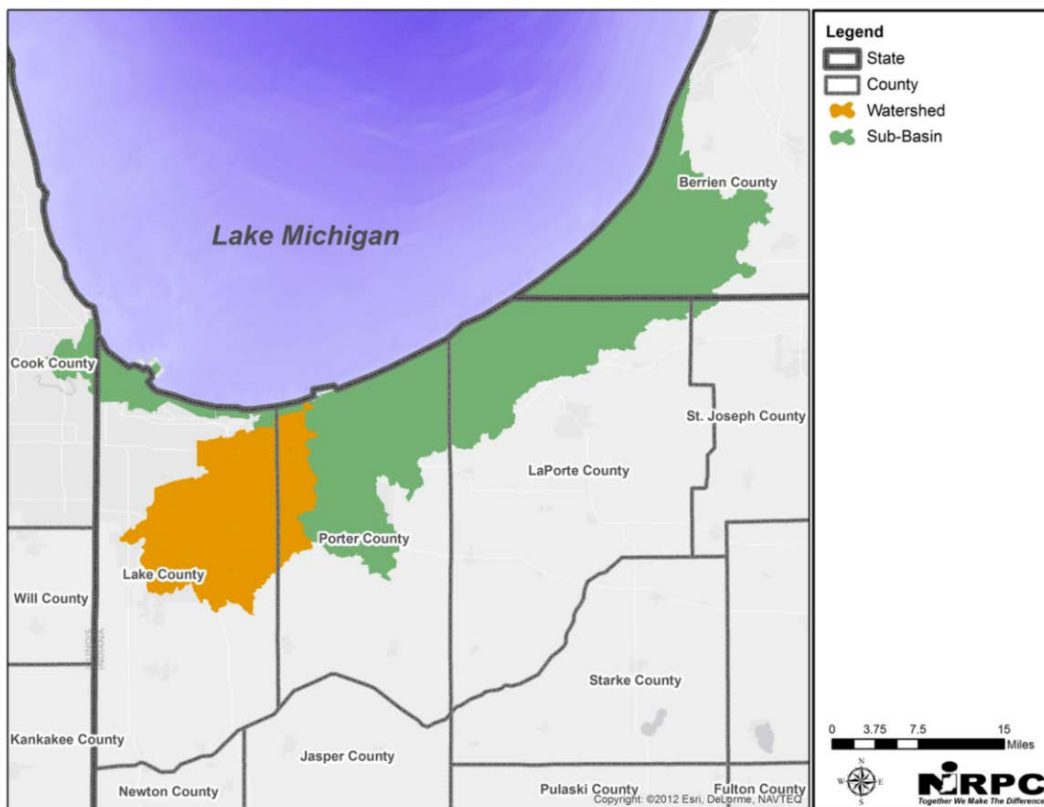


Figure 1 Watershed location

A **watershed** is an area of land that drains to some common point such as a location on a river. Human land use practices and activities can have a dramatic impact on the health of lakes and streams within a watershed. When rain or snowmelt moves over and through the ground it can pick up harmful pollutants and carry them to nearby lakes and streams. This is known as *polluted runoff* or *nonpoint source pollution* and it is one of the greatest threats to water quality in Northwest Indiana.

1.2 Project History

The first comprehensive planning effort to improve water quality and restore aquatic habitats in the Deep River-Portage Burns Waterway Watershed dates back to the 2002 *Deep River-Turkey Creek Watershed Management Plan*. The City of Hobart initiated the development of the *Deep River-Turkey Creek Watershed Management Plan* following a dredging project that resulted in more than 590,000 cubic yards of sediment being removed from Lake George at a cost of over two million dollars to City tax payers. Given the cost of dredging the City of Hobart realized a long-term solution was needed to reduce future sediment and nutrient loads to Lake George which threatened the City’s lakefront and downtown revitalization efforts.

In 2009, the Gary Storm Water Management District led the development of a watershed management plan for the West Branch of the Little Calumet River. Originally, the intent of the project was to identify pollutant contributions to the mainstem West Branch Little Calumet River from inappropriate or failed septic systems, streambank erosion, aquatic habitat degradation and polluted runoff from land development. Eventually the project was reworked to include a watershed wide study of this problem.

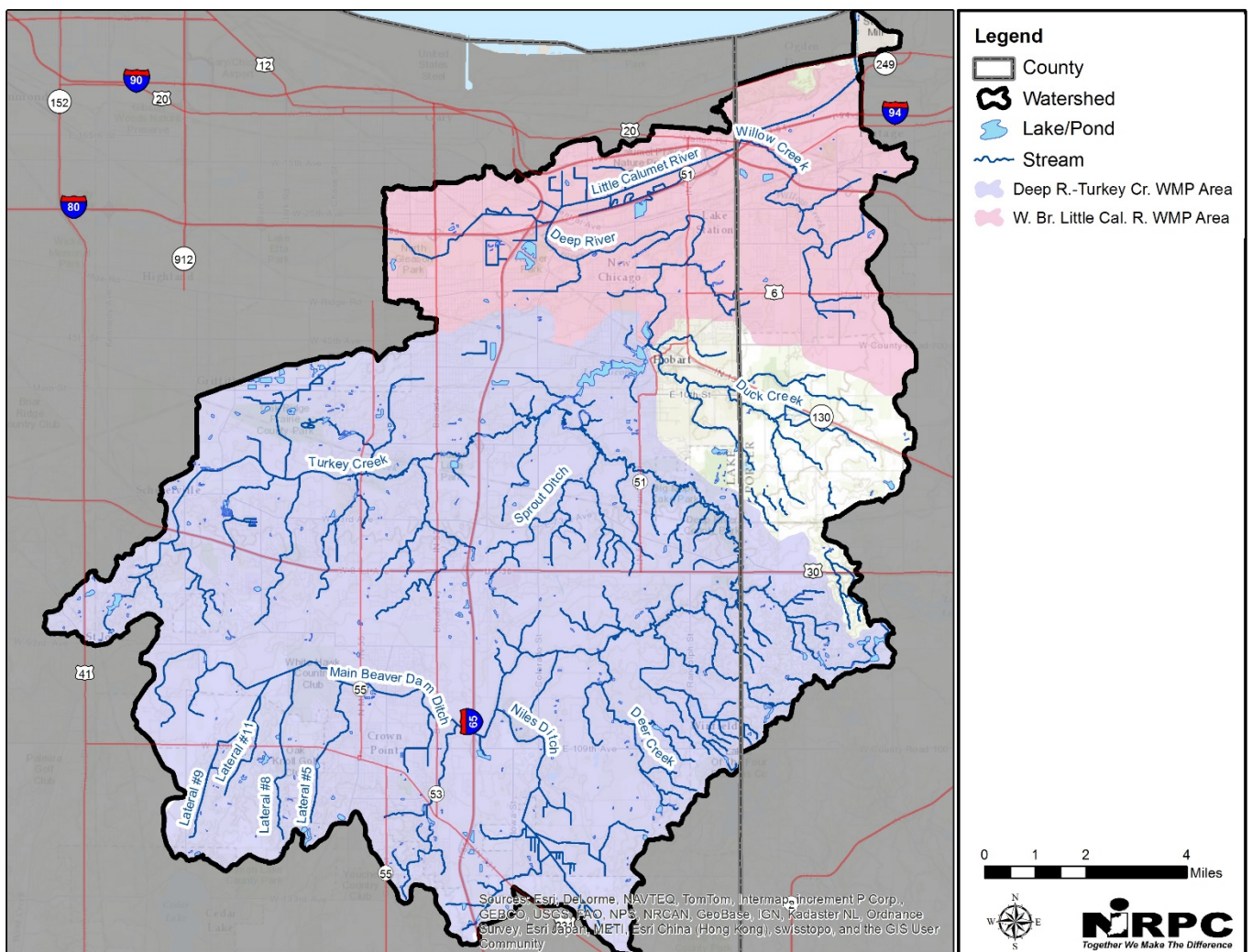


Figure 2 Previous Watershed Planning Efforts in the Current Project Area

One of the key hurdles faced by both watershed plans was that no project lead or organizational structure was set in place to coordinate implementation across multiple jurisdictions once they were completed. As a general observation, the challenge seems to have been related to capacity (resources) rather than lack of interest given the amount of time invested by stakeholders. The challenge of sustaining such efforts is not unique to Northwest Indiana.

In 2011, the Northwestern Indiana Regional Planning Commission (NIRPC) identified the Deep River-Portage Burns Waterway watershed as a priority in the *Northwest Indiana Watershed Management Framework*. The decision to include the watershed as a priority was based on persisting water quality issues, but more importantly, because stakeholders continued to express interest in reinvigorating these past efforts. With substantial changes in land use being evident and feeling that there was enough support to update the 2002 and 2009 watershed plans into a single comprehensive plan, NIRPC communicated to IDEM its intention to submit a 319 grant proposal for the 2013 funding cycle.

NIRPC began drafting some of the watershed characterization elements of the new plan in early 2012. Also knowing that more robust water quality data would be necessary to complete an update, NIRPC formalized its interest in having IDEM conduct the water quality monitoring by submitting a letter to them in June 2012 requesting that a Total Maximum Daily Load (TMDL) and baseline assessment be initiated for the watershed.

Finally, after nearly two years of developing partnerships and gathering support, a Section 319 grant application was submitted to IDEM during the fall of 2012 to facilitate the development and implementation of this watershed restoration plan. IDEM initiated the TMDL process with two public meetings in March 2013. NIRPC was notified that fall that it had been awarded the Section 319 grant.

Figure 3 summarizes the major stepping stones that lead up to this watershed restoration plans development.

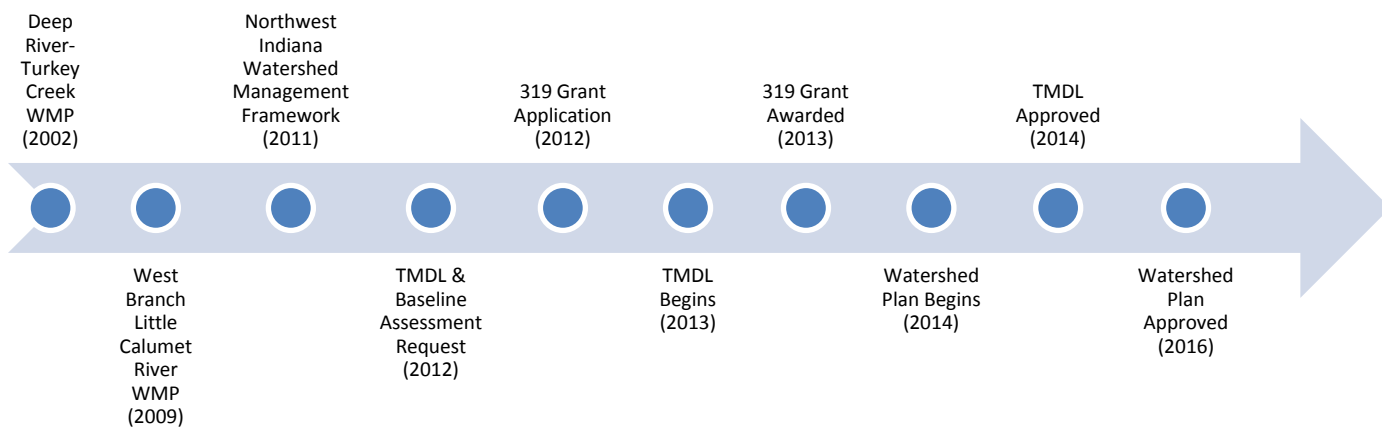


Figure 3 Project history timeline

1.3 Stakeholder Concerns & Involvement

On September 26, 2013, NIRPC sent out a press release announcing that the Deep River-Portage Burns Waterway Initiative project had been selected for funding by IDEM and that the project would officially begin in January 2014. A project kick-off meeting was held at the Hobart Community Center on January 21, 2014. NIRPC provided an overview of the four-year project and asked attendees why they value the watershed, how they use its streams and lakes, and what their initial concerns were relating to water quality and aquatic habitats. A second meeting was held on February 13, 2014 at the Lake County Soil & Water Conservation District (SWCD) in Crown Point to provide further opportunity for public input. The SWCD and Natural Resource Conservation Service (NRCS) helped promote this meeting by sending out personal invites to agricultural land owners within the watershed.

The following two tables are a summary of the responses provided by stakeholders during the public meetings held on January 21st and February 13th.

Values
<ul style="list-style-type: none"> • Recreational opportunities (swimming, fishing, canoeing/kayaking, bird watching, photography) • Aesthetics • Deep River is one of the few rivers in NWI that still has large sections of natural meanders • Connects so many cities • Drains to and affects Lake Michigan • Habitat/natural areas and biodiversity • Wildlife (ex. bald eagles, golden eagle, sandhill cranes) • Quality of life • Sense of place • Parks and trails • Economic and tourism • Eventually becomes our drinking water • Beauty of Lake George • Mix of agricultural and urban land uses • Agricultural production and local produce

Table 1 Stakeholder Watershed Values

Habitat Related Concerns
<ul style="list-style-type: none"> • Stream (fish) habitat loss • Riparian area encroachment (urban and agriculture) • Species loss (biodiversity) • Wetland loss • Wetland habitat degradation • Invasive species (aquatic and terrestrial) • Habitat loss to development • Proper habitat restoration • Lack of conserved open spaces • Need to acquire public/quasi-public riparian lands • Long-term management of habitat

Economic & Recreation Related Concerns
<ul style="list-style-type: none"> • Loss of recreational opportunities • Ability of residents and tourists to use waters safely for recreation • Healthy fishery (fishing) • Impaired streams- may not help to promote recreation • Loss of economic development around lake • Beach closings • Impact to tourism • Negative impact on property values • Outdoor recreational access • Financial support of restoration activities
Planning/Coordination/Management Related Concerns
<ul style="list-style-type: none"> • Coordination amongst municipalities, businesses, and residents • Maintenance of existing plans • “Me first” mentality community management • Lack of common goals/ manage for different (competing) outcomes • Development standards protective of watershed • Uncontrolled development in unincorporated or rural areas • Enforcement of existing regulations to protect stream health • Not enough inspection and monitoring • Loss of cropland to development • Maintenance of BMPs installed • Lack of retention/detention pond maintenance • Some absentee agricultural landowners that seem to be land speculators with less interest in investing in BMPs to protect water quality • Management of waterways strictly for drainage and not inclusive of water quality and habitat • Maintain drainage while protecting the quality of resources
Watershed Processes Related Concerns
<ul style="list-style-type: none"> • Drainage- ability of watershed to absorb and/or carry away excess water • Ability of watershed to clean water by removing pollutants and provide stable habitat for wildlife (green infrastructure) • Storm water storage
Storm Water Runoff (Sediment, Nutrient, & Pathogens) & Erosion Related Concerns
<ul style="list-style-type: none"> • Erosion and sedimentation • Excess nutrients • Increased runoff volume carrying pollutants and causing erosion • Streambank and shoreline erosion • Sediment loading from urban and agricultural areas • Dredging Lake George impacts to shoreline erosion • Sedimentation of Lake George from upstream areas • Failing septic systems • Impervious surface area • Chemicals in runoff • Areas of severe goose feces

<ul style="list-style-type: none"> • Construction site runoff • Parking lot runoff
Groundwater & Drinking Water Related Concerns
<ul style="list-style-type: none"> • Groundwater pollution (wells) • Drinking water
Floodplains/Flooding/Drainage Related Concerns
<ul style="list-style-type: none"> • Flooding • Reconciling need for drainage/flood control with water quality and habitat • Floodplain/floodway encroachment • People view water as “enemy” • Stream flashiness
Miscellaneous Concerns
<ul style="list-style-type: none"> • Soil health • Dams • Lack of public interest if conditions do not improve • Public involvement • Landowner/homeowner buy-in • Trash left behind after floodwater recede • Need to give upper reaches of watershed and subwatersheds special consideration • Combined sewer overflows (CSOs) and sanitary sewer overflows (SSOs) • Public health (water related) • Water quality impacts to Lake Michigan • Dredging Burns Ditch and Lake George

Table 2 Stakeholder Watershed Concerns

The following list provides an overview of stakeholder meetings, presentations, field day events, and webinars held through the TMDL and watershed restoration plan development process.

- March 13, 2013- TMDL kickoff meetings, Crown Point & Portage
- October 23, 2013- Deep River Monitoring Field Day, Hobart
- December 5, 2013- TMDL data meeting, Crown Point
- January 21, 2014- Initiative public meeting, Hobart
- February 13, 2014- Initiative public meeting, Crown Point
- March 6, 2014- Steering committee formation meeting, Portage
- April 18, 2014- Initiative South Shore Clean Cities webinar
- May 13, 2014- Initiative steering committee/public meeting, Portage
- July 15, 2014- Initiative steering committee/public meeting, Hobart
- August 7, 2014- Initiative presentation at NIRPC Environmental Management Policy Committee (EMPC)
- October 21, 2014- Initiative steering committee/public meeting, Gary
- February 17, 2015- Initiative steering committee/public meeting, Crown Point
- April 28, 2015- Initiative South Shore Clean Cities webinar
- June 4, 2015- Initiative presentation at NIRPC Environmental Management Policy Committee (EMPC)
- December 15, 2015 Initiative steering committee/public meeting, Portage
- March 3, 2015- Initiative presentation at NIRPC Environmental Management Policy Committee (EMPC)

1.4 Water Quality Public Survey

In 2010, the Northwestern Indiana Regional Planning Commission had a water quality survey completed to gauge the effectiveness of regional and local public outreach campaigns on water quality issues in the Northwest Indiana region.

Six hundred seven (607) landline and cellular phone interviews were completed with residents from each of the following four regions: (1) the City of Gary, (2) the Lake Michigan watershed within Lake County, (3) the Lake Michigan watershed within Porter County, and (4) municipalities outside of the Lake Michigan Basin. Interviews were conducted between October 1 and October 8, 2010. Sampling error for the entire sample is +/- 4% at a 95% confidence interval.

The following is a summary of findings from the survey. The full report is available at <http://www.nirpc.org/environment/water/nirpc-water-outreach-programs/nwi-partnership-for-clean-water.aspx>.

1.4.1 Resident Attitudes

Three in five residents (61%) value having clean rivers, lakes, and streams in their communities “a tremendous amount.” Seven in ten residents (70%) say it’s very important to look at clean water bodies. Nine in ten residents agree that the quality of local water bodies affects the quality of drinking water (90%), the quality of local water bodies affects enjoyment of water recreation activities (91%), and the quality of local rivers and stream affects whether or not local beaches remain open (90%).

The following percentages of residents think that local rivers, streams, lakes, or Lake Michigan are clean enough to:

- 42% - Boat in
- 40% - Look at
- 39% - Run or hike next to
- 38% - Picnic by
- 37% - Fish in
- 34% - Swim in

Nearly three in four residents (73%) disagree that there will be plenty of fresh water no matter what they do. More than three in four residents (77%) say their personal actions have a definite impact on water quality/quantity.

1.4.2 Resident Knowledge

Five in ten residents (50%) don’t know or are unfamiliar with the term watershed, with only 8% saying they live in a watershed. One in three (33%) do not know where storm water goes after it enters a storm drain or roadside ditch. Nearly three in ten (27%) think storm water goes to a wastewater treatment plant. Slightly more than 1 in 10 (12%) think storm water that enters a storm drain goes to waterbodies with treatment. Two in five residents (42%) do not know what to do around the home to conserve/protect water.

The following percentages of residents know what to do to conserve/protect water, but:

- 25% say it’s too much trouble
- 18% say it costs too much
- 8% don’t think they’ll make a difference

The following percentages of residents think that the following items had a great impact on the quality of water bodies:

- 79% - Motor oil, paint, and batteries
- 63% - Household water conservation
- 59% - Septic tank problems
- 56% - Lawn fertilizer
- 52% - Type of fertilizer
- 45% - Dog waste
- 37% - Lawn watering

1.4.3 Resident Actions

Regarding use and interaction with waterbodies (percentage of residents who say water bodies are clean enough for actions such as fishing, swimming, etc. are in parentheses):

- 41% of residents walked, ran, or biked trails through woods or parks near waterbodies (39%)
- 37% of residents walked, sat, or ran by waterbodies (40%)
- 25% of residents fished or hunted in or near waterbodies (37%)
- 24% of resident swam in waterbodies (34%)
- 23% of residents went boating, canoeing, or kayaking in waterbodies (42%)
- 11% of residents gave money or took actions to help conserve and preserve waterbodies

Three in four residents (75%) say they take actions most days that preserve water quality/quantity. Of the 30% of residents who have a dog, nearly one in five (18%) do not pick up the dog waste. Of the 89% of residents who have a lawn, more than two in five (42%) fertilize more than once a year.

The following percentages of residents report engaging in the following actions around the home:

- 18% - use low phosphate and slow release fertilizer
- 15% - use native landscaping
- 8% - test their soil before fertilizing
- 11%- fertilize lawn before heavy rains
- 66% (of the 11% of residents that have a septic tank) - service their septic tanks at least every 5 years
- 7% - dispose of leaves/grass clipping improperly
- 4% - dispose of motor oil improperly

1.4.4 Motivating People to do the Right Thing

In order to motivate residents to do the right thing when it comes to conserve/preserve water quality/quantity, the following percentages of residents recommend:

- 91% - teach the right actions in school
- 90% - advertise
- 74% - develop neighborhood councils

Residents rely more on television (37%), newspapers (29%), mail (27%), and water or sewer bill inserts (25%) for information about water conservation and protection. To a lesser degree residents felt that the internet (19%), signs or billboards (10%), or radio (8%) were the best way to be provided information. Fewer than 3% felt that posters at recreation areas, public meetings, classes or workshops were the best way to be provided with information.

1.5 Steering Committee

Stakeholders were invited to participate in a special meeting on March 6, 2014 to discuss the formation of a watershed steering committee to help guide the development and implementation of this watershed plan. The general consensus of the participants was to use the “potential list of stakeholders” included in the *Northwest Indiana Watershed Management Framework* as a starting point.

The steering committee is broken into general categories that include representatives from municipalities, county or regional agencies/departments/districts, environmental and conservation organizations, recreational groups, business and industry, universities, and state and federal government (Table 3). The steering committee, like the watershed plan itself, is dynamic and will likely include minor changes as the initiative moves forward.

The primary role of the Deep River-Portage Burns Waterway Initiative steering committee is to:

- Operate as a coordinating and information exchange group to help establish strategic direction and priorities for watershed restoration.
- Recommend key actions and projects needed to improve environmental conditions in the watershed.
- Seek support and resources for the initiatives/projects that it recommends.

Municipal	Representative
Crown Point	Vacant, Formerly Dan Niksch
Hobart	Tim Kingsland, Sergio Mendoza
Gary	Brenda Scott-Henry
Merrillville	Matt Lake
New Chicago	Alicia Barber, Lori Reno
Portage	Jenny Orsburn
County or Regional	Representative
County Soil & Water Conservation Districts	Julie Duttlinger (Lake Co.), Harvey Nix (Porter Co.)
County Surveyors Offices	Bill Emerson (Lake Co.), Kevin Breitzke (Porter Co.)
Lake County Parks Department	Craig Zandstra
Little Calumet River Basin Development Commission	Dan Repay
Environmental & Conservation	Representative
Izaak Walton League- Porter County Chapter	Jim Sweeney
The Nature Conservancy	Susan MiHalo
Save the Dunes	Vacant, Formerly Dr. Candice Smith
Shirley Heinze Land Trust	Vacant, Formerly Paul Quinlan
Sierra Club	Sandy O'Brien
Recreation	Representative
Northwest Indiana Paddling Association	Dan Plath, Gina Darnell
Business & Industry	Representative
Northwest Indiana Forum	Kay Nelson
The Wildlife Habitat Council	Daniel Goldfarb

Universities/Colleges	Representative
IL-IN Sea Grant	Leslie Dorworth
State & Federal Agencies	Representative
Natural Resource Conservation Service	Derek Schmitt
Indiana Department of Environmental Management	Ashley Snyder, Michelle Caldwell
Indiana Department of Natural Resources	Dorreen Carey
Indiana Dunes National Lakeshore	Dr. Charles Morris
Indiana State Department of Agriculture	Julie Morris, Jared Obrien
Urban Waters Federal Partnership	Natalie Johnson

Table 3 Steering Committee Members and Representative

* Denotes alternate representative