

MPDES MS4 Designation: City Of Belgrade (DEQ 2026)

I. Executive Summary

The Montana Department of Environmental Quality (DEQ) is designating the City of Belgrade as a regulated small Municipal Separate Storm Sewer System (MS4) under the Montana Pollutant Discharge Elimination System (MPDES). An MS4 is a conveyance, or a system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains) that discharge(s) into state surface waters. MS4s are owned or operated by a public body, such as a city, county, or special district, and are designed or used for collecting and conveying storm water. The designation of the City of Belgrade's MS4 is made pursuant to the criteria set forth in the Administrative Rules of Montana (ARM) at 17.30.1107. ARM 17.30.1107(2) establishes criteria that DEQ must apply when determining whether to designate a small MS4 whose stormwater discharges, or have the potential to result in, exceedances of water quality standards, including impairment of designated uses, or have other significant water quality impacts.

The City of Belgrade's growth has been sustained and substantial over the past decade, accompanied by increasing impervious surface coverage and expanded development patterns that elevate the risk of stormwater-related water quality impacts. Designation ensures that stormwater discharges are subject to enforceable permit conditions, including the implementation of a stormwater management program.

As explained below, information on Belgrade's growth, population density, hydrologic setting, and nearby water quality impairments demonstrates that Belgrade meets the designation criteria under ARM 17.30.1107(2).

II. Regulatory and Legal Framework

The Montana Water Quality Act (MWQA), Title 75, chapter 5, MCA, provides DEQ with the authority to regulate discharges to state waters and to issue permits, including general permits, for such discharges. This authority includes establishing a comprehensive program for the prevention, abatement, and control of water pollution (MCA 75-5-101), requiring permits for discharges to state waters (MCA 75-5-605), authorizing issuance of permits (MCA 75-5-401), and adopting rules necessary to implement the program (MCA 75-5-201). DEQ implements the MPDES permitting program under this statutory framework and associated administrative rules.

The Clean Water Act (CWA), 33 U.S.C. § 1252 et seq., establishes the national framework for regulating discharges of pollutants to Waters of the United States (WOTUS). Section 402 of the CWA (33 U.S.C. § 1342) creates the National Pollutant Discharge Elimination System (NPDES) permitting program, which requires permits for point source discharges and establishes technology-based and water quality-based effluent limitations. EPA regulations at 40 C.F.R. Parts 122 and 123 define NPDES permitting requirements and authorize states to administer the program upon EPA approval. EPA approved Montana's NPDES program in 1974 (39 Fed. Reg. 26061), and Montana administers the program as the MPDES program in accordance with federal requirements.

Section 402(p) of the CWA (33 U.S.C. § 1342(p)) and implementing regulations at 40 C.F.R. §§ 122.26 and 122.34 establish permitting requirements for stormwater discharges, including those from small municipal separate sewer systems (MS4s). These regulations require small MS4 operators to obtain permit coverage and to develop, implement, and maintain a stormwater management program (SWMP) that addresses six minimum control measures (MCMs) to reduce the discharge of pollutants to the maximum extent practicable (MEP) and to protect water quality. In Montana, these federal

requirements are implemented through the MPDES Small MS4 General Permit, which establishes enforceable conditions governing stormwater discharges from regulated MS4s.

For areas with populations below 50,000, the federal Phase II regulations required states to establish designation criteria for determining which small MS4s must develop stormwater management programs. 40 C.F.R. § 123.35(b). The federal rule specifies that such criteria must evaluate whether a stormwater discharge results in, or has the potential to result in, exceedances of water quality standards, including impairment of designated uses, or other significant water quality impacts such as habitat and biological impacts. EPA also requires that states, at a minimum, apply these criteria to municipalities with a population of at least 10,000. 40 C.F.R. § 123.35(b)(2).

In 2003, to comply with federal Phase II regulations, the Board of Environmental Review adopted Montana's MS4 designation rule at ARM 17.30.1107, including the criteria at ARM 17.30.1107(2)(a)(i)–(v) and the high-priority population provision at ARM 17.30.1107(2)(b). During the rulemaking process, the Board of Environmental Review applied the designation criteria to the cities of Bozeman, Butte, Helena, and Kalispell and determined that MS4 permit coverage was necessary to protect state water quality for those four municipal areas. 19 Mont. Admin. Reg. 2717, 2725-26 (Oct. 17, 2002). Under the 2003 state rules, permitting requirements for these discretionary MS4s were designed to begin concurrently with the regulation of federal automatic MS4s, so that all regulated small MS4s entered the program together.

Montana's first small MS4 General Permit was issued and became effective in 2005, bringing all regulated small MS4s under enforceable permit requirements.

ARM 17.30.1107 establishes the procedures and criteria for DEQ to designate small MS4s that are not automatically covered under federal law. ARM 17.30.1107(2) lists the requirement that DEQ shall designate a small MS4 if its stormwater discharges result in, or have the potential to result in, exceedances of water quality standards, including impairment of designated uses, or have other significant water quality impacts such as habitat or biological degradation. This provision is focused on water quality protection and the prevention of pollutant discharges that could degrade watershed conditions. Under ARM 17.30.1107(2)(b), DEQ must prioritize evaluation of any small MS4 with a combined permanent and seasonal population over 10,000, as determined by the latest decennial census.

ARM 17.30.1107(2)(a) directs DEQ to evaluate several factors when making a designation decision. These include consideration of whether the MS4:

- (i) has discharges to a listed impaired waterbody that is on the most recent 303(d) list;
- (ii) has high growth or growth potential;
- (iii) has high population density;
- (iv) is contiguous to an urban area with a population of at least 50,000; and
- (v) is a significant contributor of pollutants to surface waters

This framework ensures that relevant conditions influencing stormwater pollutant loading and transport are considered in the designation process, while still placing emphasis on the potential for water quality impacts and the priority status of larger small MS4s.

III. Evaluation of Designation Criteria

Belgrade is a city in Gallatin County located approximately 11 miles northwest of Bozeman in the Gallatin Valley. According to the 2020 Census, the City of Belgrade's population was 10,460, which

surpasses the 10,000-person threshold that triggers high-priority evaluation under ARM 17.30.1107(2)(b). According to the U.S. Census Bureau, Belgrade has a land area of 3.8 square miles. Between the 2010 Census and the 2020 Census, the City's population increased from 7,389 to 10,460, a growth rate of more than 40 percent over the ten-year Census period. Montana, like other states implementing EPA's Phase II "high growth or growth potential" designation criterion under 40 C.F.R. § 122.26, relies on decennial Census data to evaluate population change. While Montana has not established a specific numerical growth rate threshold for this criterion, states that have defined one generally set it in the range of 20 to 25 percent over a ten-year period. Belgrade's growth rate of more than 40 percent substantially exceeds that range, which is a key consideration under ARM 17.30.1107(2)(a)(ii). The city's population has continued to grow, with an estimated 2024 population of 12,741, representing an additional increase of more than 20 percent since 2020.

Within City limits, Belgrade has a population density of roughly 2,500 people per square mile, calculated from 2020 Census data and land area, which is 2.5 times greater than the 1,000 persons per square mile benchmark that EPA uses as a threshold indicator of urban density for MS4 designation under Phase II rules. Population density is considered under ARM 17.30.1107(2)(a)(iii).

Belgrade is located within the Bozeman Metropolitan Statistical Area and is closely connected to Bozeman through regional commuting patterns, shared economic activity, and major infrastructure such as the Bozeman Yellowstone International Airport. However, for the purposes of MS4 designation under ARM 17.30.1107(2)(a)(iv), Belgrade is not contiguous with Bozeman because the municipal storm sewer systems are not physically connected and remain separated by undeveloped or rural land.

In the preamble to the Phase II Final Rule, EPA recognized that "[s]tormwater discharges are a significant cause of water quality impairment because they can contain a variety of pollutants such as sediment, nutrients, chlorides, pathogens, metals, and trash that are mobilized and ultimately discharged to storm sewers or directly to water bodies." 64 Fed. Reg. 68722, 68726 (Dec. 8, 1999). EPA further noted that increased runoff volume and velocity from impervious cover can scour and erode stream channels, threaten public health, increase drinking water treatment costs, and diminish opportunities for recreation and wildlife use. Elevated impervious cover has also been associated with stream warming and loss of aquatic biodiversity in urban areas. EPA, Model Ordinances to Prevent and Control Nonpoint Source Pollution (2025). These findings reflect the federal regulatory basis for requiring stormwater management in urbanizing areas — the same basis that underlies ARM 17.30.1107.

The City of Belgrade's rapid and sustained growth (over 40 percent between 2010 and 2020, with an estimated additional 20 percent increase since then) has been accompanied by significant expansion of impervious surfaces, including roads, parking areas, rooftops, and commercial development. This growth pattern increases runoff volume, runoff velocity, and the mobilization and transport of associated pollutants from the urban landscape to downstream waters. Belgrade's stormwater conveyance network includes named ditches and waterways that intersect directly with the City's municipal boundary, including Mammoth Ditch, Spain Ferris Fork Ditch, Weaver Ditch, Ketterer Ditch, and Thompson Creek. Within one mile of the MS4 boundary, including the surrounding Gallatin County urban area, this network connects to a broader set of surface waters and conveyances: the Gallatin River, East Gallatin River, Hyalite Creek, Dry Creek, Middle Cottonwood Creek, Baxter Creek, Baker Creek, Story Creek, Gibson Creek, McDonald Creek, Aajker Creek, Bullrun Creek, Mammoth Fork Ditch, McCullough Ditch, White Ditch, Valley Ditch, Stone Ditch, and J.S. Hoffman Ditch. This interconnected hydrologic system creates multiple pathways by which stormwater from Belgrade can be routed to state surface waters, supporting DEQ's finding that Belgrade's MS4 discharges have the potential to affect nearby 303(d)-listed streams.

ARM 17.30.1107(2)(a)(v) directs DEQ to evaluate whether the MS4 is a significant contributor of pollutants to surface waters, ARM 17.30.1107, which states that the department shall designate an MS4 other than those identified in ARM 17.30.1102(23) if a discharge from the MS4 results in, or has the potential to result in, exceedances of water quality standards, including impairment of designated uses, or has other significant water quality impacts, including habitat and biological impacts.

The pollutants commonly associated with urban MS4 discharges, including sediment, nutrients (nitrogen and phosphorus), pathogens, metals, petroleum hydrocarbons, and oxygen-demanding substances, correspond to the impairment categories documented in the 303(d)-listed waters in and around Belgrade. Thompson Creek, which intersects the City's municipal boundary, is listed as impaired for sedimentation and nutrients, which are impairment categories broadly consistent with urban stormwater runoff from developed land. Within one mile of the MS4 boundary, Dry Creek and Hyalite Creek are similarly listed for sedimentation and nutrients, and the East Gallatin River is listed for nutrients and pH, all of these categories are associated with urban runoff inputs as described in the Phase II Final Rule preamble. 64 Fed. Reg. 68722, 68727-28. Smith Creek, while situated slightly beyond the one-mile intersect area, is downstream of and hydraulically connected to multiple waters; it is listed as impaired for sedimentation, nutrients, and pathogens, the latter being a pollutant category EPA specifically identifies as a common MS4 discharge constituent, making it a relevant downstream water quality consideration. The correspondence between these documented impairments and the recognized pollutant profile of urban stormwater discharges reflects the same causal relationship EPA identified as the rationale for the Phase II designation framework. 64 Fed. Reg. at 68727.

Further support for this finding is provided by stormwater sampling and monitoring data from regulated small MS4s currently operating under Montana's MPDES MS4 General Permit. Monitoring conducted by Montana's permitted MS4s over the past five years has documented consistent elevations in metals, bacteria, nitrogen, phosphorus, oil and grease, total suspended solids (TSS), and chemical oxygen demand (COD). These data reflect actual MS4 discharge conditions in Montana's specific climatic, hydrologic, and land use context, and illustrate that urban stormwater discharges within Montana generate the pollutants associated with the impairments documented in Belgrade's surrounding waters. This Montana-specific record supports the conclusion that Belgrade's growing MS4, absent a stormwater management program, has the potential to contribute significant pollutant loads to area surface waters consistent with ARM 17.30.1107(2)(a)(v).

DEQ acknowledges that site-specific discharge monitoring data for Belgrade does not currently exist. Detailed mapping of the City's storm sewer system, including the full extent of outfalls, conveyances, and associated receiving waters, will be submitted by Belgrade as part of its application for authorization to discharge under the MPDES MS4 General Permit. That submission will enable a more complete assessment of specific discharge locations and potential receiving water impacts. Under the current permit structure, new designees are not required to establish full sampling and monitoring programs until three years following authorization; that data, once available, will provide a robust, site-specific record of pollutant loading from Belgrade's MS4.

The absence of pre-designation monitoring data does not preclude designation under ARM 17.30.1107(2). The designation standard expressly authorizes DEQ to act on the potential for stormwater discharges to result in exceedances of water quality standards. This prospective framework is intentional; EPA's Phase II regulations were specifically designed to enable designation decisions in advance of documented harm, recognizing that waiting for confirmed water quality degradation would undermine the preventive purpose of the program. 64 Fed. Reg. at 68724.

DEQ is designating the City of Belgrade as a jurisdiction-wide small MS4 because municipal stormwater discharges throughout the City's corporate limits have the potential to contribute pollutants to various

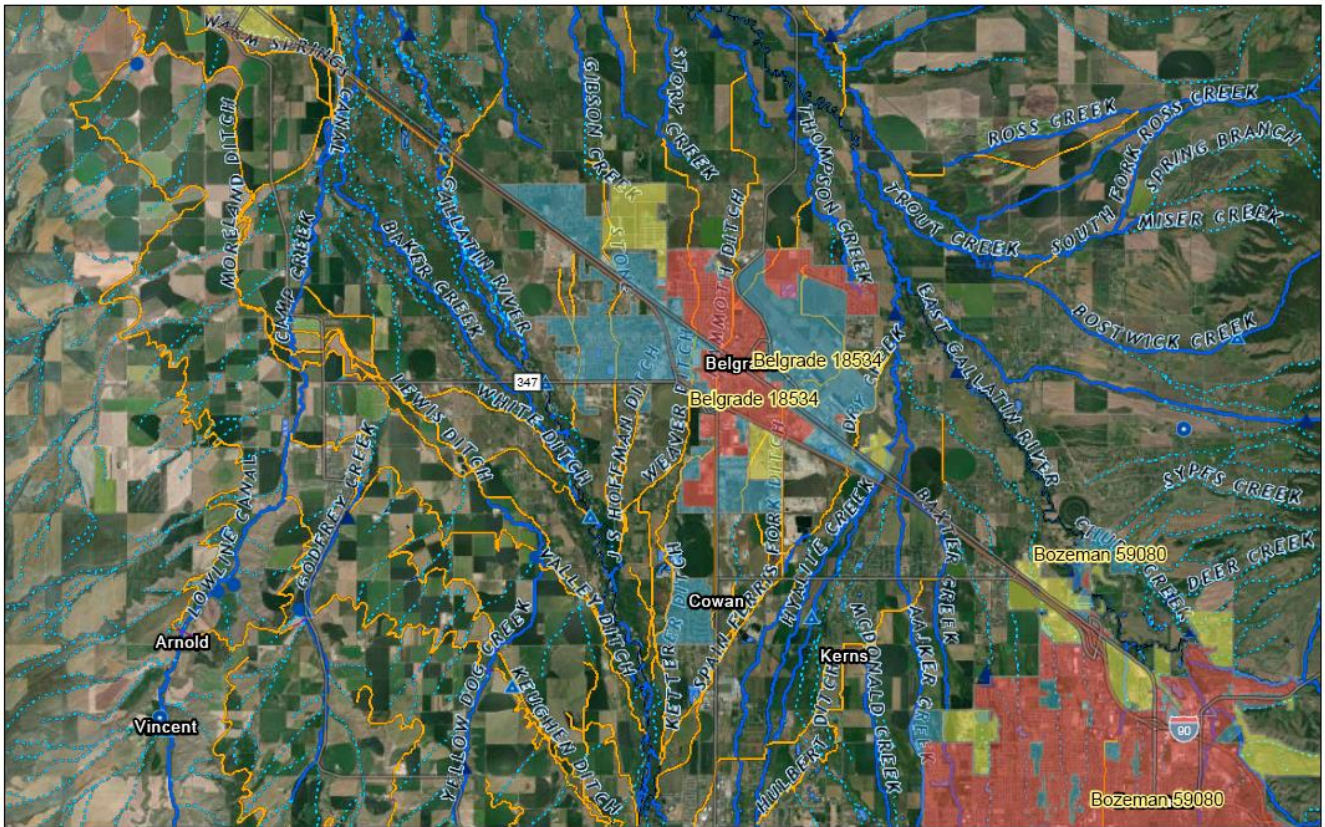
state surface waters as noted above. Designation on a jurisdiction-wide basis is also necessary to ensure a consistent, city-wide stormwater management program that addresses high growth and development pressures, and the density of urban land uses.

IV. Final Determination

DEQ's review of the City of Belgrade applied the designation criteria in ARM 17.30.1107(2), which directs designation of a small MS4 if its stormwater discharges result in, or have the potential to result in, exceedances of water quality standards, including impairment of designated uses, or have other significant water quality impacts such as habitat or biological effects. Under ARM 17.30.1107(2)(b), Belgrade's MS4 is subject to high-priority evaluation because its combined permanent and seasonal population exceeds 10,000 as confirmed by the 2020 U.S. Census. ARM 17.30.1107(2)(b).

DEQ evaluated each of the factors set forth in ARM 17.30.1107(2)(a)(i) through (v). Belgrade's MS4 is located within an interconnected network of surface waters and conveyances that includes multiple 303(d)-listed impaired waters within or immediately downstream of City limits, including Thompson Creek, Dry Creek, Hyalite Creek, the East Gallatin River, and Smith Creek. Belgrade's sustained population growth of more than 40 percent between 2010 and 2020, exceeding EPA's sustained growth benchmarks, satisfies the high growth criterion at ARM 17.30.1107(2)(a)(ii). A population density of approximately 2,500 persons per square mile, which is 2.5 times the EPA Phase II threshold, satisfies the density criterion at ARM 17.30.1107(2)(a)(iii). Belgrade does not meet the contiguity criterion at ARM 17.30.1107(2)(a)(iv), as its municipal storm sewer system is not physically connected to Bozeman's urban area; however, non-contiguity does not preclude designation where other criteria support it. As to the significant contributor criterion at ARM 17.30.1107(2)(a)(v), DEQ finds that Belgrade's interconnected conveyance network, its hydrologic connection to 303(d)-impaired receiving waters, the correspondence between urban MS4 pollutant types and the documented impairments in those waters, and the pollutant data from Montana's existing permitted MS4s support a reasonable finding that Belgrade's MS4 discharges have the potential to result in exceedances of water quality standards and that the MS4 is a "significant contributor of pollutants to surface waters" within the meaning of ARM 17.30.1107(2)(a)(v).

DEQ's analysis demonstrates that Belgrade satisfies the designation criteria under ARM 17.30.1107(2). Therefore, the City of Belgrade is designated as the owner or operator of a regulated small MS4. Following adoption and effective date of the related rule amendments, the City of Belgrade and its discharges of stormwater will be subject to permitting requirements, and the City must apply for an authorization to discharge in accordance with all required deadlines specified in ARM 17.30.1111 and the applicable MPDES Small MS4 General Permit.



1/9/2026

MS4 Areas 2020

- City Limits Outside Urban Areas
- Urban Area Within City Limits
- Urban Area Outside City Limits

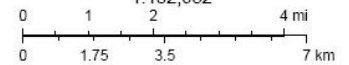
World Imagery

- Low Resolution 15m Imagery
- High Resolution 60cm Imagery

High Resolution 30cm Imagery

- Citations
- 38m Resolution Metadata

1:182,952



United States Census Bureau,
Montana State Library.

Image 1. Belgrade MS4 Area and Hydrography/Conveyance System

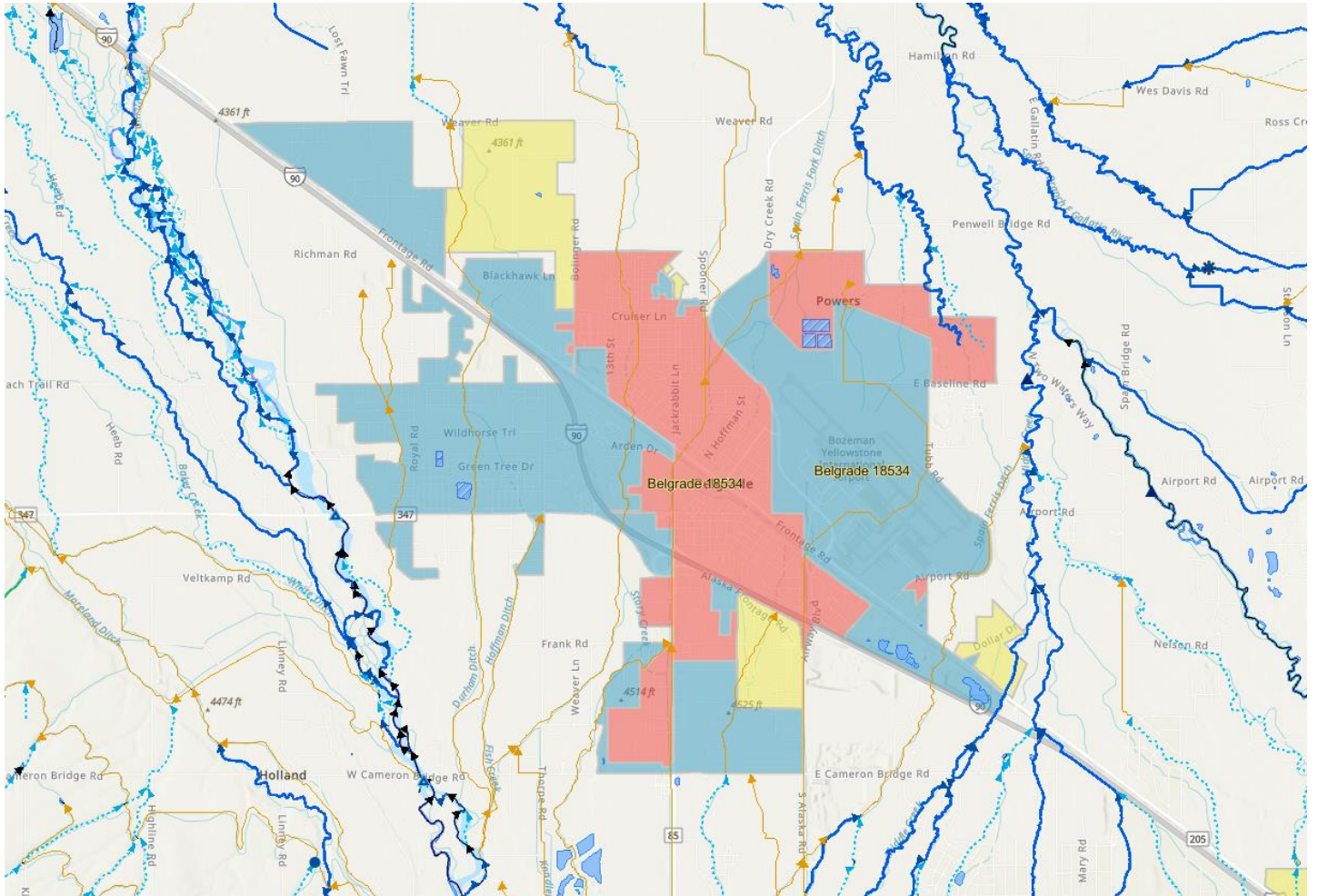


Image 2. All hydrography/conveyances through and around Belgrade, visual reference.

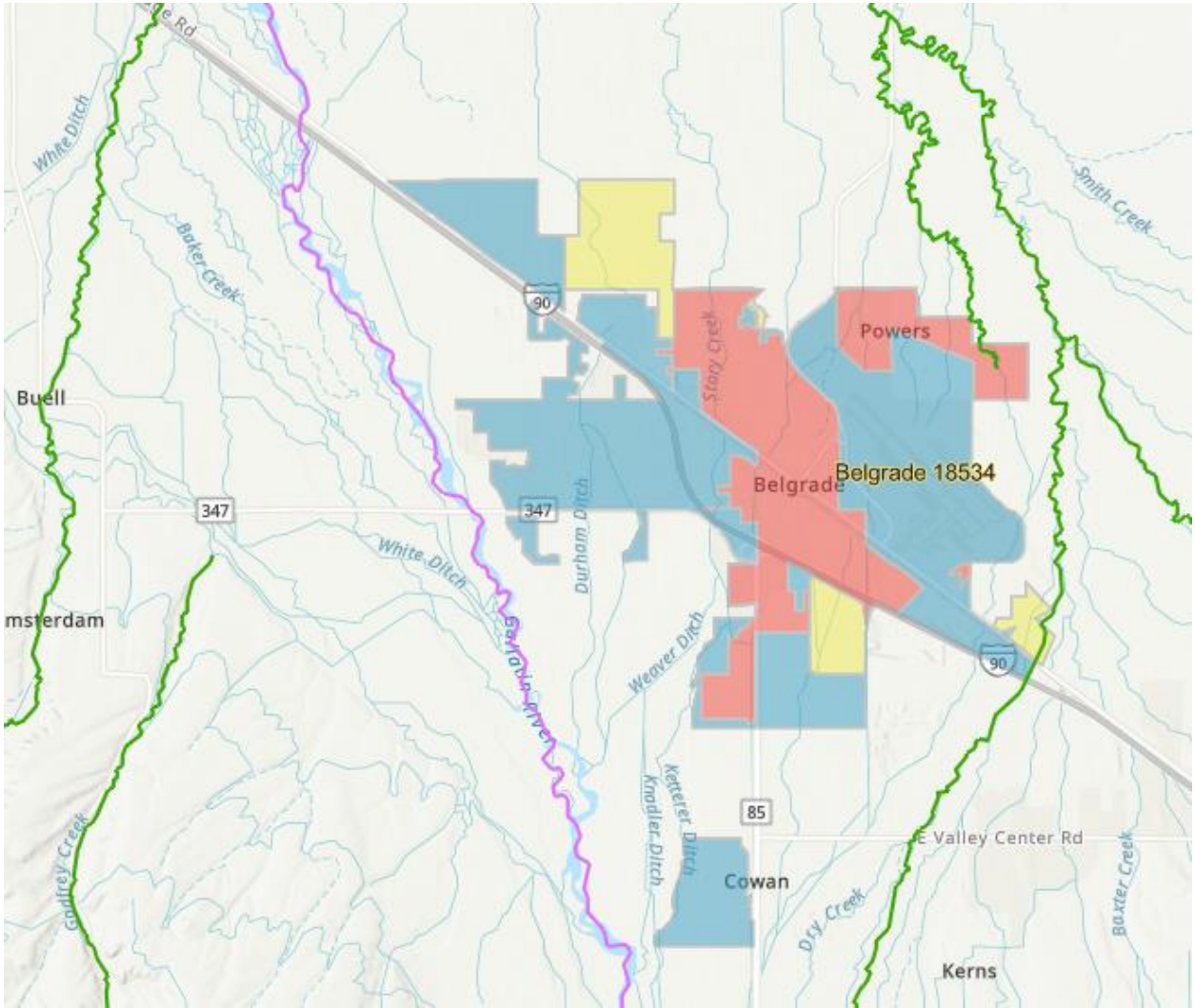


Image 3. Impaired waters surrounding Belgrade as seen from the 2020 integrated report (303(d) list).