

Priority areas for water quality in Burnt Bridge Creek Watershed

From [Burnt Bridge Creek Source Assessment, 2020](#)

Fecal Coliform Bacteria

Priority: Lower & Middle Watershed

- All FC sampling sites exceeded FC water quality criteria during the study period.
- Geometric mean concentrations were generally higher during the dry season than during the wet season.
- The highest geometric mean concentrations were found at tributary sites during the dry season at Cold Creek, Peterson Channel, and Burton Channel.
- FC loading was higher during the wet season than during the dry season at all sites.
- The highest FC loads were in the lower subbasin at BBC01.6 and BBC02.6 during the wet season.
- The tributary with the highest FC load is Peterson Channel.
- The following sites all require more than a 75% reduction in FC levels to meet water quality criteria based on the results from the statistical rollback analysis:
 - All of the tributary outlet sites (PET00.0 during both seasons; BUR00.0 during the wet season; COL00.0 during the dry season).
 - Middle subbasin sites (BBC08.4 during the dry season; BBC07.0 during the wet season).
 - Lower subbasin sites (BBC04.3, BBC03.4, BBC02.6, and BBC01.6 during the wet season).

Temperature and Shade

Priority: Middle and Upper Watershed

- All sites exceeded temperature criteria, except for the site at the outlet of Cold Creek.
- The overall maximum temperatures were observed at BBC00.0. During the temperature monitoring period, 92% of days at BBC00.0 exceeded criteria.
- Sites with the highest count of dates with temperature above water quality criteria were in the middle subbasin (BBC07.0 with 230 days and BBC05.9 with 222 days).
- The largest shade deficit (difference between current effective shade and system potential shade) is in the upper subbasin (average of 62%). The average shade deficit in the middle watershed is 39% and in the lower watershed is 27%.
 - River miles with shade deficits over 30%
 - RM12-13 = 87%
 - RM 7-8 = 83%
 - RM11-12 = 73%
 - RM 8-9 = 44%
 - RM 0-1 = 43%
 - RM 4-5 = 36%

- RM 6-7 = 35%
- RM 1-2 = 31%

Dissolved Oxygen

Priority: Middle & Upper Watershed

- Most sites, except for BBC04.3 and COL00.0, had at least one day of noncompliance with DO concentrations below water quality criteria during the study period.
- Sites with the highest count of noncompliant days are in the upper watershed (BBC11.4 and BBC10.8) and middle watershed (BBC07.0 and BBC05.9).
- Minimum DO values were generally observed during July, August, or September.
- Reducing stream temperatures by increasing riparian vegetation and shade in the watershed are expected to improve DO conditions throughout Burnt Bridge Creek.

pH

Mostly meeting criteria, except for BBC00.0

- Most sites had low counts of noncompliant days (≤ 3 days), except for BBC00.0 (12 days).
- Sites that met pH criteria include BBC08.8, BBC08.0, BBC05.2, PET00.0, and PET01.3.
- The lowest pH values along the Burnt Bridge Creek mainstem were in the upper subbasin (BBC09.5–BBC11.4).
- The mainstem site with the highest observed pH was located furthest downstream (BBC00.0).
- The majority of minimum pH values were measured on dates with heavy rainfall (5/5/09 and 10/14/09). Maximum pH values were typically observed during July, August, and September.