

US EPA ARCHIVE DOCUMENT

Fecal Coliform Total Maximum Daily Load (TMDL)
Pinellas Park Ditch No. 1 (WBID 1662)
Responsiveness Summary
EPA Region 4

May 2012

Commenter
Pinellas County

Comment A: Figure 4 on Page 7 shows a graph of Fecal Coliform readings in WBID 1662 during the period of record. A 12,000 cfu outlier is shown for 6/13/2006. Available rain data from nearby USGS gages 02307834 and 02308870 recorded 3.78” and 3.35” of rain respectively the previous day (6/12/06). This data point needs to be removed as it is not indicative of ambient conditions and is likely showing fecal coliforms present in the sediments being resuspended by the heavy flows.

Response A: The precipitation reported on June 12, 2006 was not the highest reported during the period of available data for USGS gage 02307834 (2002-2011), it was just the highest reported prior to a sampling event. Additionally, every TMDL must include a margin of safety (MOS) to account for the uncertainty in the relationship between pollutant loads and the quality of the receiving waterbody. There are two methods for incorporating an MOS in the analysis: a) implicitly incorporate the MOS using conservative assumptions to develop TMDL allocations; or b) explicitly reserve a portion of the TMDL as the MOS and use the remainder for point and nonpoint source allocations. For this TMDL, an implicit MOS was incorporated by including all, both nature and man-influenced, sources of fecal coliform bacteria in the calculation of existing conditions. This conservatively estimates the anthropogenic contributions and increases the required reduction for the TMDL. Therefore, this sample result was included in the TMDL analysis.

Comment B: Page 8 – EPA is using USGS Gage 02307834 to determine daily gage height. This gage is located in WBID 1624A (Roosevelt Basin - Fresh), several miles from WBID 1662. This station is located on the upstream side of a fixed weir that retains water in the canal at the headwaters of Roosevelt Channel H. Several other USGS stations such as 02308870 (gage height, discharge and precipitation) or 02308861 (gage height) would have been better choices as they are located closer to WBID 1662 and no weirs interfere with gage height.

Response B: The gage data used for analysis in the TMDL was collected at USGS gage 02307834, approximately 1.5 miles upstream of WBID 1662. EPA is not aware of any gage height or precipitation data collected from within the WBID. The closest gage with comparable data, USGS 02308870, is located on a different branch and therefore was not selected for evaluation in the TMDL. The gage height data collected at USGS gage 02307834 was used solely to represent the increases and decreases in stream height due to weather patterns. Even in a canal with a fixed weir, the assumption of increases and decreases in stream height due to wet or dry weather patterns is still accurate. The stream height might be higher overall due to the

weir, but the increases and decreases would still reflect the changes in precipitation. If no gage height or precipitation data had been available in the area, EPA would have conservatively assume worst case scenario, resulting in implementation of the TMDL reduction at all times, during both wet and dry periods. This is the same conclusion reached using the available gage height data. Considering all of this, EPA made the best evaluation considering the data available.

Comment C: Using gages a certain distance from the WBID to relate Fecal Coliforms concentrations to gage heights may be acceptable during dry/winter season because winter fronts typically impact the majority of the County in a similar manner. During the summer/rainy season, thunderstorms are usually isolated and may not span over multiple WBIDs. Using gages in different WBIDs therefore may not provide an accurate representation of daily rain impacts during the wet season.

Response C: The gage data used for analysis in the TMDL was collected at USGS gage 02307834, approximately 1.5 miles upstream of WBID 1662. The closest gage with usable data, USGS 02308870, is located on a different branch and therefore was not selected for evaluation in the TMDL. Either way, USGS 02308870 is located 1.2 miles from WBID 1662 which means a difference of only 0.3 miles from the gage selected. Gage USGS 02308862 is located closer; however, it does not have any data from the time period the fecal coliform data was collected and cannot be used for comparison. As stated in the response above, if no data had been available in the area, EPA would have conservatively assumed worst case scenario, resulting in implementation of the TMDL reduction at all times. This is the same conclusion reached using the available data. Considering all of this, EPA made the best evaluation considering the data available.

Comment D: Page 20 – EPA staff stated that limited data were available to perform the TMDL analysis. Pinellas County concurs that 22 observations in a 4 year period, most of which were collected in a 9 month timeframe in 2006, does not constitute an adequate and representative dataset from which to determine load reductions. As stated by EPA, ‘additional data need to be collected to ensure water conditions are accurately represented’.

Response D: A 1998 Consent Decree in the Florida TMDL lawsuit (Florida Wildlife Federation, et al. v. Carol Browner, et al., Civil Action No. 4: 98CV356-WS, 1998) established a schedule by which EPA is committed to developing TMDLs. WBID 1662 was listed on Florida’s 1998 impaired waters list (i.e., 303(d) list) for fecal coliform bacteria. The water quality criteria for protection of Class III waters are established by the state of Florida in the Florida Administrative Code (FAC) Section 62-302.530. The fecal coliform criteria, which TMDLs must be developed to meet, are as followings:

The most probable number (MPN) or membrane filter (MF) counts per 100 ml of fecal coliform bacteria shall not exceed a monthly average of 200, nor exceed 400 in 10 percent of the samples, nor exceed 800 on any one day. Monthly averages shall be expressed as geometric means based on a minimum of 10 samples taken over a 30-day period.

Twenty-two fecal coliform samples were collected from March 2004 to October 2008 within

WBID 1662 (Pinellas Park Ditch No. 1, Tidal). Seven samples (32 percent) exceed the 400 count/100 mL criterion that should not be exceeded in more than 10 percent of measurements. Based on the available data, WBID 1662 does not meet the water quality standards for fecal coliform bacteria and a TMDL is needed. Page 20 of the proposed TMDL recommends that additional data, along with flow data, be collected to ensure surface water conditions are accurately represented and so that loads can be calculated. The initial step in implementing a pathogen TMDL is source location/identification. Additional work at source identification will also provide additional data regarding the current surface water conditions.

Comment E: Appendix B – The final statement that ‘80% of the time, the instream condition is less than 553 cfu is incorrect. Some of the exceedances are caused by storm event driven high flows, which are short in duration. This is also not a valid conclusion unless samples are randomly collected through the sample collection period.

Response E: This statement was only provided to explain percentiles. The text has been corrected to state, “80% of the time, the fecal coliform data is less than 553 cfu.”

Comment F: Pinellas Park Ditch No. 1: More data collection needs to occur to ensure accurate water conditions are represented for a science-based load reduction. Additionally, a different USGS gage needs to be used to ensure the most accurate gage height is being represented. The validity of using daily gage height during summer flows also comes into question if the gage is not located within the WBID itself.

We understand FDEP and EPA have been tasked with a difficult mission in generating numerous TMDLs within a short timeframe. Nevertheless, as demonstrated, there are numerous concerns with these proposed TMDLs. The methodologies utilized in these assessments are technically flawed, and not based on sound science as required by the Clean Water Act. Pinellas County requests that the proposed TMDLs be re-evaluated.

Response F: Twenty-two fecal coliform samples were collected from March 2004 to October 2008 within WBID 1662 (Pinellas Park Ditch No. 1, Tidal). Thirty-two percent of the samples exceed the 400 count/100 mL criterion that should not be exceeded in more than 10 percent of measurements. Consequently, WBID 1662 does not meet the water quality standards for fecal coliform bacteria and a TMDL is needed. The initial step in implementing a pathogen TMDL is to more specifically locate the source(s) of bacteria in the watershed. Additional work at source identification will also provide additional data regarding the current surface water conditions. All questions regarding the gage height data used in the TMDL report are addressed above in Responses 2 and 3. Considering all this, EPA does not believe that a re-evaluation of the proposed TMDL will result in a different finding and therefore is not warranted at this time.