

Water Quality Inventory and 303(d) List of Impaired Waters

2001 Mission River Tidal

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|--------------|------------|--|--|--|
| Entire Segment | Enterococcus | Impairment | Bacteria may be contributed from Copano Bay and from the upstream segment. Copano Bay is impaired for bacteria in oyster waters. The Refugio WWTP discharges into the lower end of Segment 2002 and recorded high readings in one the Copano Study sampling events, which may be indicative of previous problems. Cattle, horses, and wildlife may also be contributing factors. | Woodsboro WWTP 0.25 mgd (via Willow and Sous Creeks) Refugio WWTP 0.576 mgd | TSSWCB/NRA - SWQM to Support Copano Bay TMDL |

2003 Aransas River Tidal

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|--------------|------------|---|---|--|
| Entire Segment | Enterococcus | Impairment | The Sinton WWTP had a few high readings during the Copano Study; Odem WWTP had several, and the St. Paul WSC has been consistently high. All of the plants discharge indirectly into the river via Chiltipin Creek and the confluence is well below the sampling location. But being a tidal segment, the water does "flow" upstream with high tides. Bacteria may be contributed from Copano Bay which is impaired for bacteria in oyster waters. Cattle, horses, and wildlife may also be contributing factors. | Sinton WWTP 0.8 mgd Odem WWTP 0.273 mgd St. Paul WSC 0.05 mgd | TSSWCB/NRA - SWQM to Support Copano Bay TMDL |
| Entire Segment | OP | Concern | The upstream segment, 2004, also has a concern for OP and may be a contributing factor. The higher readings correlate to lower flow when the stream is effluent dominated. | | |

2004 Aransas River Above Tidal - Perennial

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|------------------|---------|--|--|---|
| 02 | Low DO | Concern | All of the exceedences occurred in the summer months of July and August. | Beeville WWTP 3 mgd Beeville/Chase Field WWTP 2.5 mgd Skidmore WSC 0.131 mgd Tynan WSC 0.045 mgd - discharges into the river near the Bee/Refugio County Line, which is well below the sampling site. | 24-Hr DO measurements are scheduled to be collected during FY 2009. |
| 02 | N+N | Concern | The highest values correspond to lower flow when the stream is effluent dominated. | | |
| 02 | OP | Concern | | | |
| 02 | Total Phosphorus | Concern | | | |

2004A Aransas Creek - Intermittent w/perennial pools

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|--------------|------------|---|---------------------------------------|--|
| Entire Segment | Bacteria | Impairment | The Skidmore WWTP has not had any hits to date during the Copano Study sampling events. Cattle, horses, and wildlife may be contributing factors. | Skidmore WSC 0.131 mgd | TSSWCB/NRA - SWQM to Support Copano Bay TMDL |
| Entire Segment | Low DO | Concern | The lower readings are probably due to the intermittent flows in the creek as the exceedences occur during very low (<1 cfs) and no flow. | | |

2101 Nueces River Tidal

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|---------------|---------|--|--|---------------|
| Entire Segment | Chlorophyll-a | Concern | One possible explanation is that the tidal portion is not flushed on a regular basis. In general, the amount of water released from Lake Corpus Christi for freshwater inflows into the Nueces Estuary is based on the amount of water that has flowed into the reservoir system. Except during times of major flooding, the water more or less sloshes back and forth with tides. This problem may be compounded as the Rincon Bayou Pipeline is used more to divert the freshwater inflows into the upper delta instead of being flowing down the river. | Flint Hills Corpus Christi Allison WWTP 5 mgd (partial); San Patricio County MUD No. 1 0.075 mgd | |

2102 Nueces River Below Lake Corpus Christi - Perennial

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|---------------|------------------|---|--|---|
| 01 | Chlorophyll-a | Concern | Since the Mary Rhodes Pipeline came online in 1998, less water is diverted from the river for municipal and industrial use. So during times of little rainfall, the overall flow in the river has been reduced. | Wright Materials - no discharge permit, but occasionally discharges after heavy rains. | Although not specific to any parameter, a physical clean up of the Nueces River from Hazel Bazemore Park to upstream of the western end of Nueces County Road 73/Ware Road is being planned by Nueces County (lead), NRA, TCEQ, City of Corpus Christi, and F15CBBEP. |
| Entire Segment | | Increasing Trend | | | |
| Entire Segment | TDS | Increasing Trend | There are several suspected causes: groundwater influx, over flow from gravel mining operations, and illegal dumping. None of the possible causes have been confirmed. Another possible reason is that since the Mary Rhodes Pipeline, which supplies water from Lake Texana, came online in 1998, less water is diverted from the river for municipal and industrial use. So during times of little rainfall, the overall flow in the river has been reduced. Many of the individual values exceed the average criteria value. | | |
| Entire Segment | Chloride | Increasing Trend | The problems and possible causes associated with the high TDS also apply to the chloride levels. The individual values are approaching the average criteria value. | | |
| Entire Segment | Sulfate | Increasing Trend | The problems and possible causes associated with the high TDS and chlorides also apply to the sulfate levels. The individual values are still well below the average criteria value. | | |

2103 Lake Corpus Christi

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|------------------|------------------|---|--|---|
| 01, 06 | OP | Concern | Possible runoff from lawns from the numerous communities and homes surrounding the lake and along the river portion of the segment. Based on the lack of WWTPs in the area, there may also be problems with septic systems. There may also be runoff from the surface irrigation of 25 acres associated with Corpus Christi State Park affecting AU_01. The upper portion of the segment (AU_06) is more like a river than a lake and mets the criteria value for rivers - but it is influenced by the water level in the lake. | Mathis WWTP 0.947 mgd George West WWTP 0.539 mgd Lake Corpus Christi State Park 0.067 mgd via evaporation and irrigation | OP sampling, discontinued in FY 2004, will resume in FY 2009. |
| 01 | Total Phosphorus | Concern | Possible runoff from lawns from the numerous communities and homes surrounding the lake. Based on the lack of WWTPs in the area, there may also be problems with septic systems. There may also be runoff from the surface irrigation of 25 acres associated with Corpus Christi State Park. The higher values tend to correlate with lower lake levels - less inflow to dilute the concentration from evaporation. | | |
| 02, 06 | Chlorophyll-a | Concern | The higher values tend to correlate with lower lake levels - less inflow to dilute the concetration from evaporation. | | No active stations in AU_02 due to accessiblity issues. |
| Entire Segment | TDS | Increasing Trend | TDS values tend to fall after a major inflow event, but then slowly rise as the lake remains nearly full and as then again as the water levels drop - less inflow to dilute the concentration from evaporation. The individual values exceed the average criteria value. | | |
| Entire Segment | Chloride | Increasing Trend | Chloride displays a similar pattern as TDS, with falling values after major inflows then an overall rise - less inflow to dilute the concentration from evaporation. A61 | | |
| Entire Segment | Sulfate | Increasing Trend | Sulfate also displays a similar pattern as TDS and chloride, with falling values after major inflows then an overall rise - less inflow to dilute the concentration from evaporation. The individual values are still well below the average criteria value. | | |

2104 Nueces River Above Frio River - Perennial

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|---------------------------------|------------------|---|---------------------------------------|---------------|
| 01 | Impaired Habitat | Concern | Unknown. | US Department of Justice 0.3 mgd | |
| Entire Segment | Impaired Fish Community | Concern | Unknown. | | |
| 01 | Impaired Macrobenthos Community | Concern | Unknown. | | |
| 02 | pH | Decreasing Trend | Unknown. This is occurring in the braided section of the river. The values are still well above the minimum criteria value. | | |

2105 Nueces River Above Holland Dam - Perennial

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|--------------|---------|--|---|---------------|
| 01 | Low DO | Concern | Low flow - low values occurred with stream flows were negligible (0 cfs to 0.3 cfs). | Del Monte Foods (Crystal City Plant) Cotulla Border Patrol Station Crystal City WWTP 1.2 mgd Carrizo Springs WWTP 0.95 mgd Cotulla WWTP 0.99 mgd Big Wells WWTP 0.15 mgd Zavala County (Land fill) 0.05 mgd | |

2106 Nueces River / Lower Frio River - Perennial

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|--------------|------------|---|---|--|
| Entire Segment | TDS | Impairment | Choke Canyon Reservoir releases 29 cfs into the segment (was 33 cfs until late 2007/early 2008). It has higher TDS levels - average of 1054 mg/l - and its values tend to rise as the lake levels fall. The Valero Diamond Shamrock Refinery also discharges to this segment, and there has been some concern about the TDS levels of their discharge waters at the current limits. Their requested amendment includes an increase for all limited parameters. Proposed revision to the TDS average criteria from 500 mg/l to 1080 mg/l could possibly remove the impairment. The City of Corpus Christi submitted comments suggesting that the criteria only be raised to between 800 mg/l and 900 mg/l and that the segment be divided at the Frio/Nueces confluence. (NRA supports this position.) | Diamond Shamrock Refining Co. 1.5 mgd (proposed increase to 3 mgd) Three Rivers WWTP 0.4 mgd | A RWP study in March 2008 indicates that the lower portion of this segment, at least up to the Live Oak County Public Boat Ramp at Airport Road, is influenced by LCC water levels. The study was conducted when LCC was nearly full, so the extent of influence during lower levels is unknown. The study also concluded that below SH 72, much of the flow is "lost" via suballuvial sands but reemerges near the confluence of Sulpher Creek. |

| 2107 Atascosa River - Perennial | | | | | |
|---------------------------------|-------------------------|------------------|--|---|--|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| 01, 02 | E. coli | Impairment | NPS runoff from ag use is the most likely source. This impairment is well below the major WWTP discharges. | San Miguel Electric Co-op Lytle WWTP 0.45 mgd Jourdanton WWTP 0.33 mgd Pleasanton WWTP 1.42 mgd Poteet WWTP 0.64 mgd Benton City WSC 0.015 mgd TxDOT 0.02 mgd | TMDL for bacteria - TCEQ to conduct a recreational use attainability analysis to determine if the existing bacteria standard is appropriate. |
| 02, 03 | Low DO | Impairment | Low flow, elevated temperatures during droughts? AU_03 contains the major WWTPs. | | TMDL for depressed dissolved oxygen - developing a model for DO to determine the appropriate aquatic life use. |
| 02, 03 | Impaired Fish Community | Impairment | Unknown - based on DO impairment? | | TPWD? |
| 01, 03 | Chlorophyll-a | Concern | Unknown | | |
| 02 | OP | Concern | NPS runoff. The samples were collected during TMDL sampling which targeted runoff events. | | |
| 03 | Impaired Habitat | Concern | Unknown. | | |
| Entire Segment | Chloride | Increasing Trend | The individual values are approaching the average criteria value. | | |
| Entire Segment | Sulfate | Increasing Trend | The individual values are still well below the average criteria value. | | |

| 2108 San Miguel Creek - Perennial | | | | | |
|-----------------------------------|---------------|------------|--|--|---------------|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| 01 | E. coli | Impairment | The most likely source is runoff from agricultural and ranch lands. | San Miguel Electric Co-op Charlotte WWTP 0.22 mgd Devine WWTP 0.65 mgd Natalia WWTP 0.19 mgd Moore WSC 0.065 mgd | |
| 01 | Chlorophyll-a | Concern | Higher readings correlate to times with very low flow or stagnant water. | | |

| 2109 Leona River - Perennial | | | | | |
|------------------------------|--------------|-------------------|--|--|---------------|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| Entire Segment | E. coli | Impairment | The Uvalde WWTP discharges into Cooks Slough flows to the river. There have been reports that the water near the discharge is grey green, stinks, and is scummy. | Uvalde WWTP 0.97 mgd Batesville WSC 0.184 mgd | |
| Entire Segment | N+N | Concern | Uvalde WWTP and runoff - the highest values were measured below the confluence of Cooks Slough which drains runoff from area farm fields. | | |
| 03 | Low DO | Potential Concern | Uvalde WWTP and runoff - field personnel have noted a visual degradation in water quality at station 18418 just downstream of Uvalde. | | |

| 2110 Lower Sabinal River - Perennial | | | | | |
|--------------------------------------|--------------|------------|---|--|---|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| Entire Segment | N+N | Impairment | The Sabinal WWTP is the suspected source, mostly likely from leaking retention ponds and during flood events. The plant is located in the 100 year flood plain and has been completely inundated several times. | Sabinal WWTP 0.142 mgd (will increase to 0.34 mgd) | TMDL and I-Plan complete. Construction of new plant scheduled to start in 2009. |

| 2113 Upper Frio River - Perennial | | | | | |
|-----------------------------------|---------------------------------|------------|---|---------------------------------------|---------------|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| 01 | Impaired Macrobenthos Community | Impairment | Impairment verification monitoring for DO was conducted in 2004. The TMDL study concluded that based on 24-hr DO measurements that the segment appears to be meeting exceptional aquatic life use and should be removed from the 303d list. The associated Biological and Habitat study concluded that based on Regional IBI, RBP, and HQI scores, the biological and habitat data support the conclusion that existing aquatic life used are lower than the established standards. | | |
| Entire Segment | Impaired Fish Community | Impairment | | | |
| Entire Segment | Impaired Habitat | Concern | | | |

| 2114 Hondo Creek - Perennial | | | | | |
|------------------------------|--------------|------------------|---|---------------------------------------|---|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| 02 | N+N | Possible Concern | The Hondo WWTP and runoff from fields are the likely sources. | Hondo WWTP 1.8 mgd | Sampling at this site was discontinued because it was dry most of the time. |

| 2116 Choke Canyon Reservoir | | | | | |
|-----------------------------|---------------|------------------|---|---------------------------------------|---------------|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| 06 | Low DO | Impairment | Could be due to the nature of the operating procedures for the lake. Only 29 cfs is released on a continual basis (was 33 cfs until late 2007 / early 2008). Additional flow out of the reservoir occurs only when it is full and spills or when LCC is so low that water is released for water supply purposes. Therefore, evaporation is a major factor. This AU is also the upper end of the reservoir which gets very shallow as the water level goes down. | US Dept. of Justice 0.3 mgd | |
| 05 | Low DO | Concern | Same explanation as for the impairment in AU_06. This AU is the southern arm of lake near Calliham, which also becomes shallow as the water level goes down. | | |
| 06 | Chlorophyll a | Possible Concern | Could also be related to the operating procedures. | | |

| 2117 Frio River Above Choke Canyon Reservoir - Perennial | | | | | |
|--|--------------|------------|---|---|---|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| 02 | E. coli | Impairment | Both the Pearsall and Dilley WWTPs discharge in this AU. Non-point source runoff from wildlife is also a possible source. | Pearsall WWTP 1.95 mgd Dilley WWTPs 0.3 and 0.8 mgd Tilden WWTP | If the proposed new criteria of 206 for bacteria is approved, the geometric mean will be met and there will no longer be an impairment. |
| 01, 02, 03, 04 | N+N | Concern | The higher readings tend to correlate to higher flow which could also indicate contribution from Hondo Creek. Other sources may be attributed to runoff from surrounding farm and ranch lands, or possibly the Tilden WWTP which discharges near this location. NRA has also received complaints about O&G brine being illegally discharged into tributaries of this segment. | | |

| 2201 Arroyo Colorado Tidal | | | | | |
|----------------------------|--|---------------------------|--|--|---|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| 03, 04, 05 | Enterococcus | Impairment | The cities of San Benito and Harlingen WWTPs discharge in the lower end of 2202, the segment above this segment, and could also be contributing to this impair. The bacteria levels decrease downstream. | Taiwan Shrimp Village 100 mgd Southern Star 60 mgd Military Highway WSC 1.44 mgd and 0.51 mgd Rio Hondo WWTP 0.51 mgd | Arroyo Colorado Watershed Protection Plan (WPP): Numerous WWTP upgrades, constructed wetlands, and other BMP projects underway. TMDL for Dissolved Oxygen completed which lead to the WPP. |
| 04, 05 | Low DO | Impairment | Dredging and other mechanical changes to the river contribute to this impairment and other concerns. | | |
| 05 | Mercury and PCBs in edible fish tissue | Impairment | Legacy pollutants. | | |
| 03, 04, 05 | Ammonia | Concern | Most likely associated with the unloading of fertilizers at the Port of Harlingen. | | |
| 03, 04, 05 | OP | Concern | Most likely associated with the unloading of fertilizers at the Port of Harlingen. | | |
| 05 | Total Phosphorus | Concern, Increasing Trend | Most likely associated with the unloading of fertilizers at the Port of Harlingen. | | |
| Entire Segment | N+N | Concern | Most likely associated with the unloading of fertilizers at the Port of Harlingen. | | |
| Entire Segment | Chlorophyll-a | Concern | May be related to the elevated N+N levels. | | |

| 2202 Arroyo Colorado Above Tidal - Perennia | | | | | |
|---|--|---------------------------|---|---|---|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| Entire Segment | E. coli | Impairment | Urban stormwater runoff, colonias without sewer services, and the numerous WWTP discharges. | CPL Facilities 2 mgd and 1.12 mgd Frontera 1.24 mgd Military Highway WSCs 2.3 mgd, 0.4 mgd, 0.21 mgd, 0.23 mgd, 0.16 mgd, 0.135 mgd, and 0.51 mgd North Alamo WWTPs 2 @ 2 mgd La Joya WSC 0.432 mgd Mercedes WWTP 5 mgd San Benito WWTP 2.16 mgd Mission WWTP 9 mgd Harlingen Water Works Facilities 3.1 mgd and 12.2 mgd Donna WWTP 2.7 mgd Pharr WWTP 5 mgd Weslaco WWTP 2 mgd McAllen WWTP 10 mgd La Feria WWTPs 0.5 mgd and 1.25 mgd Hidalgo WWTP 0.28 mgd Elsa WWTP 0.28 mgd San Juan 4 mgd Winter Garden Park Assc. 0.011 mgd Hidalgo County MUD 0.5 mgd Alamo WWTP 2 mgd Donna ISD 0.017 mgd San Benito WWTP 3.75 mgd | Arroyo Colorado WPP: Numerous WWTP upgrades, constructed wetlands, and other BMP projects underway. |
| Entire Segment | Mercury and PCBs in edible fish tissue | Impairment | Legacy pollutants. | | |
| Entire Segment | Ammonia | Concern | Most likely associated with the numerous WWTP discharges. | | |
| Entire Segment | N+N | Concern | May be related to runoff from area crop lands and the numerous WWTP discharges. | | |
| Entire Segment | OP | Concern, Increasing Trend | May be related to runoff from area crop lands and the numerous WWTP discharges. | | |
| Entire Segment | Total Phosphorus | Concern | May be related to runoff from area crop lands and the numerous WWTP discharges. | | |
| Entire Segment | Chlorophyll-a | Concern | May be related to the elevated N+N levels. | | |

| 2202B Unnamed Drainage Ditch Tributary (B) to S. Arroyo Colorado | | | | | |
|--|---------------|---------|---|---------------------------------------|---|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| Entire Segment | E. coli | Concern | May be related to runoff from area crop lands and the numerous WWTP discharges. | See WWTPs for Segment 2202. | Arroyo Colorado WPP: Numerous WWTP upgrades, constructed wetlands, and other projects underway. |
| Entire Segment | Chlorophyll a | Concern | May be related to the elevated ammonia levels. | | |
| Entire Segment | Ammonia | Concern | May be related to runoff from area crop lands and the numerous WWTP discharges. | | |

| 2202C Unnamed Drainage Ditch Tributary (C) to S. Arroyo Colorado | | | | | |
|--|--------------|---------|---|---------------------------------------|---|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| Entire Segment | E. coli | Concern | May be related to runoff from area crop lands and the numerous WWTP discharges. | See WWTPs for Segment 2202. | Arroyo Colorado WPP: Numerous WWTP upgrades, constructed wetlands, and other projects underway. |
| Entire Segment | Ammonia | Concern | May be related to runoff from area crop lands and the numerous WWTP discharges. | | |

| 2203 Petronila Creek Tidal | | | | | |
|----------------------------|---------------|---------|---|---------------------------------------|---------------|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| Entire Segment | Chlorophyll-a | Concern | May be a continuation of the chlorophyll-a concern on the upstream segment and influenced by Baffin Bay, which also has a concern for this parameter. | | |

| 2204 Petronila Creek Above Tidal - Perennial | | | | | |
|--|---------------|------------|--|--|--|
| Entire Segment | TDS | Impairment | The source of the impairments was contributed primarily to historic oil and gas well activity in the area. | Agua Dulce WWTP 0.16 mgd Orange Grove WWTP 0.2 mgd Driscoll WWTP 0.1 mgd Nueces County WCID 0.01 mgd Coastal Bend Youth City 0.015 mgd Bishop CISD 0.008 mgd LCS Corrections 0.015 mgd (New) | TMDL and Implementation Plan CWQM Station Railroad Commission's Saltwater Minimization Projects (Well P&A) |
| Entire Segment | Chloride | Impairment | The source of the impairments was contributed primarily to historic oil and gas well activity in the area. | | |
| Entire Segment | Sulfate | Impairment | The source of the impairments was contributed primarily to historic oil and gas well activity in the area. | | |
| Entire Segment | Chlorophyll-a | Concern | Higher values tend to correlate to low flow. | | |

| 2462 San Antonio Bay / Hynes Bay | | | | | |
|----------------------------------|------------------|------------------|--|---|---------------|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| San Antonio & Hynes Bays | N+N | Concern | The higher levels tend to correlate with rainy periods, so the source of the N+N may be from runoff from surrounding farm lands. | Austwell Aqua Farm 3.7 mgd (Active?) Refugio WCID Austwell WWTP | |
| San Antonio & Hynes Bays | Total Phosphorus | Possible Concern | Non-point source runoff from surrounding farm lands. | | |
| San Antonio & Hynes Bays | Chlorophyll-a | Possible Concern | Unknown. | | |

| 2471 Aransas Bay | | | | | |
|------------------|---------------|------------------|--|---|---------------|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| Little Bay | Chlorophyll-a | Possible Concern | Limited water circulation in Little Bay. There is also one stormwater discharge permit into the bay. | Rockport WWTP 2.5 mgd Aransas County MUD 0.263 mgd | |

| 2472 Copano Bay | | | | | |
|--|---------------------------|------------------|---|---|---|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| Misson Bay, Aransas River Arm, Port Bay, eastern shoreline | Bacteria in Oyster waters | Impairment | Wildlife, waterfowl, livestock, and failing septic systems. | Taft WWTP 0.9 mgd Bayside WWTP 0.0642 mgd RR Development 0.55 mgd | Copano Bay TMDL for Bacteria in Oyster Waters TSSWCB/NRA SWQM to Support Copano Bay TMDL |
| Aransas River Arm | Total Phosphorus | Possible Concern | Non-point source runoff from surrounding farm lands. | | |

2473 St. Charles Bay

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|--------------|---------------------|---|---------------------------------------|---------------|
| Entire Segment | Low DO | Concern | All of the exceedences occur in the warm summer months and could be related to limited inflow/flushing of the bay. | | |
| Entire Segment | Enterococcus | Possible Impairment | Although the bay is not listed for Enterococcus, a reading of 5500 was measured at 13406 in January 2007 which may cause a listing with the 2010 Assessment. The sources are probably the same as those for Copano Bay (wildlife, waterfowl, livestock and failing septic systems), as the sampling site is very near the confluence of the bays. | | |

2481 Corpus Christi Bay

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------------|--------------|------------------|---|--|---------------|
| Ropes Park, Cole Park | Enterococcus | Impairment | Impairment at Ropes and Cole Park based on Beach Watch Data. There are a total of 5 stormwater discharge permits around the bay including the City of Corpus Christi's near the affected parks. | E.I. Dupont 4.61 mgd CC NAS 1.5 mgd Occidental Chemical Corp 2.24 mgd TAMU 0.06 mgd | |
| Near Shamrock Island | pH | Increasing Trend | Unknown. The individual values are still well below the upper criteria value. | Gregory WWTP 0.32 mgd Ingleside WWTP 1.2 mgd Nueces County WCIDs 1.88 mgd and 1.2 mgd | |

2482 Nueces Bay

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|------------------|------------------|--|--|---------------|
| Entire Segment | Total Phosphorus | Possible Concern | Non-point source runoff from farms in San Patricio County? | Corpus Christi WWTP 5 mgd Portland WWTP 2.5 mgd Sunlight Enterprises 0.009 mgd | |

2483 Redfish Bay

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|----------------------------|------------|---|--|---------------|
| Entire Segment | Bacteria for Oyster Waters | Impairment | Waterfowl, non-point source runoff, and WWTP discharges are possible sources. There is also one stormwater discharge permit into the bay. | Aker Gulf Marine 0.004 mgd Aransas Pass WWTP 1.6 mgd Gulf Marine Fabricators 0.012 mgd Marin Operating 0.0038 mgd | |

| 2484 Corpus Christi Inner Harbor | | | | | |
|----------------------------------|---------------|---------|--|--|---------------|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| Entire Segment | Ammonia | Concern | May be a result of the numerous WWTP discharge permits. There are also 9 stormwater discharge permits into the harbor. | Elementis 20 mgd Flint Hills Resources 2.16 mgd Citgo Refining & Chemicals 3.5 mgd Valero 0.05 mgd | |
| Entire Segment | N+N | Concern | May be a result of the numerous WWTP discharge permits. There are also 9 stormwater discharge permits into the harbor. | Williams Terminals Holdings 0.35 mgd Equistar Chemicals 2 mgd BTB Refining 0.12 mgd | |
| Entire Segment | Chlorophyll-a | Concern | May be related to the fact that the harbor is a dead-end channel and may not have much water circulation. | Shamrock Logistics Operations Markwest Javelina Co. 288 mgd Corpus Christi Cogeneration 11 mgd Corpus Christi WWTP 10 mgd | |

| 2485 Oso Bay | | | | | |
|-----------------|----------------------------|------------|---|--|--|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| Entire Segment | Low Dissolved Oxygen | Impairment | TMDL concludes that low DO is characteristic of this type of water body - high salinity and high seasonal temperatures. Possible change in standards would remove the impairment. | TAMU 0.9 mgd Corpus Christi WWTP 16.2 mgd | TMDL for Low DO (with Segment 2491) completed. |
| 03 | Enterococcus | Impairment | Thousands of waterfowl roost in the Blind Oso. | | |
| Entire Segment | Bacteria for Oyster Waters | Impairment | There is no oyster harvesting in the bay. | | |
| 03 | Total Phosphorus | Concern | This is the AU that the Corpus Christi WWTP discharges into. | | |
| 03 | Ammonia | Concern | Levels have dropped significantly beginning in 2003. | | |
| Entire Segment | Chlorophyll-a | Concern | Unknown, inflow from Oso Creek may be a contributing factor. | | TMDL for Bacteria (with Segment 2485A). TSSWCB projects to measure the contribution from agricultural areas. |

| 2485A Oso Creek | | | | | |
|-----------------|------------------|---------------------------|---|--|---|
| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
| Entire Segment | Enterococcus | Impairment | The Corpus Christi WWTP has been ruled as a source. Non-point source runoff from ag fields, which are covered in birds after heavy rains, is another possible source. | Equistar 2 mgd Robstown WWTP 3 mgd Corpus Christi WWTP 16 mgd Peoples Baptist Church 0.02 mgd Texas AgriLife 0.0015 mgd Tennessee Pipeline 0.06 mgd | TMDL for Bacteria (with Segment 2485). TSSWCB projects to measure the contribution from agricultural areas. |
| Entire Segment | N+N | Concern, Increasing Trend | In addition to two major WWTPs, the creek drains a large area that is predominately row crop acreage. The increase in N+N appears to correspond with the decrease in ammonia. | | |
| Entire Segment | Total Phosphorus | Concern | Probably related to the local farming activities. | | |
| Entire Segment | Chlorophyll-a | Concern | Unknown. | | |
| Entire Segment | OP | Possible Concern | The last OP data was collected in 2003. The creek was not assessed for OP but the all of the samples from 2001 to 2003 exceeded the criteria value. | | |

2491 Laguna Madre

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|----------------------------|------------------|---|--|--|
| 01, 02 | Low DO | Impairment | TMDL concludes that low DO is characteristic of this type of water body - high salinity and high seasonal temperatures. Possible change in standards would remove the impairment. | Harlingen Shrimp Farms 8 mgd Calpine Construction 1.11 mgd Loma Alta Aquaculture 8.2 mgd Calpine Higo Energy Center 0.92 mgd North Alamo WSCs 1 mgd, 3 2 mgd, 0.1 mgd, and 0.3 mgd Santa Rosa WWTP 0.681 mgd Raymondville WWTP 1.5 mgd Corpus Christi WWTP 3 mgd and 2.5 mgd Edinburg WWTP 7.6 mgd Weslaco WWTP 3 mgd McAllen WWTP 18 mgd Willacy County Navigation District 0.221 mgd Jim Hogg County WCID 0.796 mgd Hidalgo County Delta Lake Park 0.005 mgd Lyford WWTP 0.27 mgd Elsa WWTP 0.8 mgd US Customs 0.16 mgd Fig Tree RV Resort Hidalgo County MUD 0.5 mgd Sebastian MUD 0.225 mgd Laguna Madre Water District WWTP 0.65 mgd TxDOT 0.013 mgd La Villa WWTP 0.4 mgd Edcouch WWTP 0.21 mgd | TMDL for Low DO (with Segment 2485) completed. |
| 02 | Bacteria for Oyster Waters | Impairment | Source may be the Arroyo Colorado. | | |
| 02 | Enterococcus | Concern | Source may be the Arroyo Colorado. | | |
| 01, 02 | Chlorophyll a | Concern | Source may be the Arroyo Colorado. | | |
| 02 | N+N | Concern | Source may be the Arroyo Colorado. | | |
| 02 | Ammonia | Possible Concern | Source may be the Arroyo Colorado. | | |
| 02 | Total Phosphorus | Possible Concern | Source may be the Arroyo Colorado. | | |

2492 Baffin Bay

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|------------------|------------------|--|---|---------------|
| Entire Segment | Chlorophyll-a | Concern | Unknown. | Duval County CRD 0.04 mgd Kleberg County Kaufer Hubert Memorial Park 0.033 mgd Riviera WCID 0.06 mgd Ricardo WWTP 0.0485 mgd | |
| Alazan Bay | Ammonia | Possible Concern | Unknown. | | |
| Laguna Salado | Total Phosphorus | Possible Concern | Most of the WWTPs discharge into the creeks that feed Laguna Salado. | | |

2492A San Fernando Creek

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|----------------------|------------------|--|--|---------------|
| Entire Segment | Enterococcus/E. coli | Impairment | May be a combination of non-point source runoff and discharge from the WWTPs | Ticona Polymers 3.5 mgd Coil Tubing Services 0.001 mgd Duval County CRD 0.25 mgd San Diego MUD 0.75 mgd Bishop WWTP 0.32 mgd Alice WWTPs 2.6 mgd and 2.02 mgd Kingsville WWTPs 1.3 mgd and 1 mgd Kingsville NAS 0.4 mgd | |
| Entire Segment | N+N | Concern | Possibly from a combination of agriculture run off and WWTP discharges. | | |
| Entire Segment | Total Phosphorus | Concern | Possibly from a combination of agriculture run off and WWTP discharges. | | |
| Entire Segment | OP | Possible Concern | Tends to mimic the values for total phosphorus and should also be considered a concern on this segment | | |

2494 Brownsville Ship Channel

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|---------------|------------------|--|--|---------------|
| Entire Segment | Low DO | Concern | May be related to the fact that the harbor is a dead-end channel and may not have much water circulation and the numerous discharge permits. | Brownsville Navigation District 0.25 mgd and 0.1 mgd Valley MUD 0.5 mgd and 0.4 mgd Lone Star Hatchery 0.5 mgd Laguan Madre Water District 1.1 mgd Brownsville Public Utilities 10 mgd Los Fresnos WWTP 1 mgd St. Francis of Assisi Olmito WSC 0.75 mgd | |
| Entire Segment | Ammonia | Possible Concern | Numerous WWTP permit discharge or operations at the Port of Brownsville. | | |
| Entire Segment | Chlorophyll a | Possible Concern | May be related to the fact that the harbor is a dead-end channel and may not have much water circulation. | | |

2494A Port Isabel Fishing Harbor

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|-----------------|--------------|---------|--|---------------------------------------|---------------|
| Entire Segment | Enterococcus | Concern | Illegal discharge from boats? The maximum value is an anomaly and if removed, meets the criteria. | | |
| Entire Segment | N+N | Concern | Not real? 2008 Assessment reports that 9 of 14 samples exceed the criteria. This difference may be that only one of the three parameter codes were evaluated and some of the non-detect levels were reported higher than the criteria. | | |

2501 Gulf of Mexico

| Assessment Unit | Parameter(s) | Status | Possible Sources and Reasons for Impairment and/or Concern | WW Discharge Permits in the Watershed | Special Study |
|------------------|--------------------------------|------------------|--|---------------------------------------|---------------|
| All | Mercury in King Mackerel > 43" | Impairment | Atmospheric deposition? | | |
| Port Isabel Area | Enterococcus | Possible Concern | Unknown. | | |