



TEXAS
COMMISSION
ON ENVIRONMENTAL
QUALITY

MAY 13 PM 4:18

CHIEF CLERKS OFFICE

May 13, 2010

LaDonna Castañuela, Chief Clerk, MC-105
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: City of Burnet Water Quality Permit No. WQ0010793002

Dear Ms. Castañuela:

The Lower Colorado River Authority requests a contested case hearing regarding the above-referenced application filed by the City of Burnet (the City). As a steward of the water quality of the Colorado River basin, LCRA routinely reviews Texas Commission on Environmental Quality (TCEQ or Commission) water quality permit applications that may impact surface and ground water quality in the lower Colorado River basin.

The application proposes to more than double the City's current discharge into Hamilton Creek in Burnet County, Texas. LCRA raised concerns and continues to be concerned that the City's proposed constant wastewater discharge to Hamilton Creek results in the creek's degradation and a negative impact to the water quality in Lake Travis.

The Commission is assuming that Hamilton Creek has not been degraded by the City's current permit. The fact is there has been minimal impact to Hamilton Creek and Lake Travis because the City has only discharged six (6) times in the last six (6) years under its existing discharge permit. The minimal number of discharges is due to the continued application of treated wastewater under its current authorization allowing the City to land apply its treated wastewater rather than discharge the wastewater. To be clear, it is the minimal number of discharges to the creek that results in minimized water quality impacts on Hamilton Creek and Lake Travis. If the Commission approves a permit whereby the City is allowed to discharge unconditionally and because minimal discharges have occurred in Hamilton Creek during the existence of the City's current wastewater permit, LCRA believes the Commission should include a special provision requiring the City to conduct instream monitoring of the creek downstream of the discharge point.

The draft permit as written would allow increased discharge into Hamilton Creek, a tributary to Lake Travis, and would remove provisions for dedicated irrigation acreage for wastewater effluent disposal. The City's current permit authorizes effluent irrigation of 548 acres at less than 4.23 acre-feet/acre/year. The City proposes to remove the irrigation acreage from the permit and utilize a Chapter 210 authorization for future irrigation of the treated effluent. The applicant has indicated intent to reuse wastewater for irrigation under a 210 Reclaimed Water Authorization, which has been confirmed in the Executive Director's Response 7, 12, 22, 26, and 35, however there are no provisions in the draft permit, as written, that would ensure the maximization of irrigation throughout the life of the

permit which would also result in limiting discharges into Hamilton Creek. It is the ability and authorization, under the proposed permit, to unconditionally discharge treated wastewater into Hamilton Creek that will result in its degradation and impact the water quality in Lake Travis.

LCRA's comment letter dated February 4, 2010, describes the results of LCRA's Lake Travis Colorado River Environmental Models (CREMS). However in the Executive Director's response to comments # 29 the model results were not considered because the Commission staff had not reviewed the model results. CREMS was utilized to simulate the water quality impact of three City of Burnet WWTP discharge scenarios. The discharge scenarios were the Current permit (.726 MGD 10/15/3), Draft Permit (1.72 MGD 5/5/2/0.5), and a Reduced Nutrient (1.72 MGD 5/5/2/0.15). Clearly the model results show an impact to Lake Travis. The model results are demonstrated in **Attachment C**, Colorado River Model scenarios and results.

Since November 2009, LCRA and the City of Burnet have been working to reach an agreement that is beneficial to the City and addresses LCRA's concerns. LCRA and the City continue to work toward a settlement agreement. However, in absence of an agreement with the City, LCRA recommends adding certain special provisions should an amended discharge permit be granted. These provisions would allow discharge to Hamilton Creek only when certain flow conditions are met in Hamilton Creek as described in our specific comments below.

TCEQ has demonstrated the ability to add special conditions to a permit in other cases. In Response #30, the Commission states "The Executive Director cannot insert LCRA's requested provisions in the draft permit. The requested provisions are not required under the rules and the ED only has authority to require or enforce permit provisions allowed or required by the rules." However, the Commission has in fact added conditions to other permits that are similar in nature to those requested by LCRA. Recent instances include permits issued to Hays County Water Improvement District #2 (Belterra), permit WQ0014293001 where flow conditions on Bear Creek were added before a discharge could occur; and the City of Kerrville, permit WQ0010576001, which requires different treatment levels as determined by specific flow conditions on the Guadalupe River.

Specific Conditions

LCRA believes the following conditions should be added to the permit, if one is issued by the Commission:

1. Limit Discharge to Instances When Flow in Hamilton Creek is 4.0 CFS

LCRA is concerned that discharge of treated wastewater during periods of low flow in Hamilton Creek would add to nutrient loading of the receiving stream and ultimately Lake Travis. The proposed effluent levels in the Final Phase of 5 mg/L Carbonaceous Biochemical Oxygen Demand (CBOD); 5 mg/L Total Suspended Solids(TSS); 2 mg/L Ammonia Nitrogen (NH₃N); and 0.5 mg/L Total Phosphorus (TP) as limits of the draft permit are more protective than the current permit. While these more

stringent effluent requirements limit concentrations of pollutants of the receiving stream, LCRA is concerned about the cumulative pollutant loading and assimilative capacity of the receiving water body. LCRA is concerned that the Interim Phase, which allows a continuous discharge of up to 0.726 MGD at a treatment level of 10 mg/l CBOD, 15 mg/L TSS, 3 mg/L NH₃N with no nutrient removal, will result in degradation to Hamilton Creek and Lake Travis. See Attachment C, CREMS model results.

If increased wastewater discharge were to be authorized, it should be restricted to match specific flow conditions in Hamilton Creek. This restriction minimizes effects of the higher than background nutrient enriched wastewater entering Hamilton Creek and also minimizes the effects of wastewater entering Lake Travis.

Therefore, if the Commission were to issue an amended permit authorizing discharge, the permit should include the following language as a special provision:

Discharge to Hamilton Creek may only occur when the flow at LCRA Hydromet gauging station 3018 exceeds 4 cfs during the 24-hour period in which discharge occurs. The real-time flow for the LCRA gauge shall be obtained daily from the LCRA Hydromet website at:
<<http://hydromet.lcra.org/chron.aspx?snum=3018&sName=Hamilton%20Creek%20near%20Marble%20Falls&sType=flow>>

2. Determination of Saturated Irrigation Conditions Resulting in Discharge

The applicant has indicated intent to reuse effluent for land application and irrigation throughout separate areas except during extended wet or saturated conditions per their Authorization for Reclaimed Water No. R10793002. While LCRA understands the Authorization to Use Reclaimed Water is a separate authorization from this Water Quality permit, the determination of suitability for irrigation under the Reuse Authorization would directly determine when discharges to Hamilton Creek would occur as authorized by the Water Quality permit. Therefore, provisions for a soil moisture monitoring and irrigation plan should be included in the permit, should one be issued, in order to provide the City with a credible determination when any irrigation soils, whether under the permit or a Chapter 210 Authorization, are saturated so as to trigger a discharge.

Determining the soil saturation of the permitted or Reuse Authorization permitted irrigation areas, coupled with the flow in Hamilton Creek, is critical to making the decision on when to discharge. LCRA suggests a special provision in the permit that would require a soil moisture monitoring and irrigation plan be developed prior to commencement of operations under the Water Quality permit as amended and issued by the Commission. The plan should also specify when measurements should be taken, methods for taking soil moisture measurements, and methods to determine the water holding capacity of soils.

LCRA also recommends that the City of Burnet should maintain soil moisture monitoring and effluent discharge records and make those records available to the Commission as

stipulated in the Reporting Requirements of the permit as described below.

3. Reporting Requirements in the Permit and the Chapter 210 Authorization

Because discharges in the tributaries of Lake Travis can impact the reservoir, it is important to determine how often and under what conditions discharges are occurring. LCRA suggests the following revisions:

Daily records of effluent discharges and land application shall be documented monthly and shall include volume of discharge and weather conditions, i.e., temperature, precipitation, etc. Discharge records shall include the 24-hour flow record of Hamilton Creek as recorded by the LCRA Hydromet station no. 3018 and/or the soil moisture monitoring results that would indicate saturated conditions as a basis for discharge to Hamilton Creek. Discharge reports shall be reported to the TCEQ Water Quality Compliance Monitoring Team (MC224) of the Enforcement Division on a monthly basis.

Soil moisture monitoring records shall include the date, time and location of the sample or measurement; the technique or method of sample or measurement; results of the analysis or measurement and action taken based on those results; and identification of the individual who collected the sample or measurement and/or determined the action to be taken.

4. Irrigation Plan and Storage Capacity

A comprehensive irrigation plan with provisions for soil moisture monitoring should be developed to specify intended irrigation reuse and help the operator determine when conditions of the effluent irrigation areas are unsuitable for effluent disposal which may result in wastewater discharge to Hamilton Creek. LCRA suggests that the irrigation and storage capacity of the facility be designed to accommodate the recommended flow restriction requirements. LCRA requests additional nutrient removal to include limits on the amount of nitrogen that could be discharged, and also makes some specific reporting recommendations.

5. LCRA recommends that, should the Commission issue a permit, a special condition regarding in-stream monitoring be included and include the following criteria:

- a. Background conditions: The City shall conduct instream monitoring for determining background conditions on a monthly basis beginning within 60 days of Permit issuance until the first discharge occurs.
- b. Post-discharge monitoring: The City shall conduct post-discharge instream monitoring will commence after the first discharge of effluent into the creek by the Applicant.
- c. Instream monitoring shall be conducted in accordance with a plan approved by the Executive Director.

Summary and Request for Party Status

LCRA is requesting a contested case hearing and party status regarding the


Ms. LaDonna Castañuela
May 13, 2010
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City's application and the proposed permit. LCRA continues to work with the City to resolve concerns on the issues mentioned above through a potential settlement agreement. Until such time an agreement can be reached, LCRA respectfully requests a contested case hearing in this matter. Should an agreement be reached with the City prior to commencement of a contested case hearing LCRA may withdraw this request for contested case hearing.

Should LCRA and the City enter into a settlement agreement and a contested case hearing be granted pursuant to requests from any other parties, LCRA requests party status to ensure that any permit amendment issued would satisfactorily support any agreement reached by LCRA and any other parties with the City.

LCRA respectfully requests your consideration of our request and recommendations. If you have any questions, please do not hesitate to contact me at (512) 473-3530, or via facsimile at (512) 473-4010.

Sincerely,

A handwritten signature in black ink, appearing to read 'Vic Ramirez', is written over a light blue rectangular background.

Vic Ramirez,
Associate General Counsel

cc: Blas Coy, Jr., Office of Public Interest Council, TCEQ
Firoj Vahora, Municipal Permits, TCEQ
Kent Trede, Municipal Permits, TCEQ
David Vaughn, City of Burnet
Ed Peacock, Watershed Protection and Development, City of Austin
Lisa Hatzenbuehler, Manager LCRA Water Quality Protection

Attachment A and B

LCRA Comment Letters Dated November 13, 2009 and February 4, 2010



November 13, 2009

LaDonna Castañuela, MC 105
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, TX 78711-3087

RE: City of Burnet -- Permit Number WQ0010793002

Dear Ms. Castañuela:

As a steward of the lower Colorado River and its tributaries, the Lower Colorado River Authority (LCRA) routinely reviews TCEQ water quality permit applications that may impact water quality in the Colorado River basin. LCRA appreciates the opportunity to provide comments on the proposed amendment for the City of Burnet Water Quality Permit Number WQ0010793002 to discharge treated wastewater to Hamilton Creek in Segment No. 1404 of the Colorado River Basin in Burnet County.

We understand Senator Kirk Waston and Representative Donna Howard have requested a public meeting on behalf of their concerned constituents and that meeting will be granted.

LCRA is currently reviewing the permit application and evaluating preliminary modeling results from LCRA's Colorado River Environmental Model. We are concerned about nutrient impacts, specifically nitrogen and phosphorus, to Hamilton Creek and Lake Travis as a result of this discharge.

We have been in contact and continue to work with the City of Burnet towards a solution to LCRA's concerns. Depending on the continued discussions and results from those discussions LCRA may provide more technical written comments at the public meeting.

LCRA is not requesting a contested case hearing at this time, but does reserve the right to request interested party status should a contested case hearing be requested and granted.

Sincerely,

A handwritten signature in black ink, appearing to read "Lisa Hatzenbuehler", is written over the word "Sincerely,".

Lisa Hatzenbuehler, Manager
Water Resource Protection



February 4, 2010

LaDonna Castañuela, Chief Clerk, MC-105
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Re: City of Burnet Water Quality Permit No. WQ0010793002

Dear Ms. Castañuela,

LCRA appreciates the opportunity to comment on the proposed major amendment to the City of Burnet Water Quality Permit No. WQ0010793002. This letter is a follow-up to the LCRA comment letter submitted to TCEQ on November 13, 2009. As a steward of the water quality of the Colorado River basin, LCRA routinely reviews TCEQ water quality permit applications that may impact surface and ground water quality in the lower Colorado River basin.

General Comments/Summary of Recommendations

Since November 2009, LCRA has been working with the City of Burnet to reach an agreement that is beneficial to the City and addresses LCRA's concerns. The draft permit as written would allow increased discharge into Hamilton Creek, a tributary to Lake Travis, and would remove provisions for dedicated irrigation acreage for wastewater effluent disposal. Constant wastewater discharge to Hamilton Creek will result in its degradation, and impact the water quality in Lake Travis. The applicant has indicated intent to reuse wastewater for irrigation under a 210 Reclaimed Water Authorization; however, there are no provisions in this permit as written that would ensure irrigation which would limit discharge into Hamilton Creek.

In absence of an agreement with the City, LCRA recommends adding special provisions should an amended discharge permit be granted. These provisions would allow discharge to Hamilton Creek only when certain flow conditions are met in Hamilton Creek as described in our specific comments below. Additionally, a comprehensive irrigation plan with provisions for soil moisture monitoring should be developed to specify intended irrigation reuse and help the operator determine when conditions of the effluent irrigation areas are unsuitable for effluent disposal which may result in wastewater discharge to Hamilton Creek. LCRA suggests that the irrigation and storage capacity of the facility be designed to accommodate the recommended flow restriction requirements. LCRA requests additional nutrient removal to include limits on the amount of nitrogen that could be discharged, and also makes some specific reporting recommendations.

Specific Comments

Flow Requirements

LCRA is concerned that discharge of treated wastewater during periods of low flow in Hamilton Creek would add to nutrient loading of the receiving stream and ultimately Lake Travis. The proposed effluent levels in the Final Phase of 5 mg/L Carbonaceous Biochemical Oxygen Demand (CBOD); 5 mg/L Total Suspended Solids(TSS); 2 mg/L Ammonia Nitrogen (NH₃N); and 0.5 mg/L Total Phosphorus (TP) as limits of the draft permit are more protective than the current permit. While these more stringent effluent requirements limit concentrations of pollutants of the receiving stream, LCRA is concerned about the cumulative pollutant loading and assimilative capacity of the receiving water body. LCRA is concerned that the Interim Phase which allows a continuous discharge of up to 0.726 MGD at a treatment level of 10 mg/l CBOD, 15 mg/L TSS, 3 mg/L NH₃N with no nutrient removal will result in degradation to Hamilton Creek and Lake Travis.

LCRA has developed an assessment tool for reservoirs known as the Colorado River Environmental Model (CREMS) which models wastewater discharge scenarios and impacts to Lake Travis. Using CREMS, LCRA has modeled potential wastewater discharge scenarios based on the proposed draft permit limits. Preliminary results indicate that continuous wastewater discharges with proposed limits in both the Interim and Final Phases would adversely impact the receiving water bodies. Historic water quality data demonstrates that Lake Travis has low background concentrations of phosphorus and nitrogen, and CREMS modeling has shown that increased loading of phosphorus and nitrogen will result in increased chlorophyll a in the reservoir.

If increased wastewater discharge were to be authorized, it should be restricted to match specific flow conditions in Hamilton Creek. This restriction minimizes effects of the higher than background nutrient enriched wastewater entering Hamilton Creek and also minimizes the effects of wastewater entering Lake Travis.

Therefore, if the Commission were to issue an amended permit authorizing discharge, the permit should include the following language as a special provision:

Discharge to Hamilton Creek may only occur when the flow at LCRA Hydromet gauging station 3018 exceeds 4 cfs during the 24-hour period in which discharge occurs. The real-time flow for the LCRA gauge shall be obtained daily from the LCRA Hydromet website at:
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Determination of Saturated Irrigation Conditions Resulting in Discharge

The applicant has indicated intent to reuse effluent for land application and irrigation throughout separate areas except during extended wet or saturated conditions per their Authorization for Reclaimed Water No. R10793002. While LCRA understands the Authorization to Use Reclaimed Water is a separate authorization from this Water Quality permit, the determination of suitability for irrigation under the Reuse Authorization would directly determine when discharges to Hamilton Creek would occur as authorized by the Water Quality permit. Therefore provisions for a soil moisture monitoring and irrigation plan should be included as they relate to the wastewater discharge if the Commission grants this amendment.

Determining the soil saturation of the Reuse Authorization permitted irrigation areas, coupled with the flow in Hamilton Creek, is critical to making the decision on when to discharge. LCRA suggests a special provision in the permit which would require a soil moisture monitoring and irrigation plan be developed prior to commencement of operations under the Water Quality permit as amended and issued by the TCEQ. The plan should also specify when measurements be taken, methods for taking soil moisture measurements, and methods to determine the water holding capacity of soils.

LCRA also recommends that the City of Burnet should maintain soil moisture monitoring and effluent discharge records and make those records available to TCEQ as stipulated in the Reporting Requirements of the permit as described below.

Reporting Requirements

Because discharges in the tributaries of Lake Travis can impact the reservoir, it is important to determine how often and under what conditions discharges are occurring. LCRA suggests the following revisions:

Daily records of effluent discharges and land application shall be documented monthly and shall include volume of discharge and weather conditions, i.e., temperature, precipitation, etc. Discharge records shall include the 24-hour flow record of Hamilton Creek as recorded by the LCRA Hydromet station no. 3018 and/or the soil moisture monitoring results that would indicate saturated conditions as a basis for discharge to Hamilton Creek. Discharge reports shall be reported to the TCEQ Water Quality Compliance Monitoring Team (MC224) of the Enforcement Division on a monthly basis.

Soil moisture monitoring records shall include the date, time and location of the sample or measurement; the technique or method of sample or measurement; results of the analysis or measurement and action taken based on those results; and identification of the individual who collected the sample or measurement and/or determined the action to be taken.

Summary and Request for Party Status

LCRA continues to work with the applicant to resolve concerns on the above-mentioned issues through a potential settlement agreement. Until such time an agreement can be reached, LCRA respectfully requests a contested case hearing. Should an agreement be reached with the applicant prior to commencement of a contested case hearing LCRA may withdraw this request for contested case hearing.

Should a contested case hearing be granted as requested by any other parties, LCRA requests party status to ensure that any permit amendment issued would satisfactorily support any agreement reached by LCRA and any other parties with the applicant.

LCRA respectfully requests your consideration of our comments. If you have any questions, please do not hesitate to contact me at (512) 473-4082.

Sincerely,

A handwritten signature in black ink, appearing to read 'L. Hatzenbuehler', with a long horizontal line extending to the right.

Lisa Hatzenbuehler, Manager
Water Resource Protection

Cc: Blas Coy, Jr., Office of Public Interest Council, TCEQ
Firoj Vahora, Municipal Permits, TCEQ
Kent Trede, Municipal Permits, TCEQ
David Vaughn, City of Burnet
Ed Peacock, Watershed Protection and Development, City of Austin

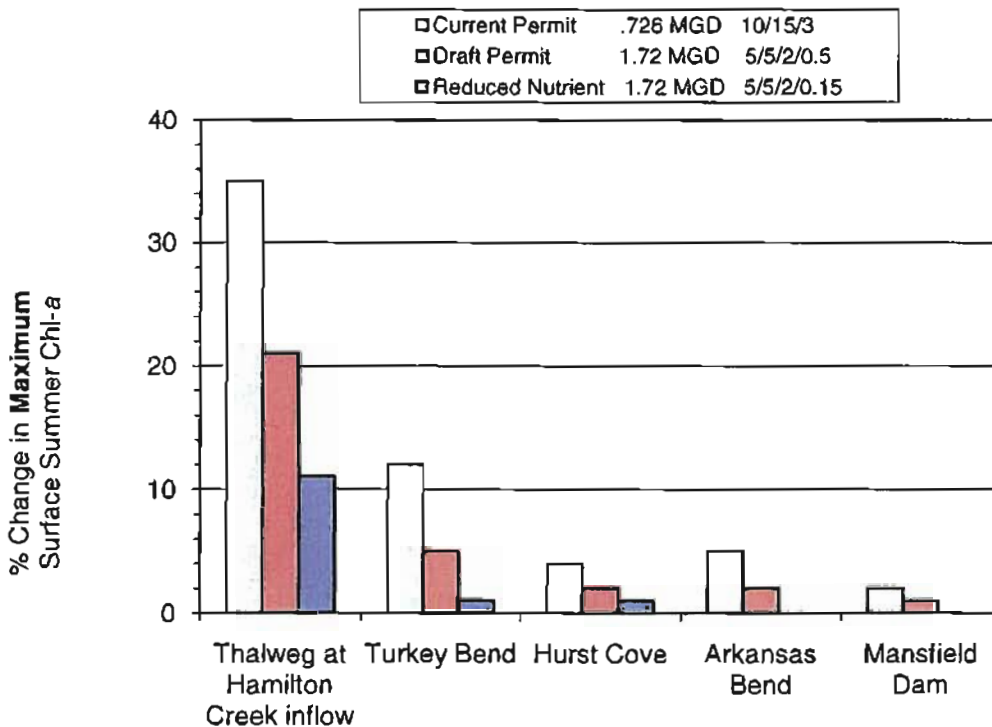
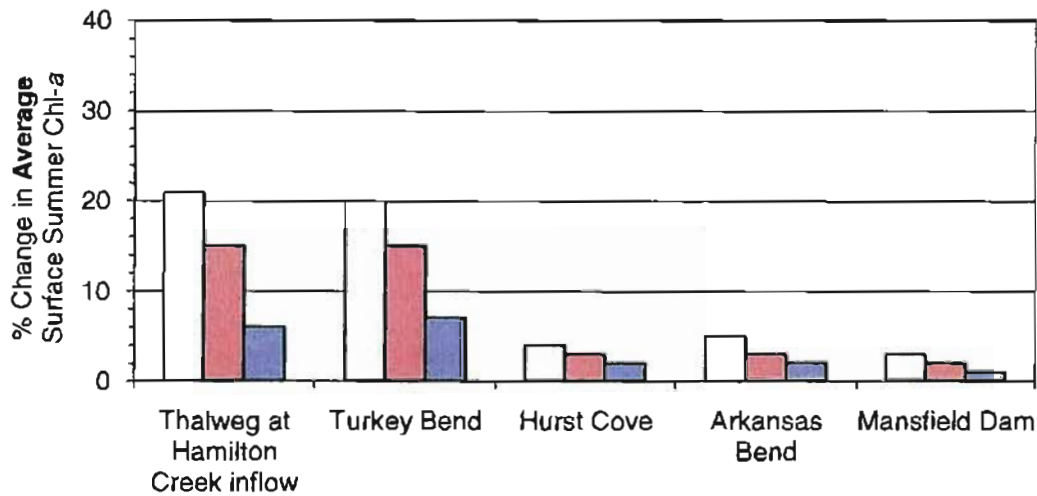
Attachment C

**Colorado River Environmental Model – City of Burnet
Model Results**

**Summary of CREMS Model Results – City of Burnet
Attachment C**

LCRA's Lake Travis Colorado River Environmental Models (CREMS) was utilized to simulate the water quality impact of three City of Burnet WWTP discharge scenarios. The discharge scenarios were the Current permit (.726 MGD 10/15/3), Draft Permit (1.72 MGD 5/5/2/0.5), and a Reduced Nutrient (1.72 MGD 5/5/2/0.15). Results are presented in Figure 1 below. The discharge of treated effluent into Hamilton Creek increases surface chlorophyll *a* throughout the reservoir.

Figure 1. Percent change in average and maximum surface summer chlorophyll *a* at select locations throughout Lake Travis.



In addition to increased chlorophyll *a* concentrations, the permit has the potential to significantly increase the Nitrate-Nitrite-N concentrations in Lake Travis. The CREMS model was used to assess the impact of No Discharge, Draft Permit (1.72 MGD 5/5/2/0.5), and Reduced Nitrogen and Phosphorus permit (1.72 MGD 5/5/2/0.15 TN = 6 mg/L) scenarios on nitrogen. Discharge under the Draft Permit significantly increases the average Nitrate+Nitrite-N concentration in the receiving segment of Lake Travis (Table 1).

Table 1. Comparison of Nitrate+Nitrite-N statistics for Lake Travis at Hamilton Creek (the receiving lake segment).

Statistic	Calibration (no discharge)	Permit TN/TP (5-5-2- 0.15 TP 6 TN)	Draft Permit (5-5-2-0.5)
Average	0.153	0.273	0.449
Max	4.47	6.10	11.44

The Reduced Nitrogen and Phosphorus permit (1.72 MGD 5/5/2/0.15 TN = 6 mg/L) scenario was also evaluated for impacts to chlorophyll *a* (Figure 2). Impacts to Lake Travis are greatly reduced in this scenario.

Figure 2. Percent change in average and maximum surface summer chlorophyll *a* at select locations throughout Lake Travis.

