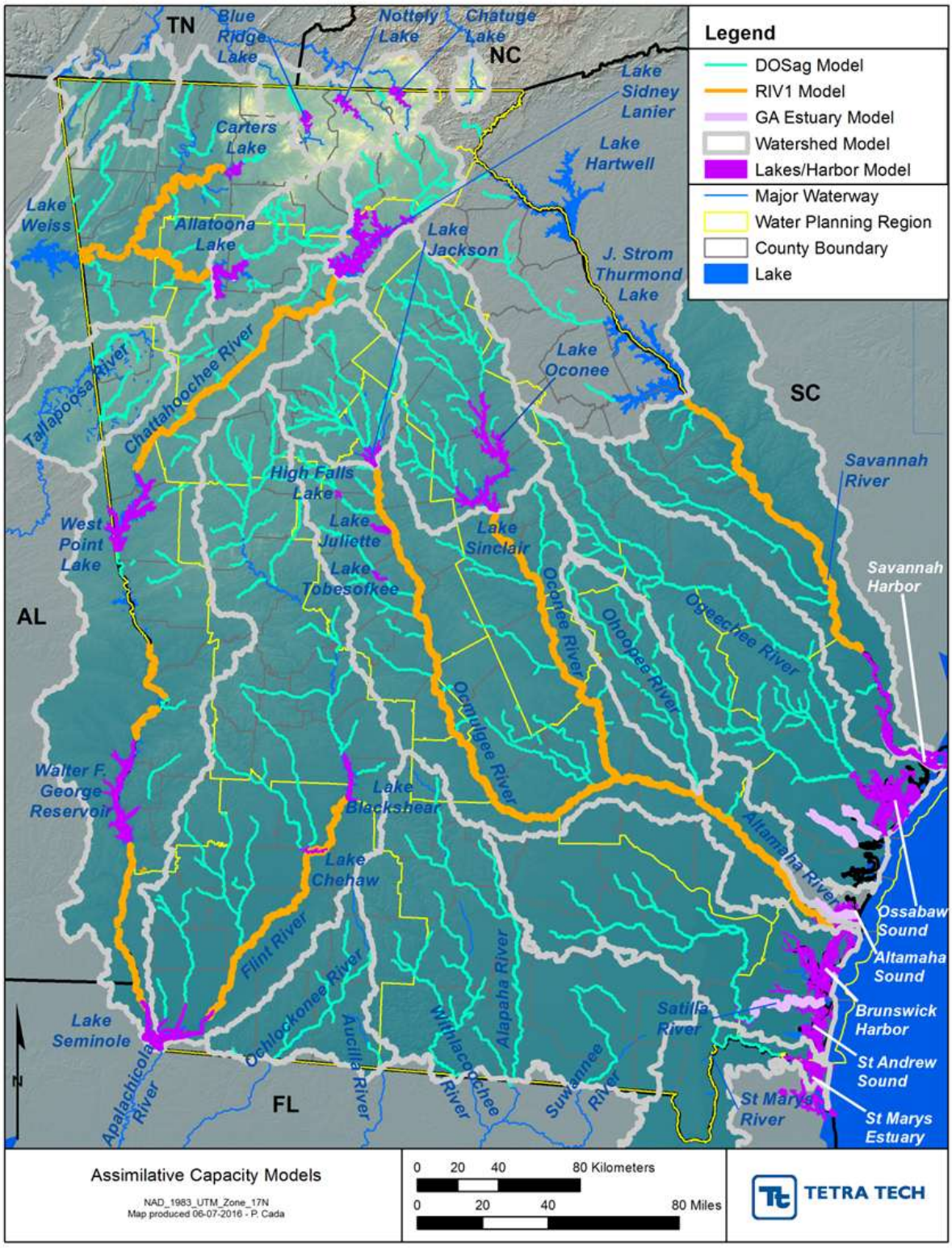
UPDATED WATER QUALITY (ASSIMILATIVE CAPACITY) ASSESSMENT
COOSA, TENNESSEE & LANIER CHATTAHOOCHEE BASINS



PERMITTED FACILITY INFORMATION

COOSA & TENNESSEE BASINS

Changes in Permit Limits Associated with Modeling Assumptions under Future Conditions (2050)

- **Permitted wastewater discharge facilities were modeled under current conditions using their current permit limits**.
- The annual average discharge flow from each facility was analyzed for the year 2014 to determine an "actual" discharge flow from each facility. The 2014 "actual" discharge flow was then projected forward to 2050 using a population-based percent change (based on the percent change in County-level population projections between 2014 and 2050). The resulting **2050 "actual" discharge flow** was then compared to the current permitted flow limit.
    - Where the 2050 "actual" discharge flow was 85% or higher of the current permitted flow limit, an assumption was made that the facility's permitted flow would be increased prior to 2050 to provide for both operational flexibility and increased demands. In such instances, the current permitted flow limit was doubled to provide an **increased permitted flow limit** to use in the future conditions modeling effort.
        - Example: 2014 "actual" discharge flow = 1.2 MGD
Permitted flow limit = 1.5 MGD
20% increase in population from 2014 to 2050
2050 "actual" discharge flow = 1.44 MGD
Permitted flow limit of 1.5 MGD doubled to 3.0 MGD for future conditions modeling
    - **21%** of the permitted wastewater discharge facilities in the Coosa and Tennessee Basins were assigned an **increased permitted flow** limit for future conditions modeling purposes based on the above assumptions.
- **Additional assumptions** were incorporated into the future conditions modeling regarding each facility's permit limits for BOD, DO and NH_3. The assumptions included:
    - New or tighter NH_3 limits would **meet the 2013 Ammonia Criteria**; affects 41% of permits
    - Tighter BOD limits would **meet the instream DO criteria;** affects 29% of permits
    - New or tighter DO limits would **meet the instream DO criteria**; affects 20% of permits

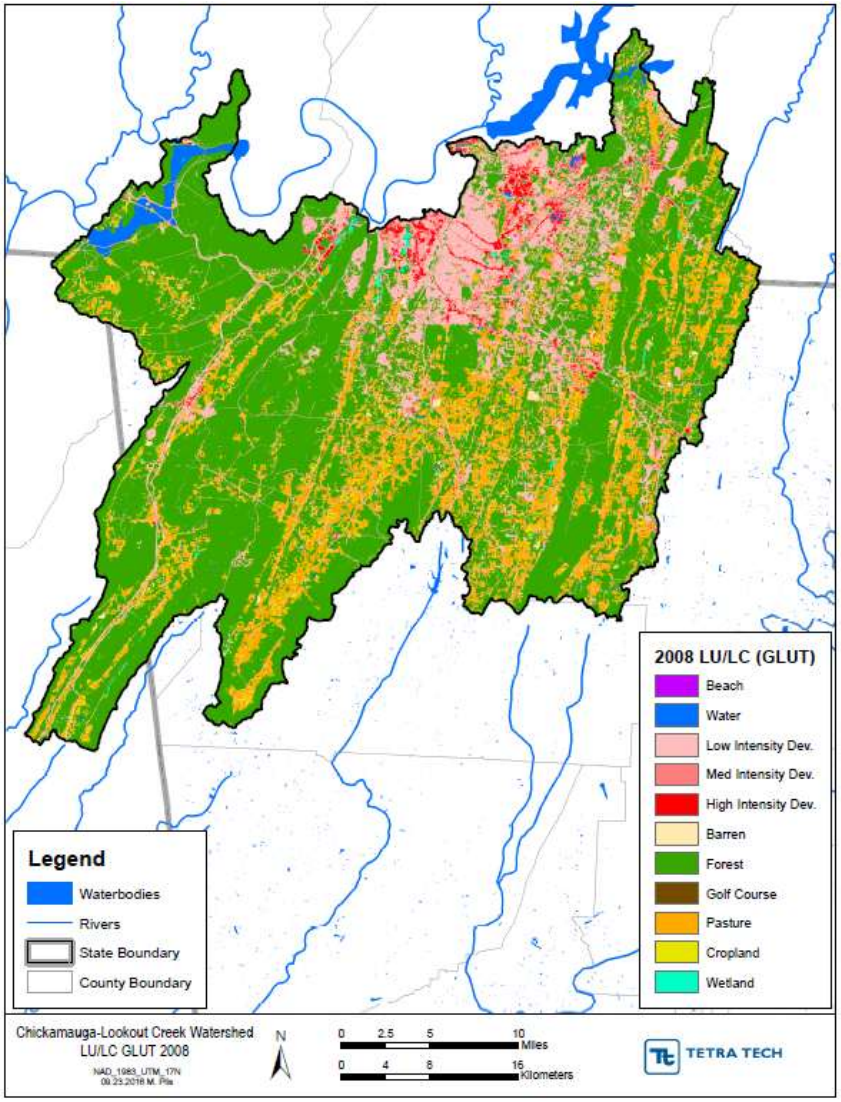
Changes in Permit Limits Associated with Modeling Assumptions under Future Conditions (2050)

River Basin	Number of Permitted Facilities	Number of Facilities with Increases in Permitted Flow in 2050	Number of Facilities with Tighter BOD limits in 2050	Number of Facilities with New or Tighter NH_3 limits in 2050	Number of Facilities with New or Tighter DO limits in 2050
Coosa	76	15	21	31	14
Tennessee	10	3	4	4	3
Total	86	18	25	35	17

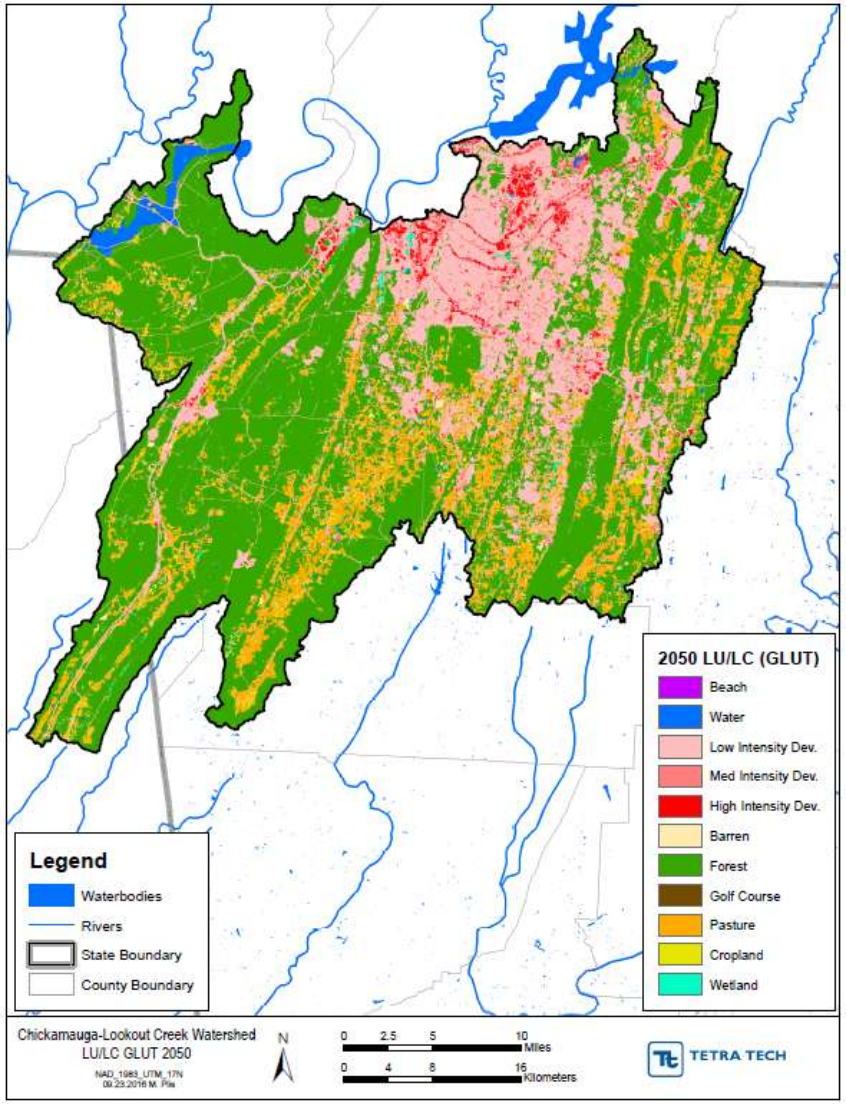
LANDUSE INFORMATION

TENNESSEE, COOSA & LANIER CHATTAHOOCHEE BASINS

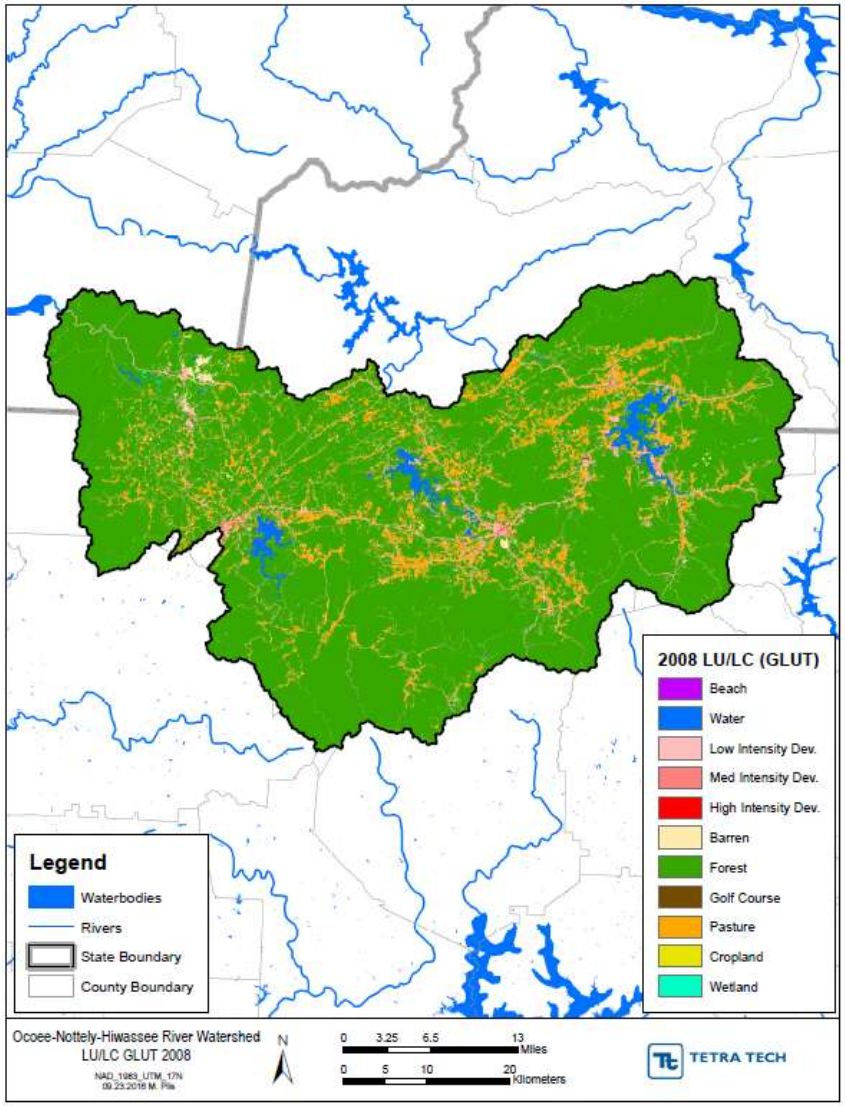
Tennessee Chickamauga Landuse (2008)



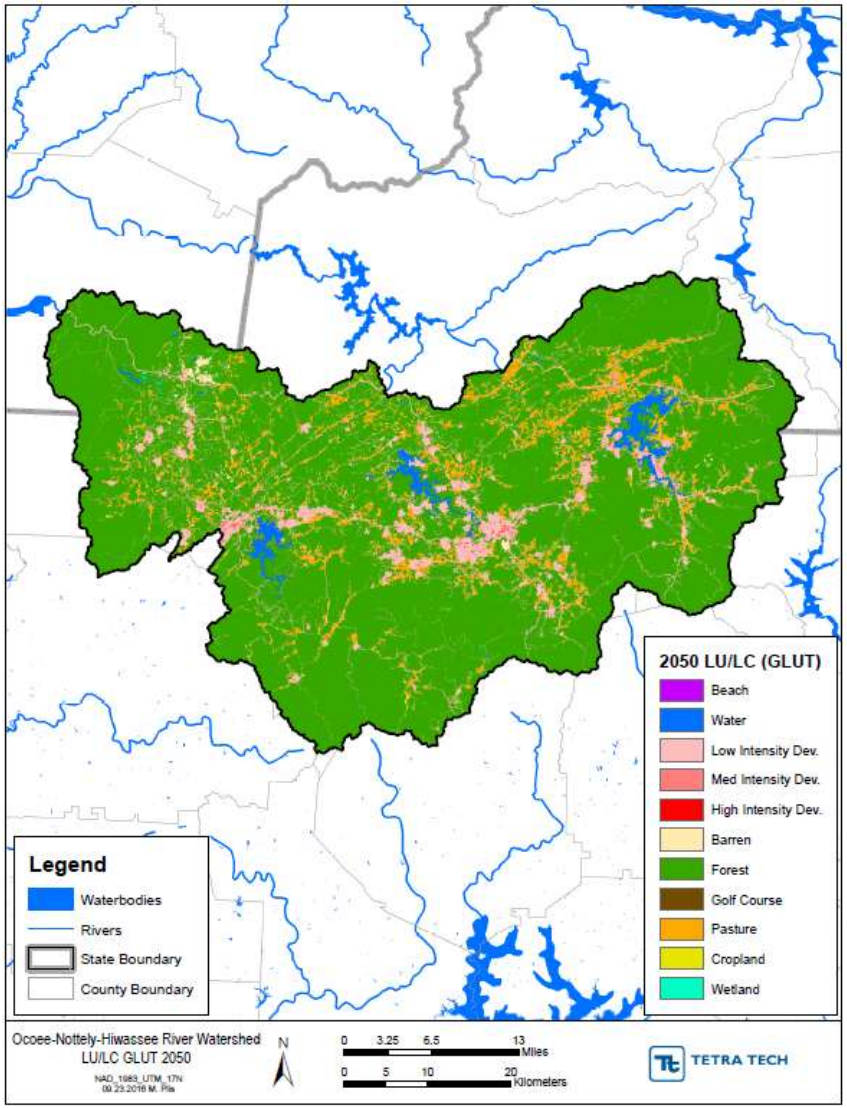
Tennessee Chickamauga Landuse (2050)



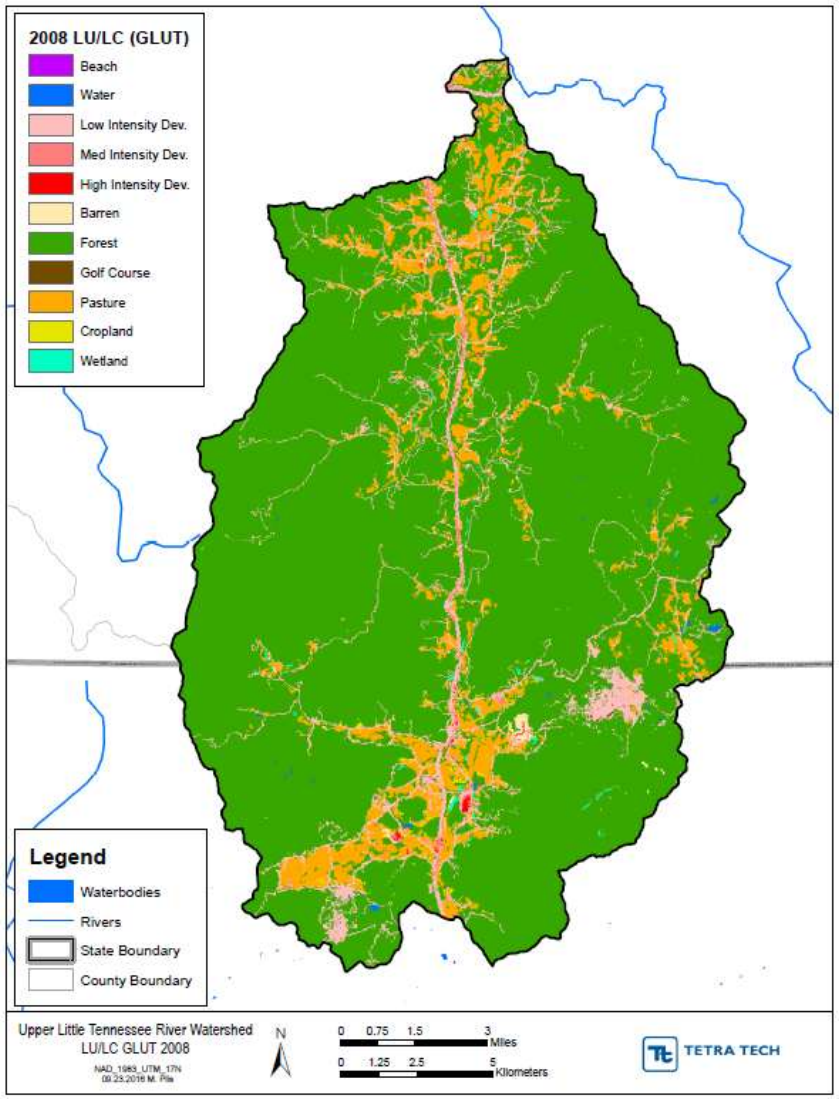
Tennessee Nottely Landuse (2008)



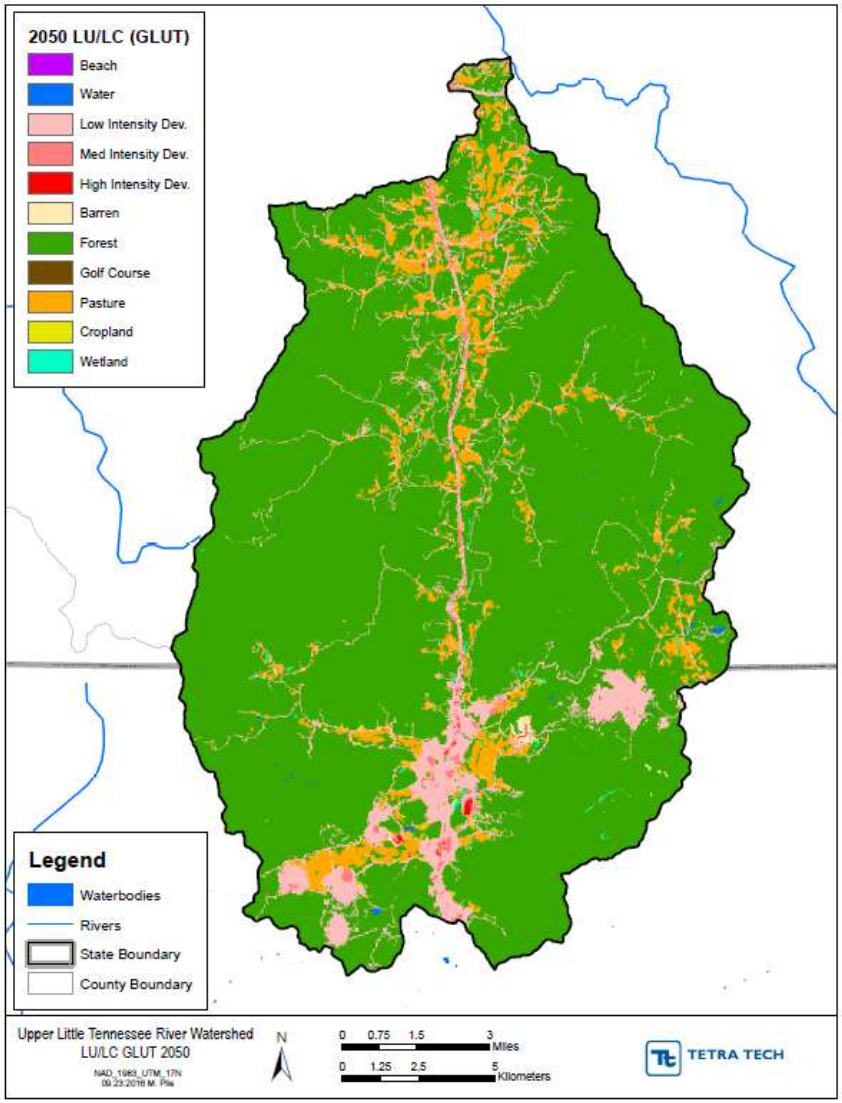
Tennessee Nottely Landuse (2050)



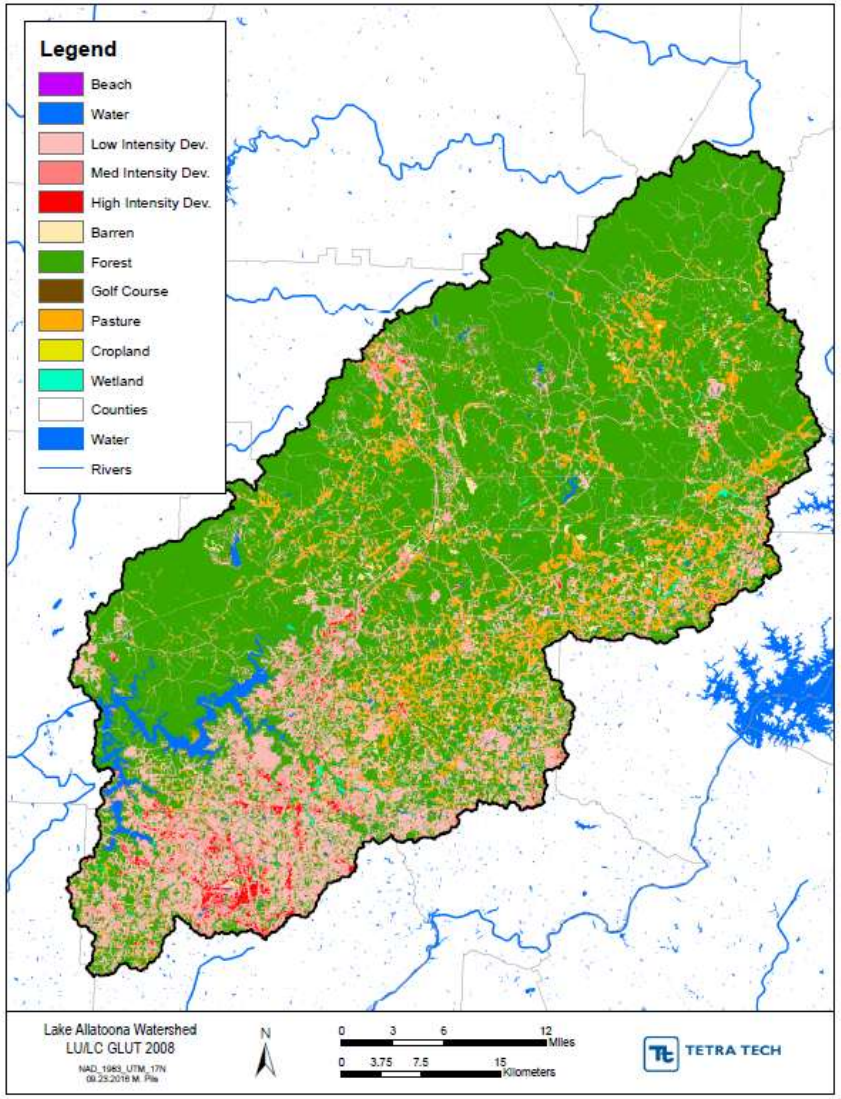
Tennessee Little TN Landuse (2008)



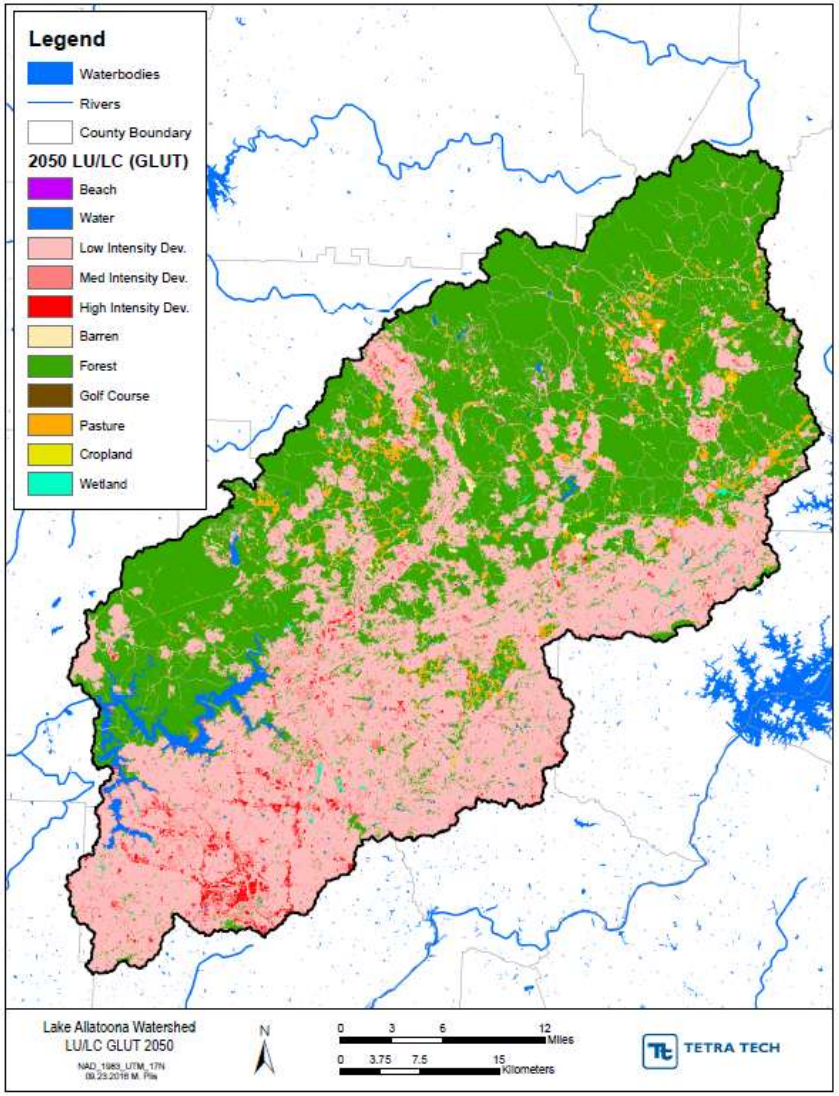
Tennessee Little TN Landuse (2050)



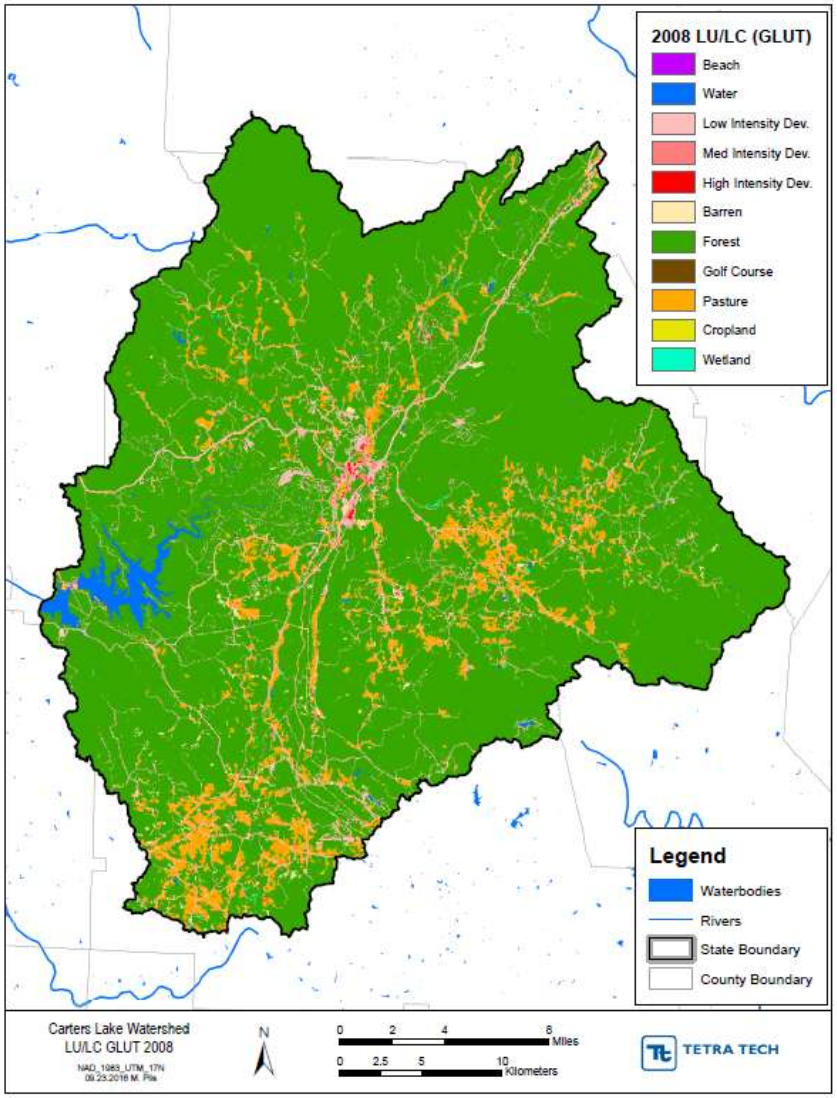
Coosa - Allatoona Watershed Landuse (2008)



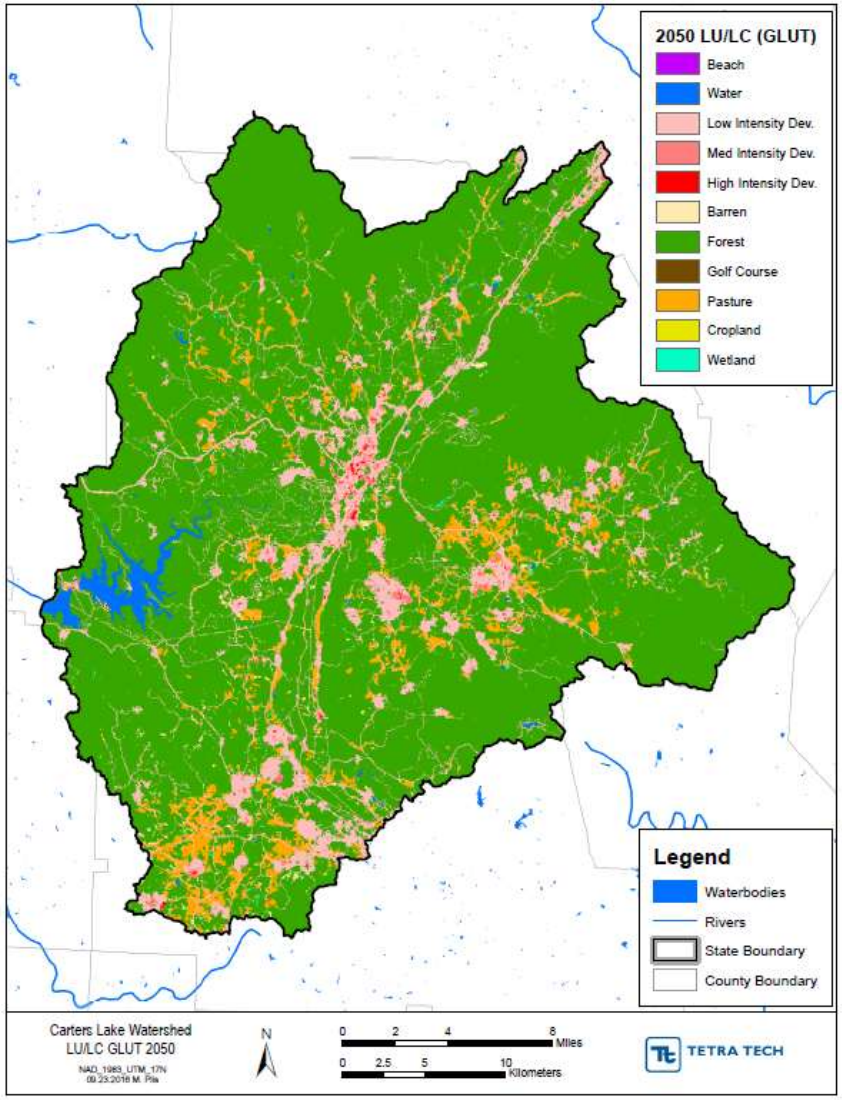
Coosa - Allatoona Watershed Landuse (2050)



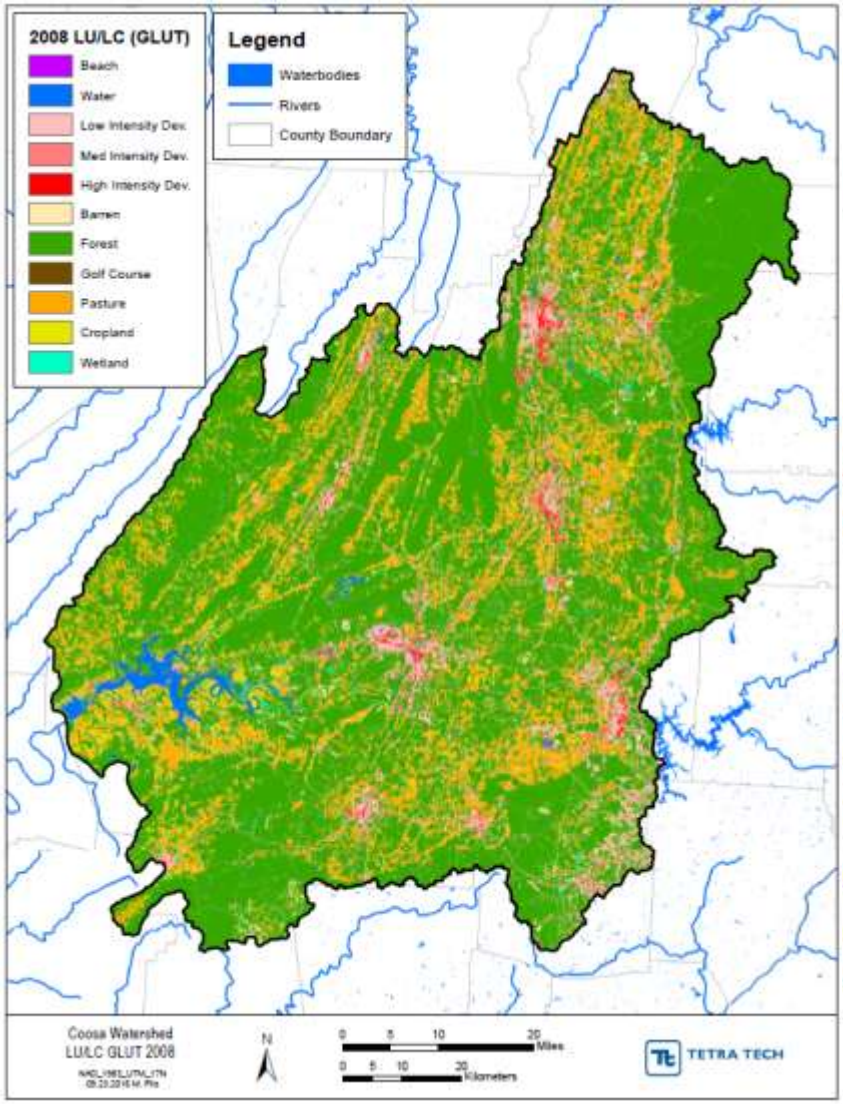
Coosa - Carters Watershed Landuse (2008)



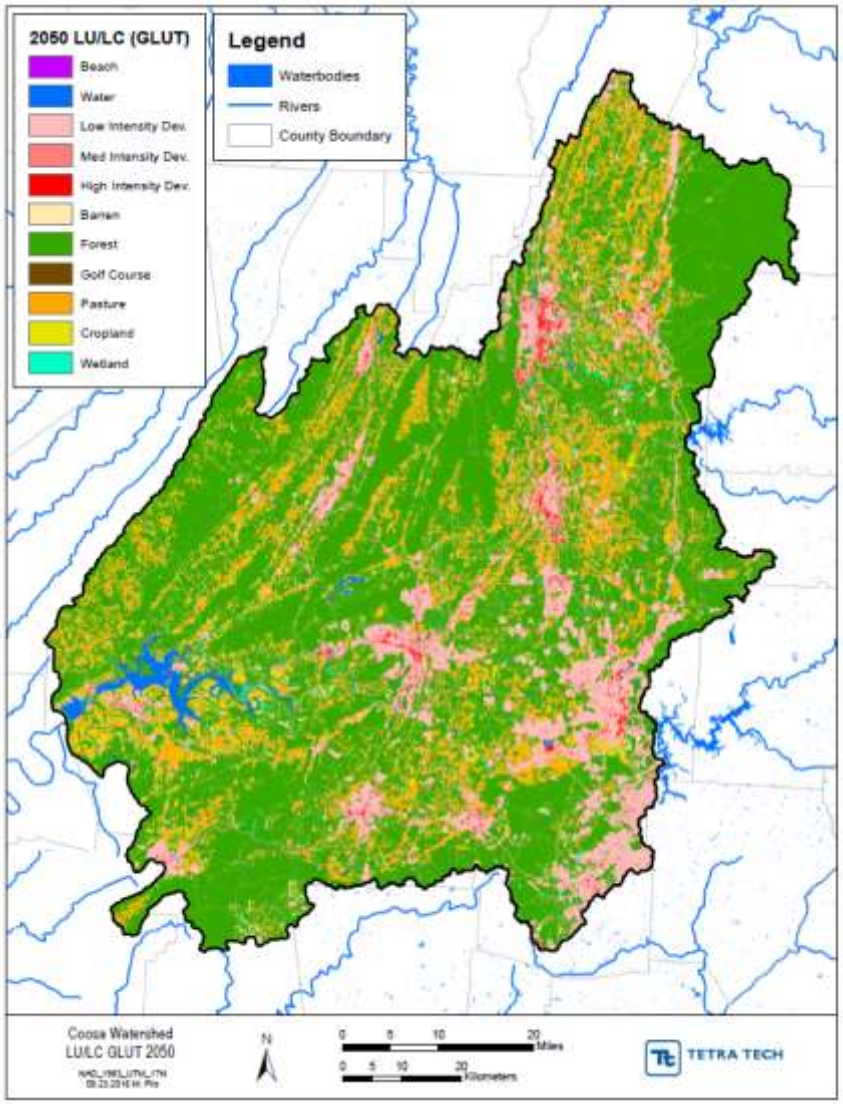
Coosa - Carters Watershed Landuse (2050)



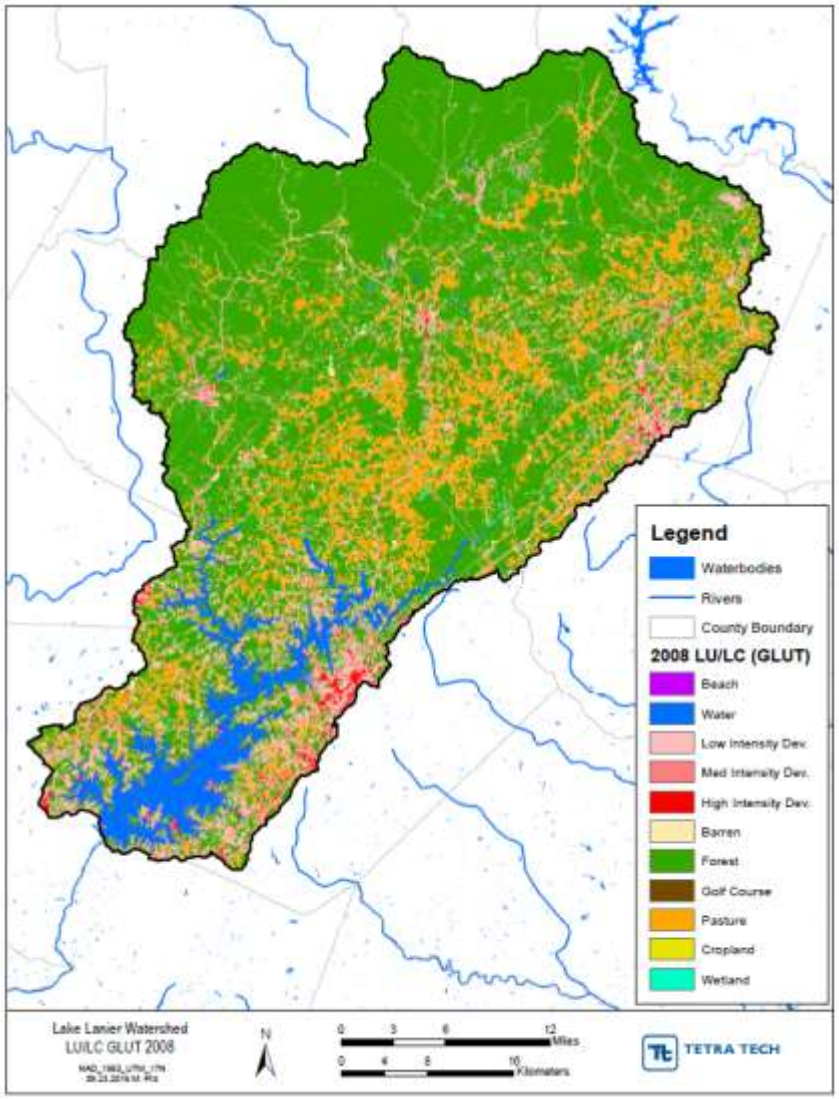
Coosa Landuse (2008)



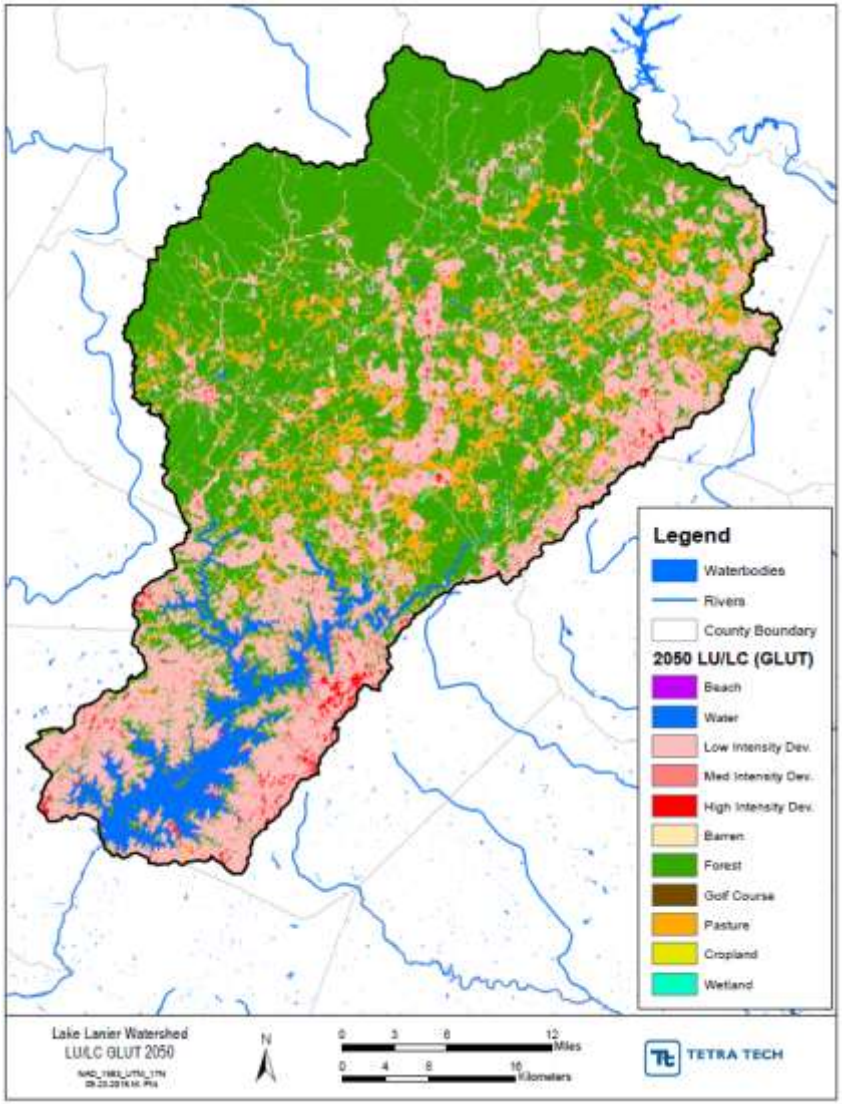
Coosa Landuse (2050)



Lanier Chattahoochee Landuse (2008)



Lanier Chattahoochee Landuse (2050)



Changes in Landuse between 2008 and 2050

Landuse	Coosa		Tennessee		Lanier Chattahoochee	
	2008	2050	2008	2050	2008	2050
Beaches/Dunes/Mud	0.06%	0.04%	0.04%	0.03%	2008	2050
Open Water	1.48%	1.40%	1.41%	1.38%	0.51%	0.39%
Utility Swaths	0.35%	0.30%	0.24%	0.22%	5.46%	5.32%
Developed, Open Space	6.24%	12.70%	6.22%	9.56%	0.19%	0.12%
Developed, Low Intensity	3.51%	6.02%	2.40%	3.08%	7.30%	17.55%
Developed, Medium Intensity	0.56%	0.89%	0.47%	0.58%	4.26%	9.21%
Developed, High Intensity	0.05%	0.08%	0.04%	0.04%	0.56%	1.06%
Clearcut/Sparse	1.98%	1.47%	0.66%	0.57%	0.05%	0.10%
Quarries/Strip Mines	0.12%	0.09%	0.19%	0.18%	3.01%	1.89%
Rock Outcrop	0.00%	0.00%	0.03%	0.03%	0.06%	0.04%
Deciduous Forest	42.00%	37.62%	61.09%	59.29%	0.04%	0.04%
Evergreen Forest	21.00%	18.73%	10.64%	10.08%	47.93%	36.77%
Mixed Forest	3.22%	2.99%	2.87%	2.66%	9.04%	8.15%
Golf Courses	0.03%	0.02%	0.01%	0.01%	3.87%	3.06%
Pasture	12.04%	9.86%	10.21%	8.52%	0.01%	0.01%
Row Crop	2.73%	2.36%	1.21%	1.04%	7.10%	4.20%
Irrigated Row Crop	0.00%	0.14%	0.03%	0.02%	0.00%	0.00%
Forested Wetland	0.65%	0.59%	0.21%	0.19%	0.02%	0.06%
Non-forested Salt/Brackish Wetland	0.00%	0.00%	0.00%	0.00%	0.34%	0.30%
Non-forested Freshwater Wetland	0.04%	0.04%	0.01%	0.01%	0.00%	0.00%
Developed, Low Intensity (Impervious)	0.97%	1.30%	0.70%	0.90%	0.01%	0.01%
Developed, Medium Intensity (Impervious)	0.74%	0.95%	0.64%	0.77%	1.11%	1.87%
Developed, High Intensity (Impervious)	0.54%	0.57%	0.45%	0.48%	0.74%	1.18%
All Other Impervious	0.00%	0.06%	0.00%	0.03%	0.64%	0.72%
Landuse Application Systems	0.21%	0.20%	0.05%	0.05%	0.00%	0.11%
Failed Septic Systems	0.20%	0.26%	0.18%	0.26%	0.15%	0.15%
Chicken Pastureland	1.07%	1.07%				
Dalton LAS	0.23%	0.24%				

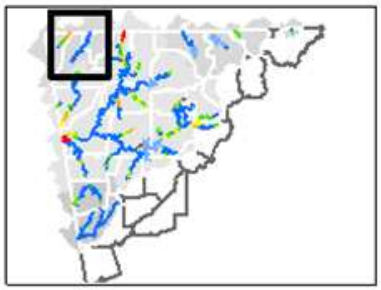
GA DOSAG AND GA RIV-1 MODEL RESULTS

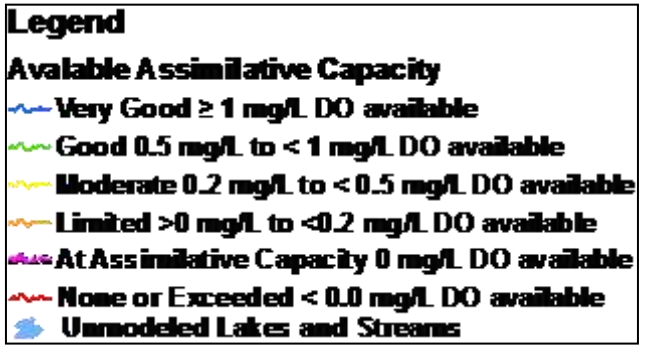
DISSOLVED OXYGEN

CURRENT & FUTURE CONDITIONS

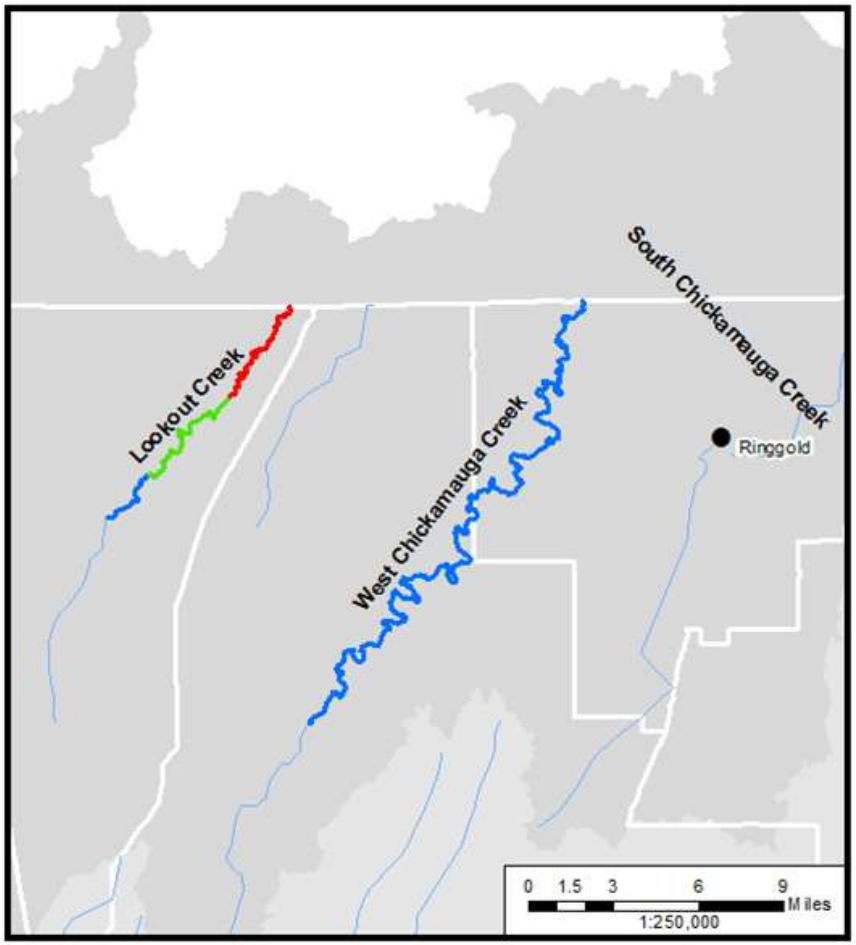
TENNESSEE, COOSA & LANIER CHATTAHOOCHEE BASINS

TENNESSEE BASIN: GA DOSAG MODEL RESULTS

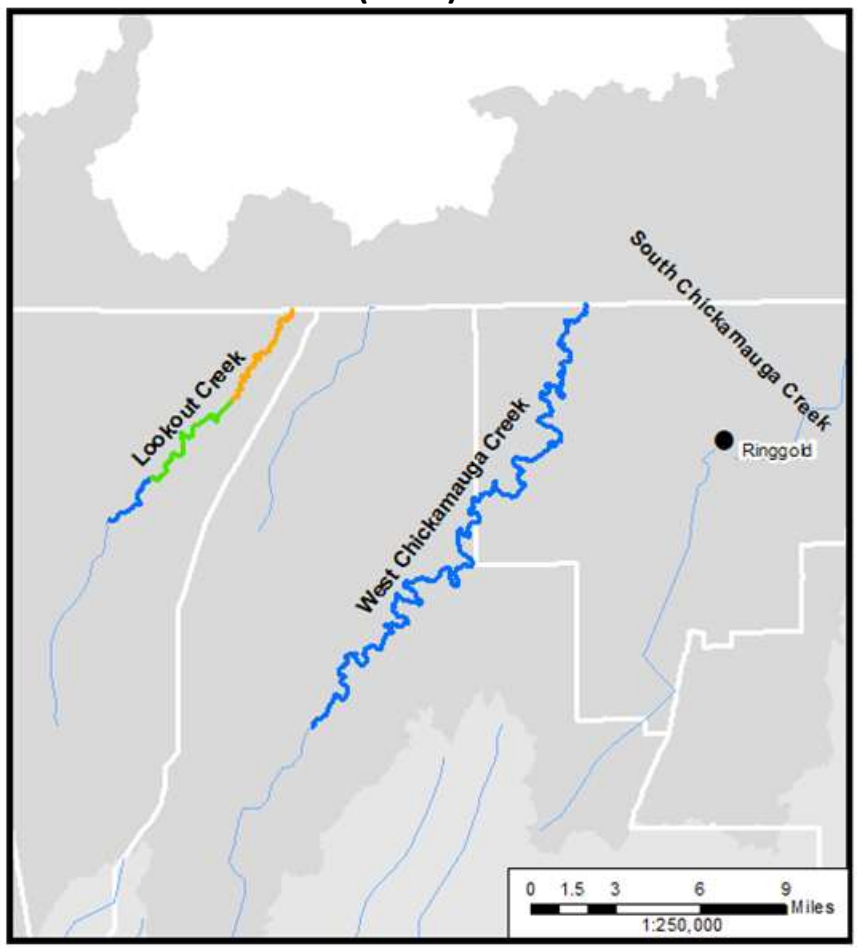




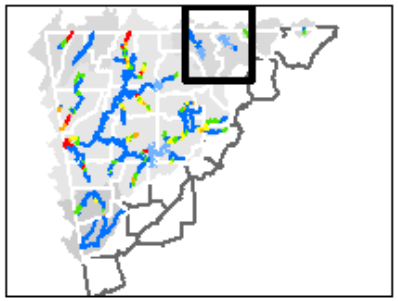
CURRENT CONDITIONS



FUTURE CONDITIONS (2050)



TENNESSEE BASIN: GA DOSAG MODEL RESULTS



Legend

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- Very Good ≥ 1 mg/L DO available
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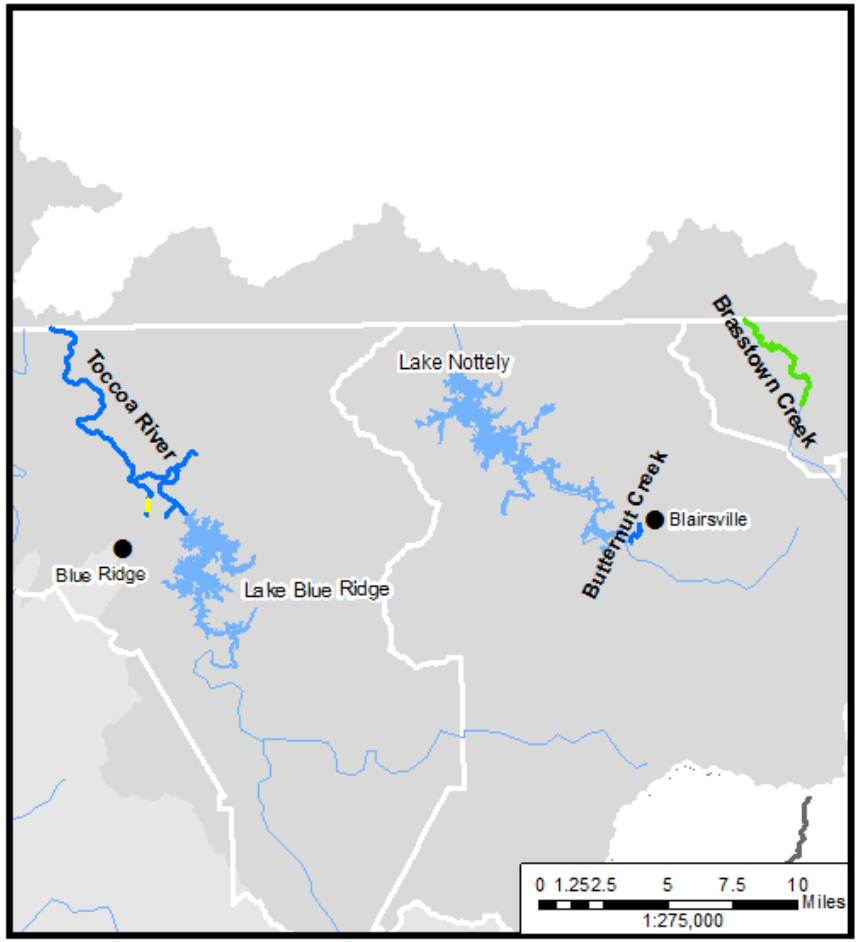

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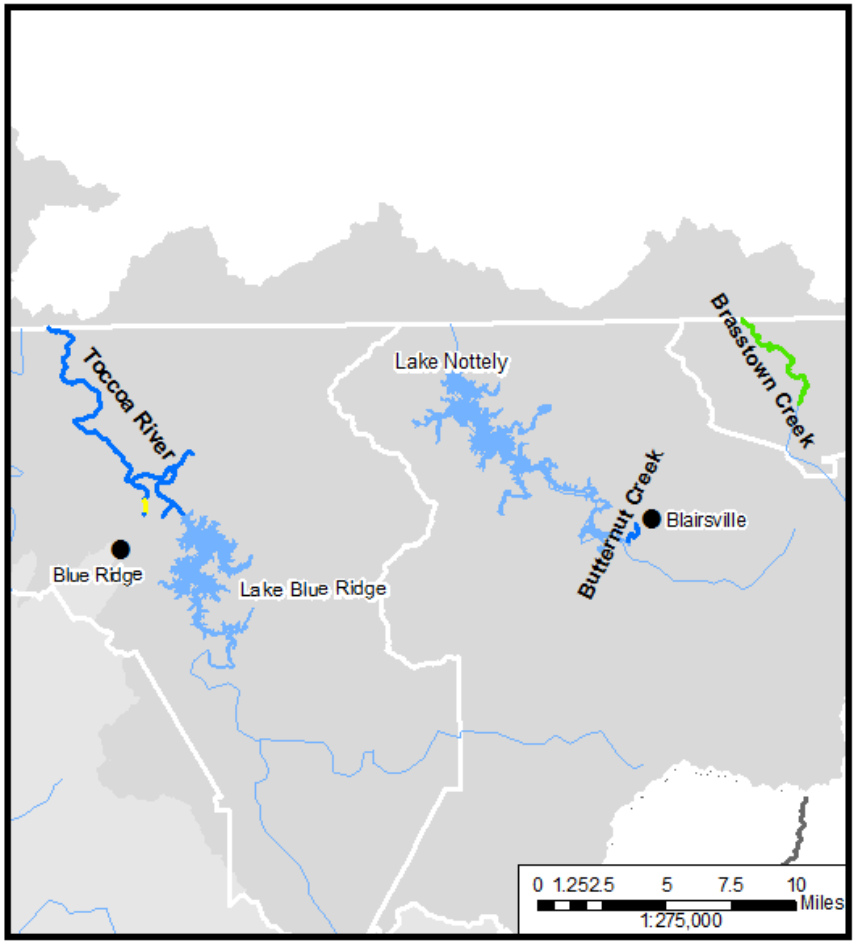

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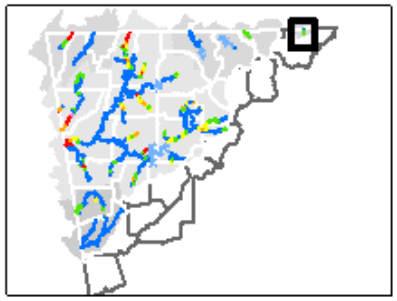
TENNESSEE BASIN: GA DOSAG MODEL RESULTS



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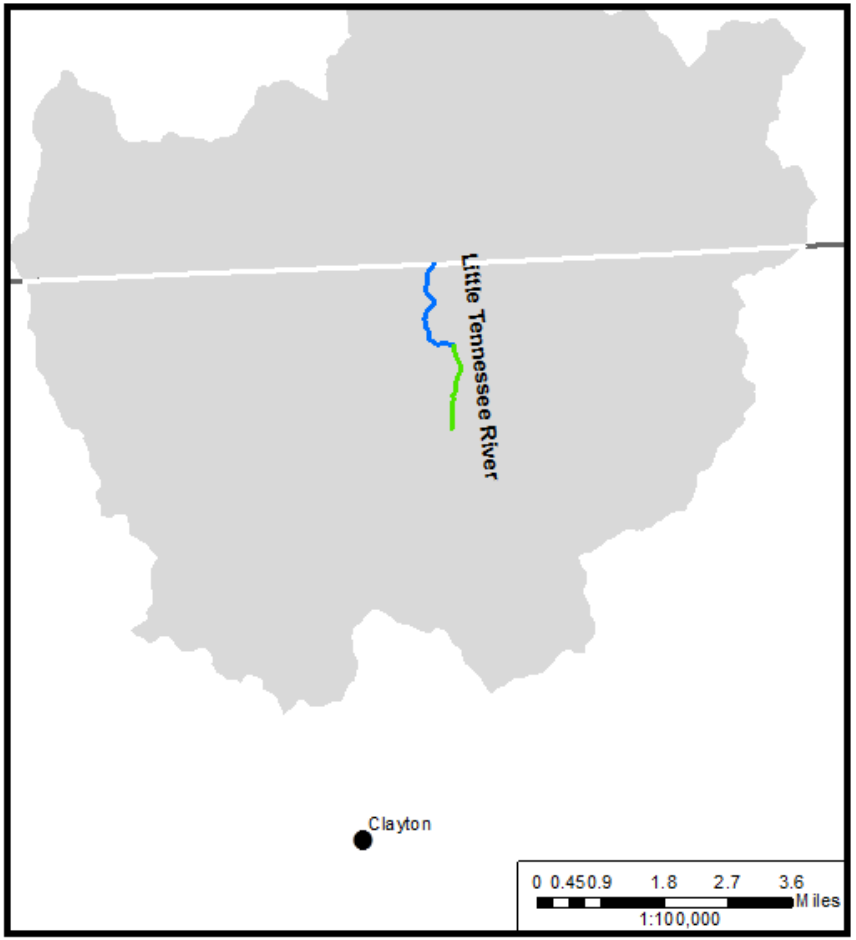
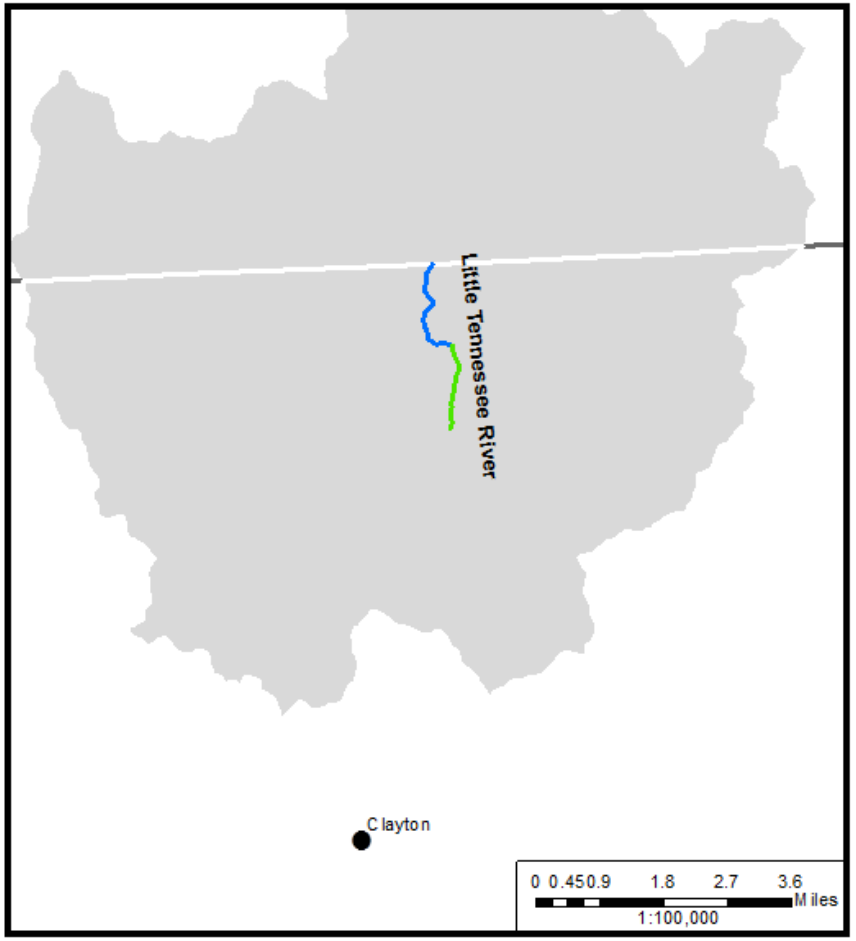


FUTURE CONDITIONS (2050)



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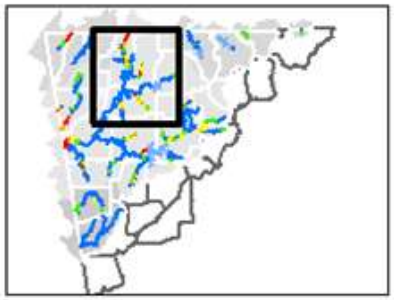
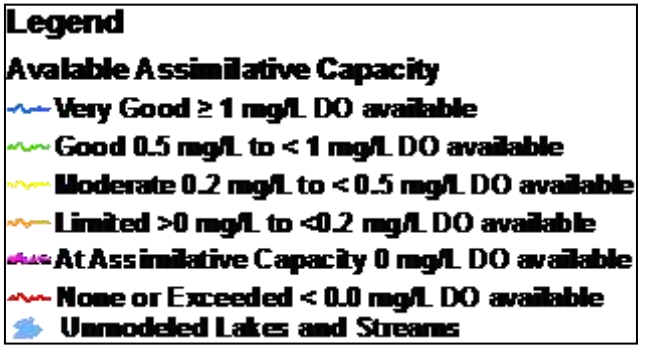
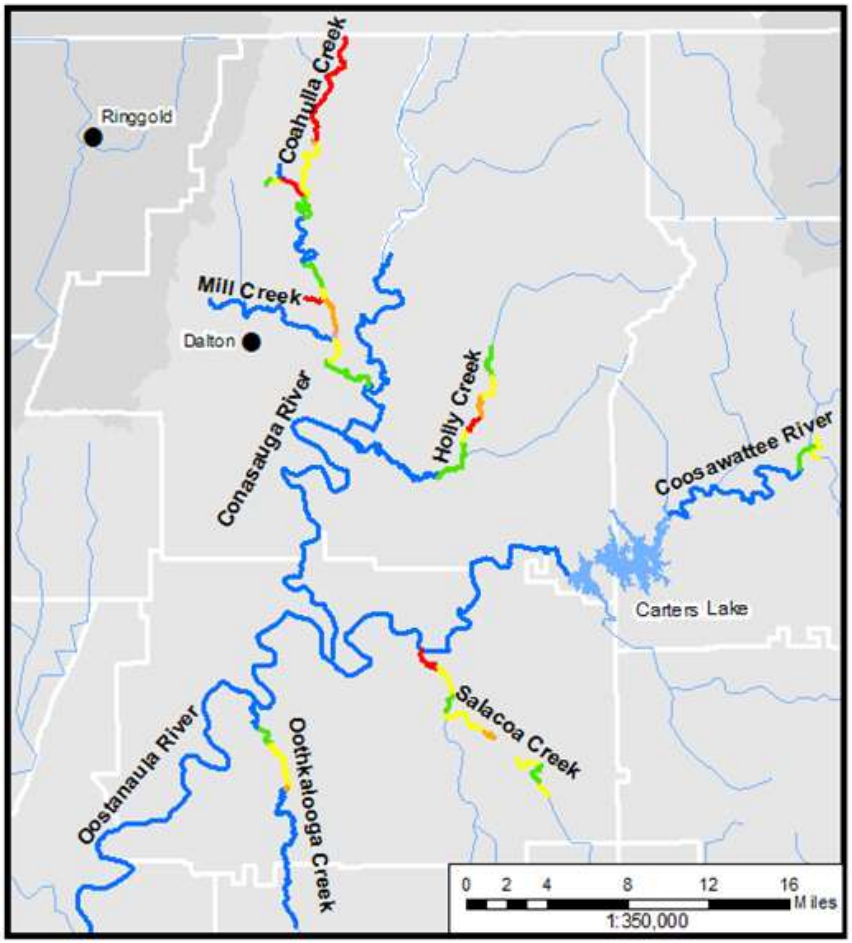
COOSA BASIN: GA DOSAG MODEL RESULTS

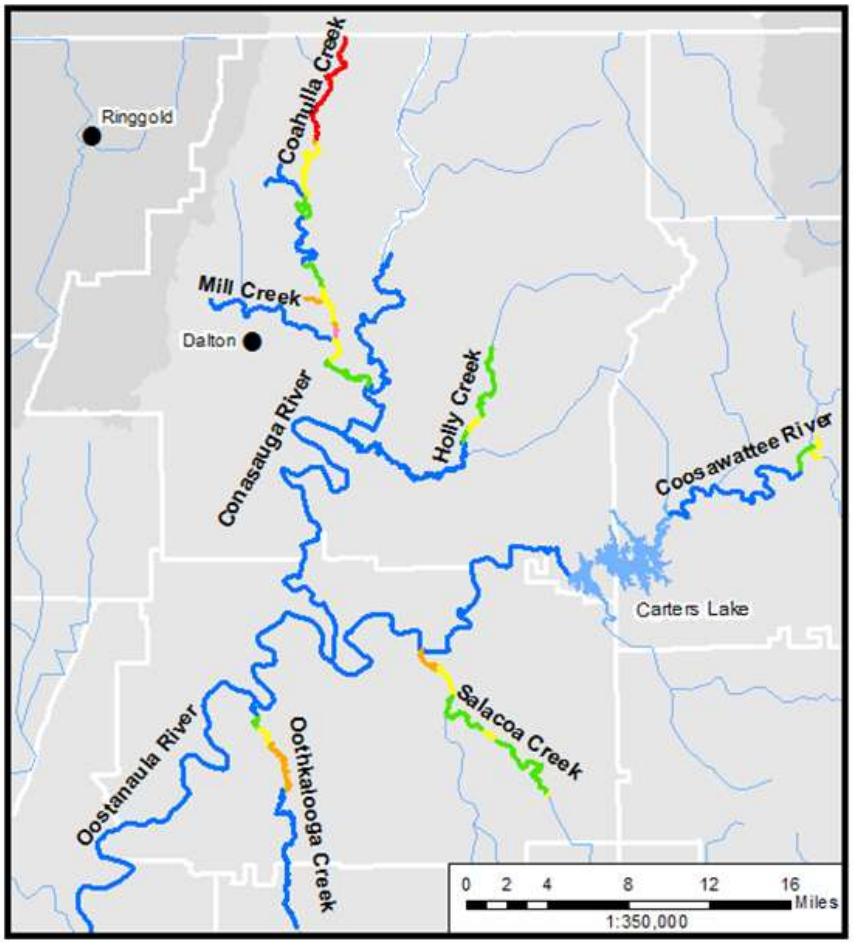




CURRENT CONDITIONS



FUTURE CONDITIONS (2050)



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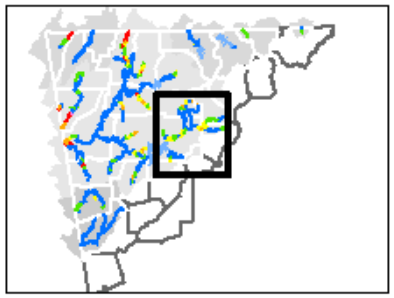
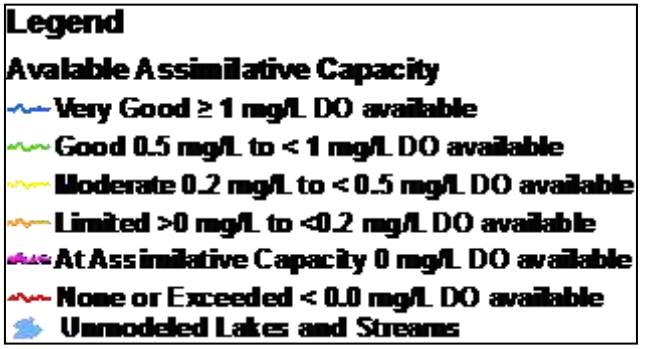
COOSA BASIN: GA DOSAG MODEL RESULTS





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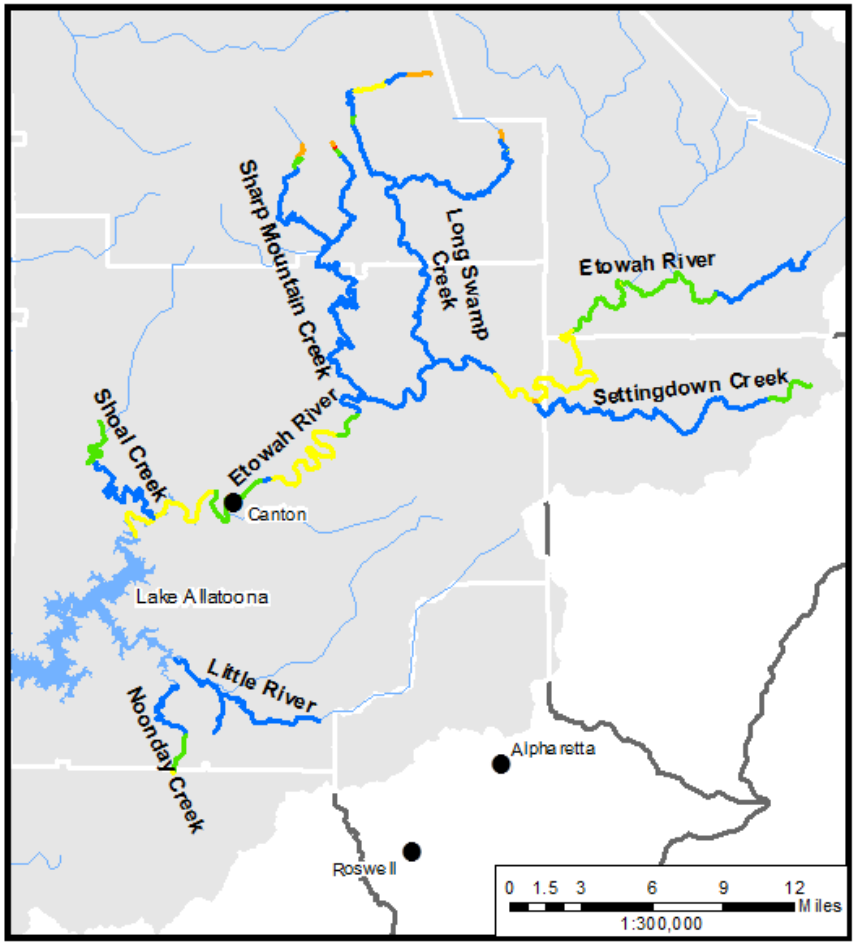

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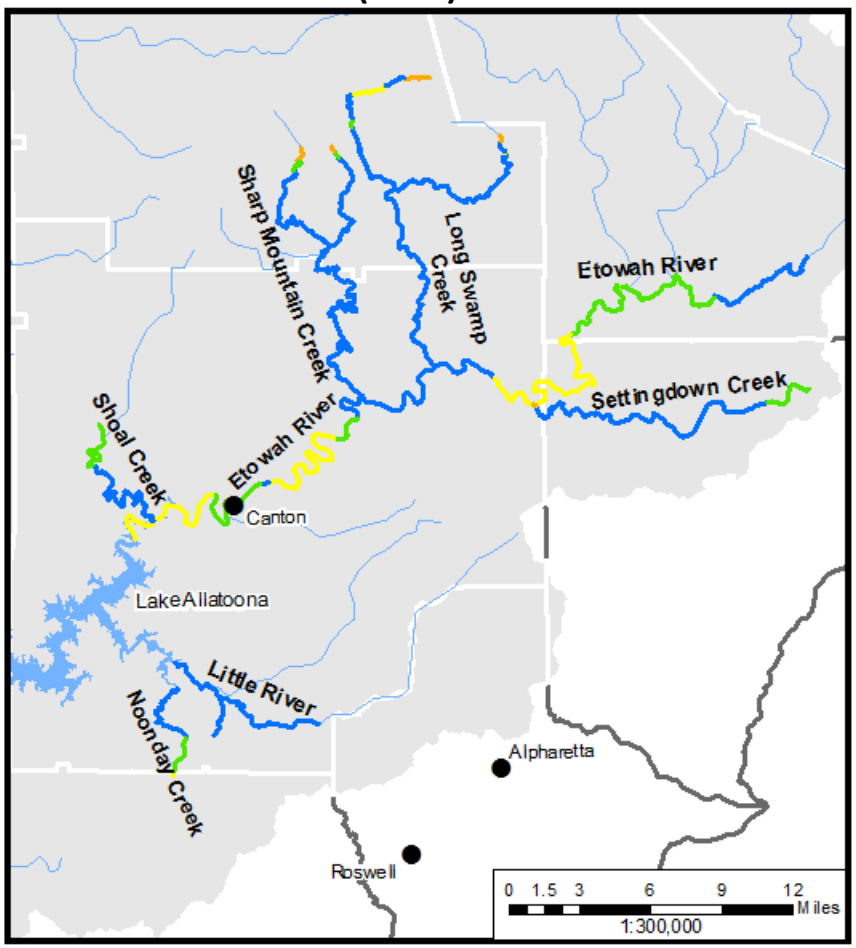

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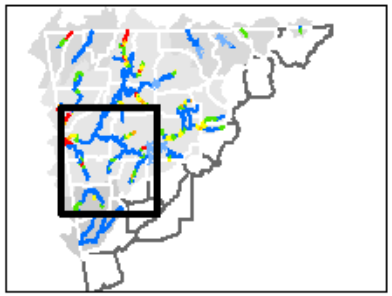
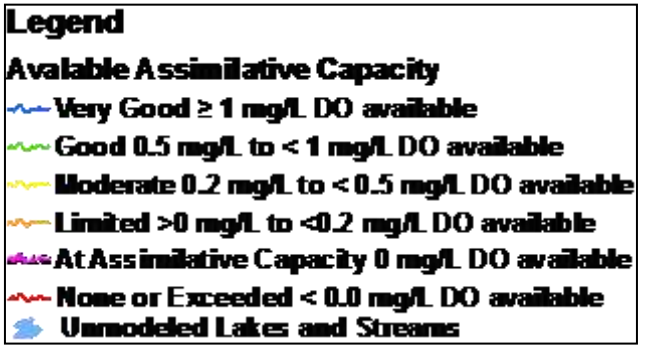
COOSA BASIN: GA DOSAG MODEL RESULTS





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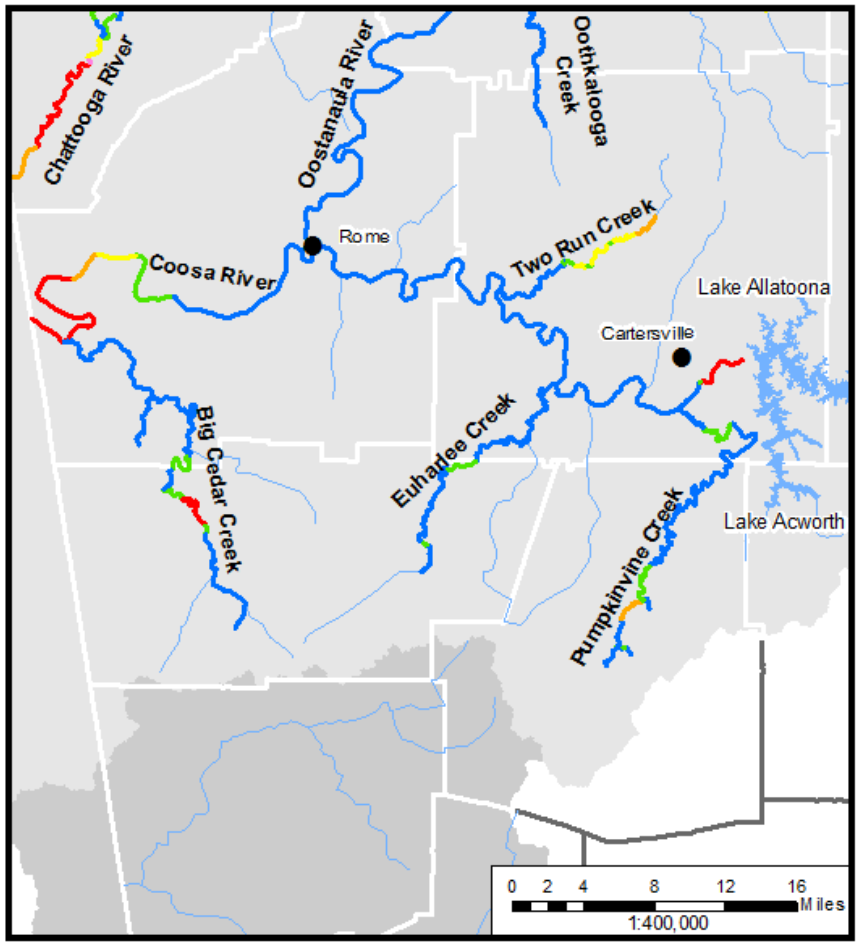
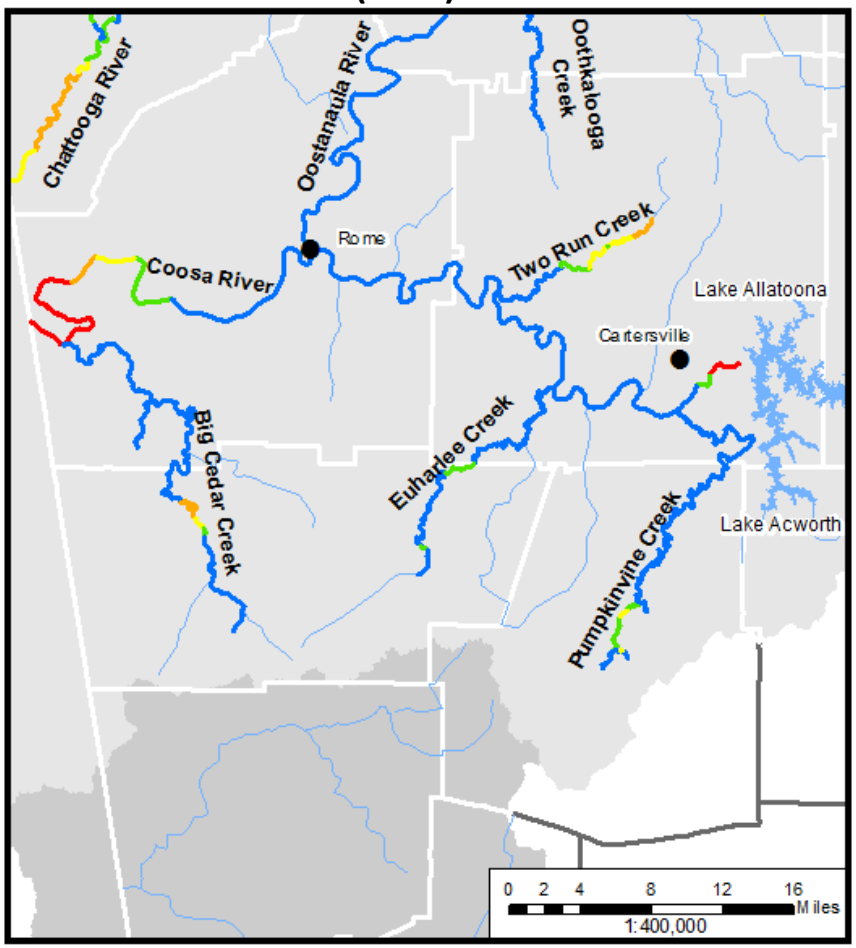


FUTURE CONDITIONS (2050)



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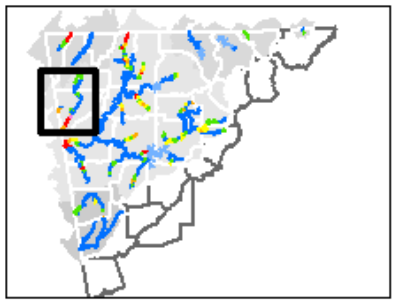
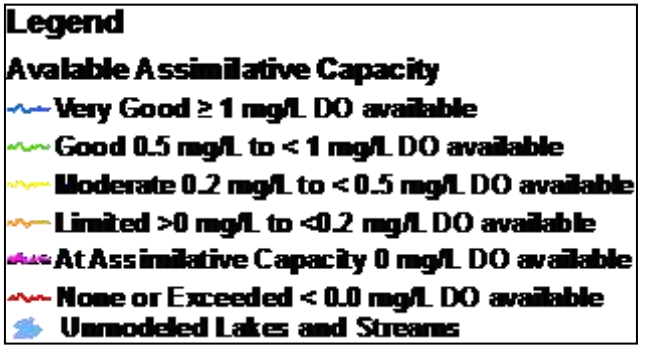
COOSA BASIN: GA DOSAG MODEL RESULTS





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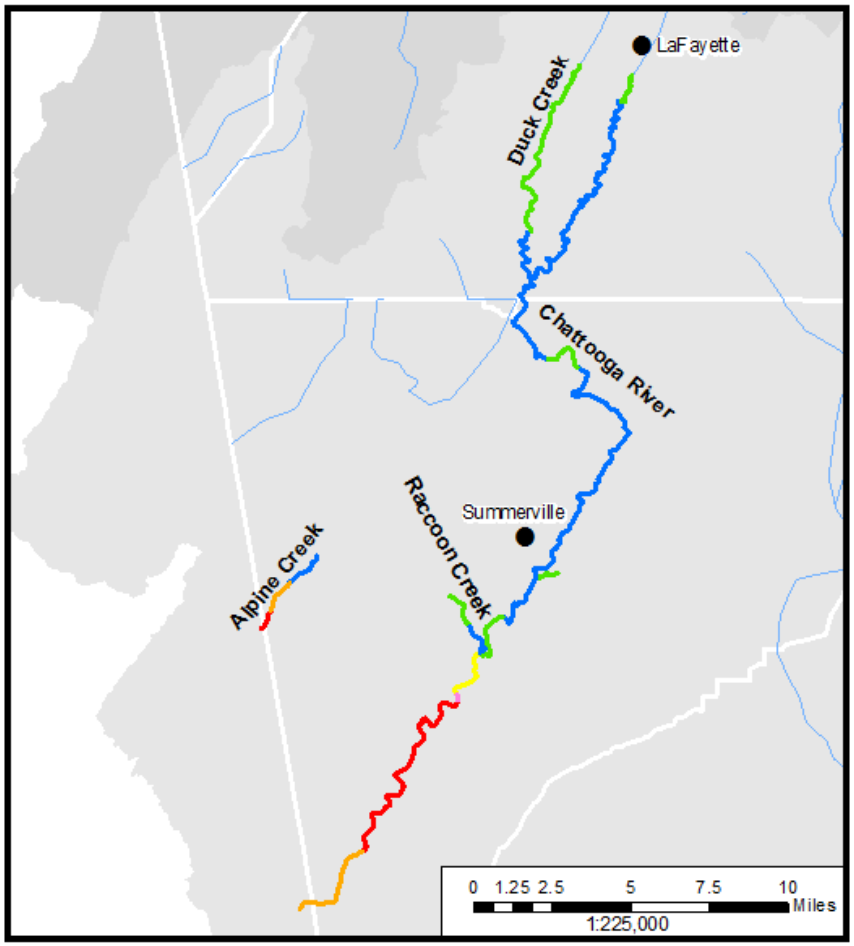
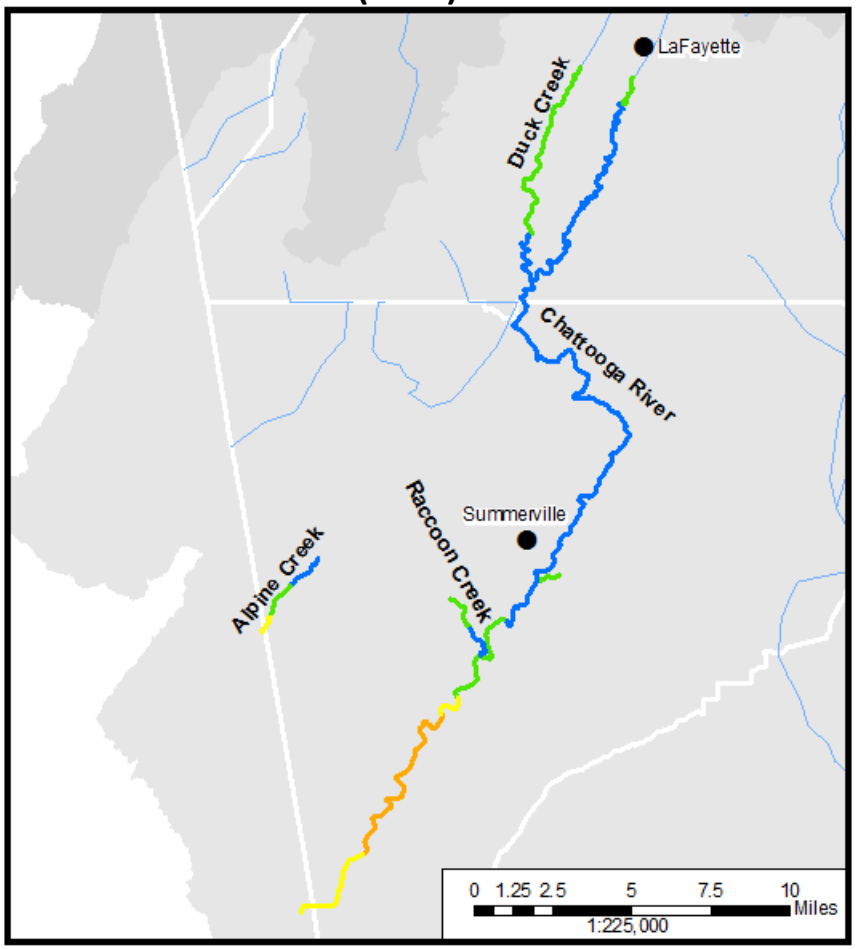


FUTURE CONDITIONS (2050)



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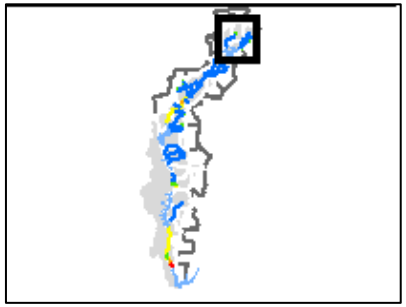
LANIER CHATTAHOOCHEE BASIN: GA DOSAG MODEL RESULTS



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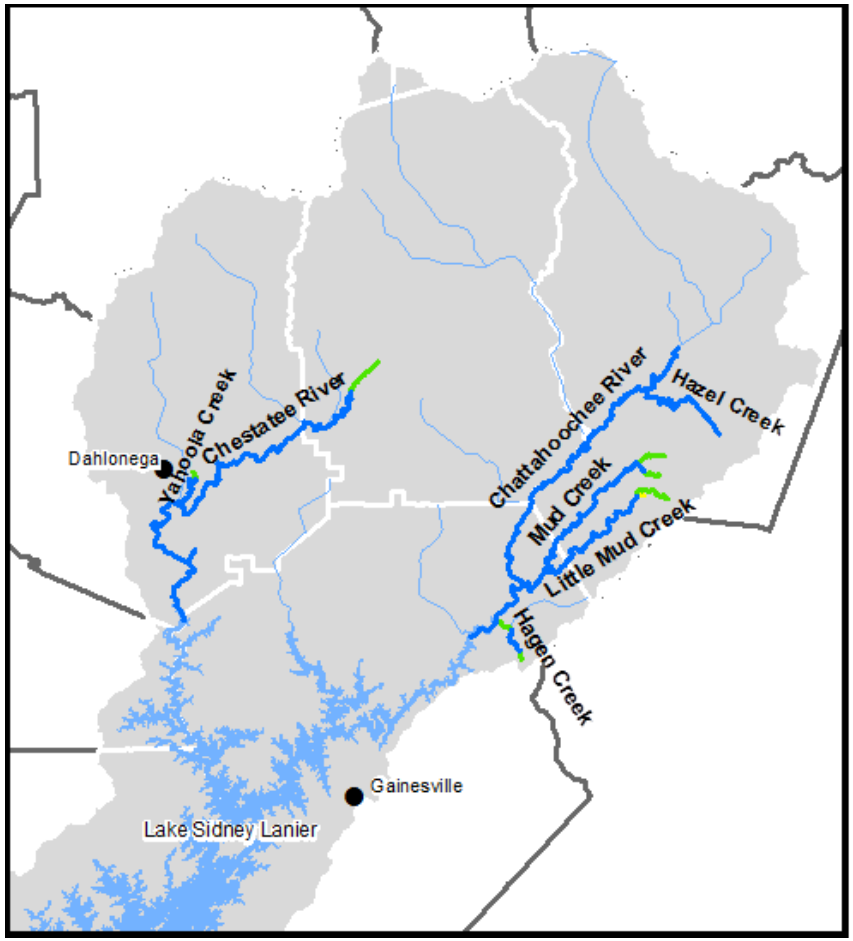
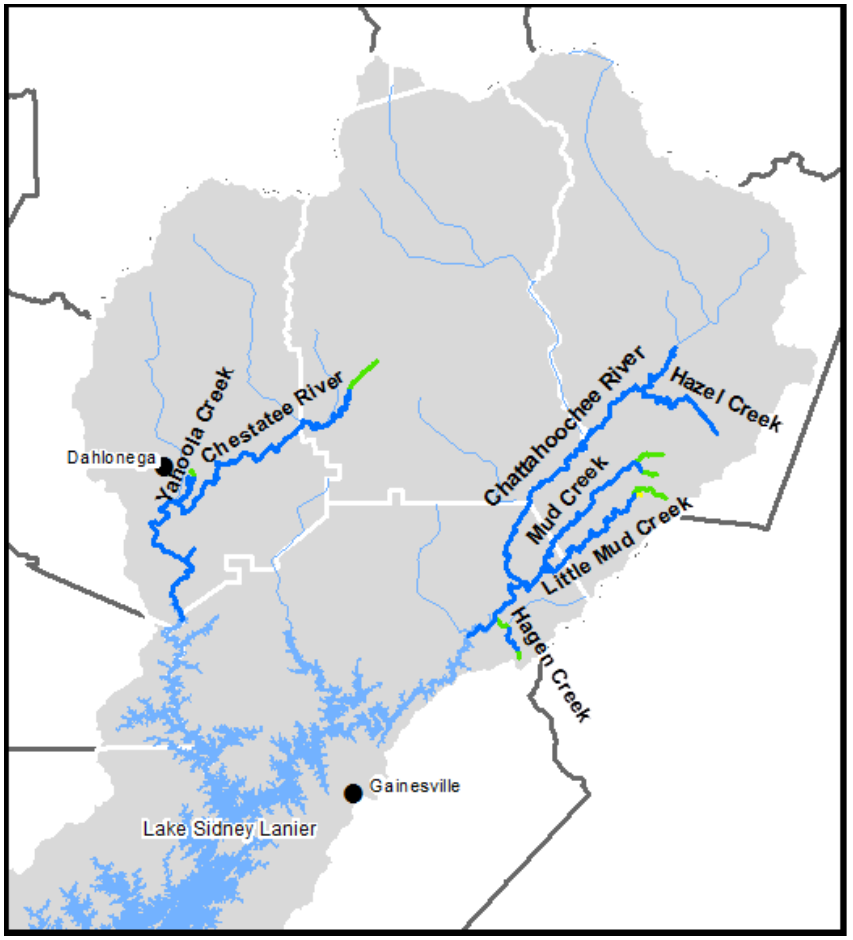
- At Assimilative Capacity 0 mg/L DO available
- None or Exceeded < 0.0 mg/L DO available
- Unmodeled Lakes and Streams

CURRENT CONDITIONS



FUTURE CONDITIONS (2050)



LSPC (WATERSHED) MODEL RESULTS

TOTAL PHOSPHORUS (P)

TOTAL NITROGEN (N)

BIOCHEMICAL OXYGEN DEMAND (BOD)

EFDC (LAKE) MODEL RESULTS

CHOROPHYLL A

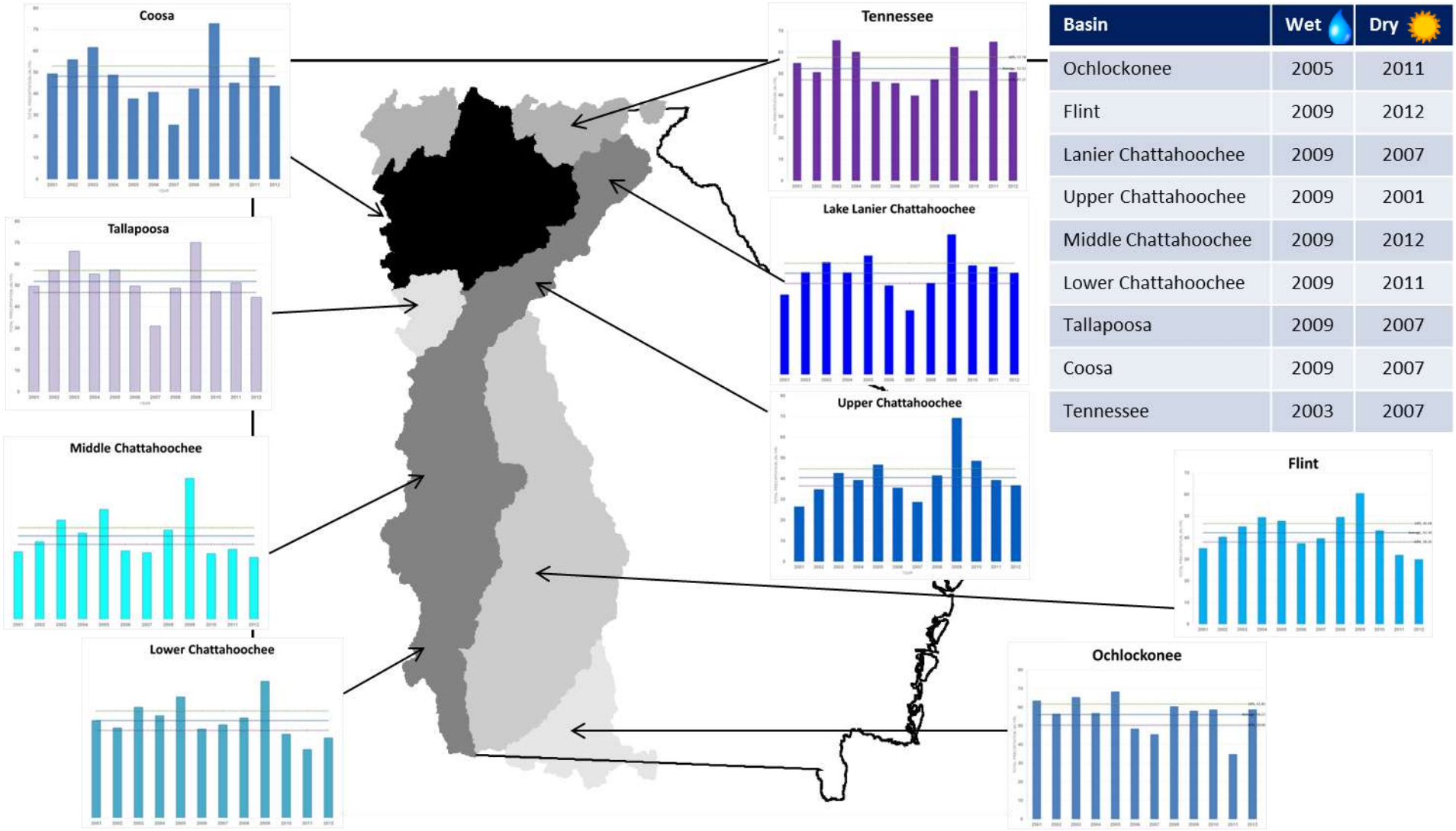
TOTAL PHOSPHORUS (P)

TOTAL NITROGEN (N)

CURRENT & FUTURE CONDITIONS

TENNESSEE BASIN

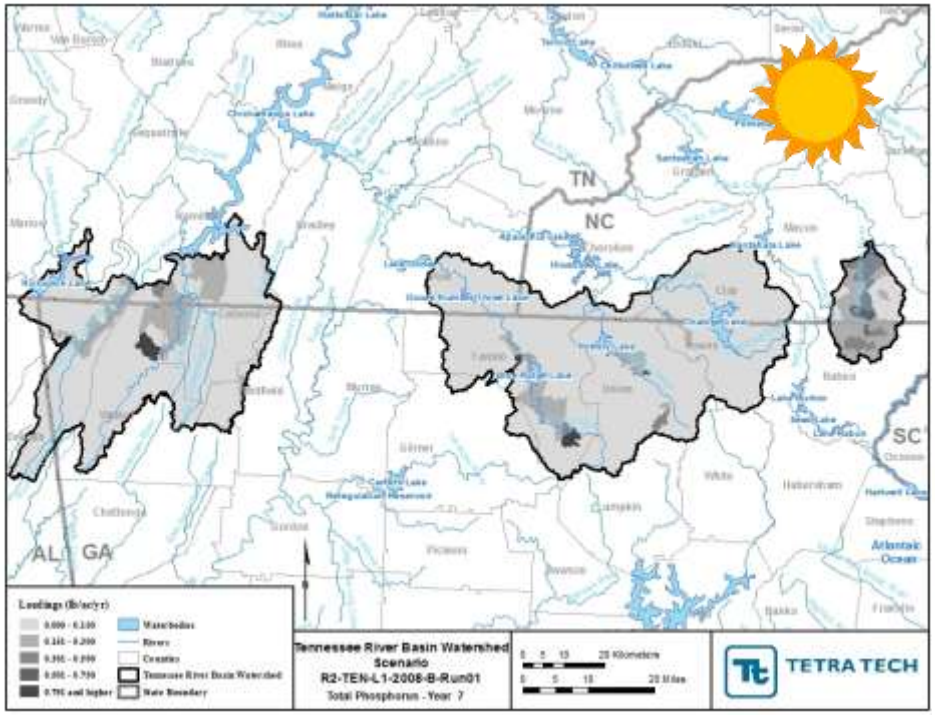
BASIN RAINFALL ANALYSIS



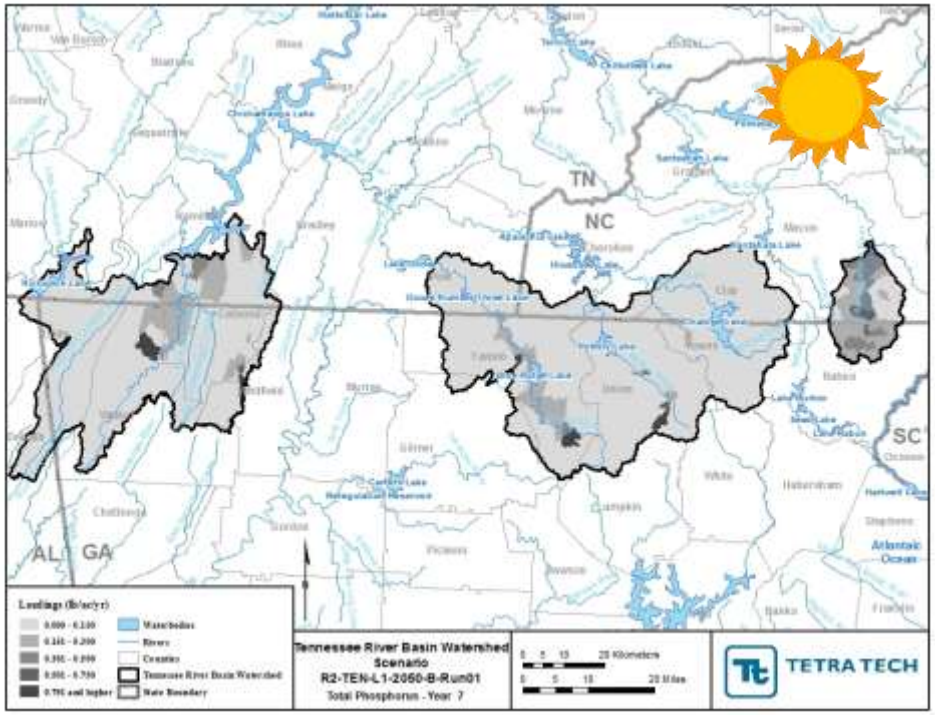
Basin	Wet	Dry
Ochlockonee	2005	2011
Flint	2009	2012
Lanier Chattahoochee	2009	2007
Upper Chattahoochee	2009	2001
Middle Chattahoochee	2009	2012
Lower Chattahoochee	2009	2011
Tallapoosa	2009	2007
Coosa	2009	2007
Tennessee	2003	2007

TENNESSEE BASIN: TOTAL P "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

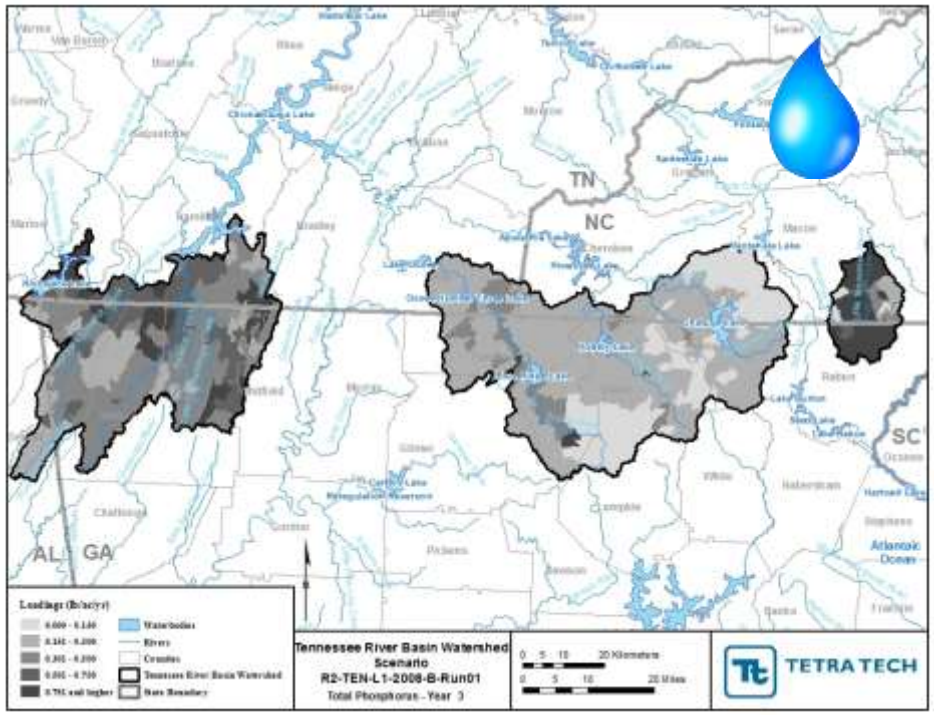


FUTURE CONDITIONS (2050)

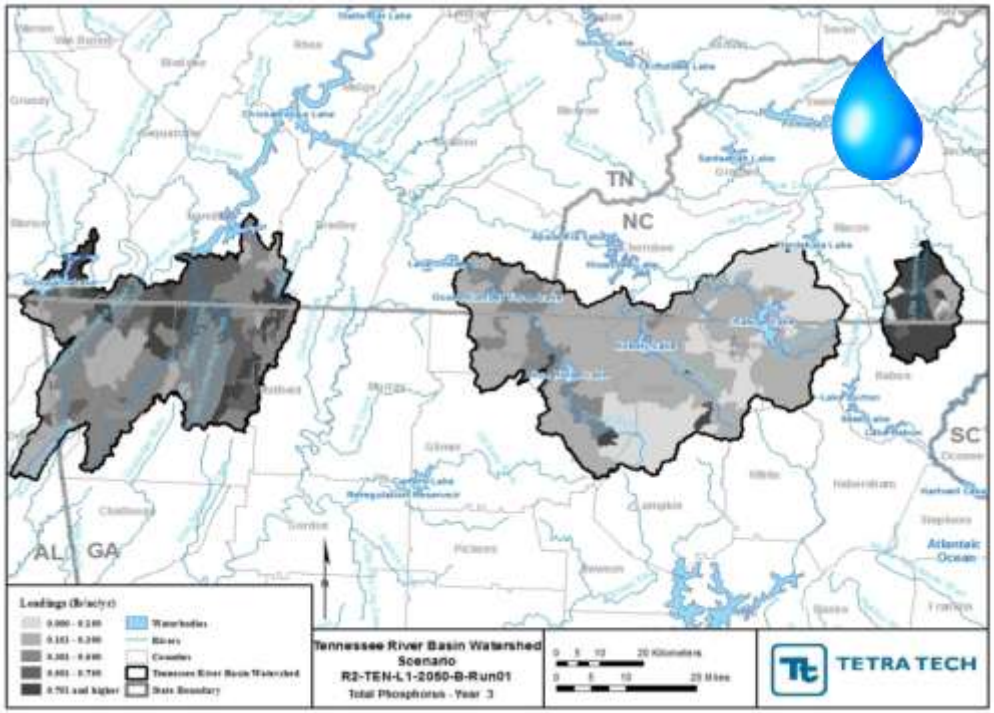


TENNESSEE BASIN: TOTAL P "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

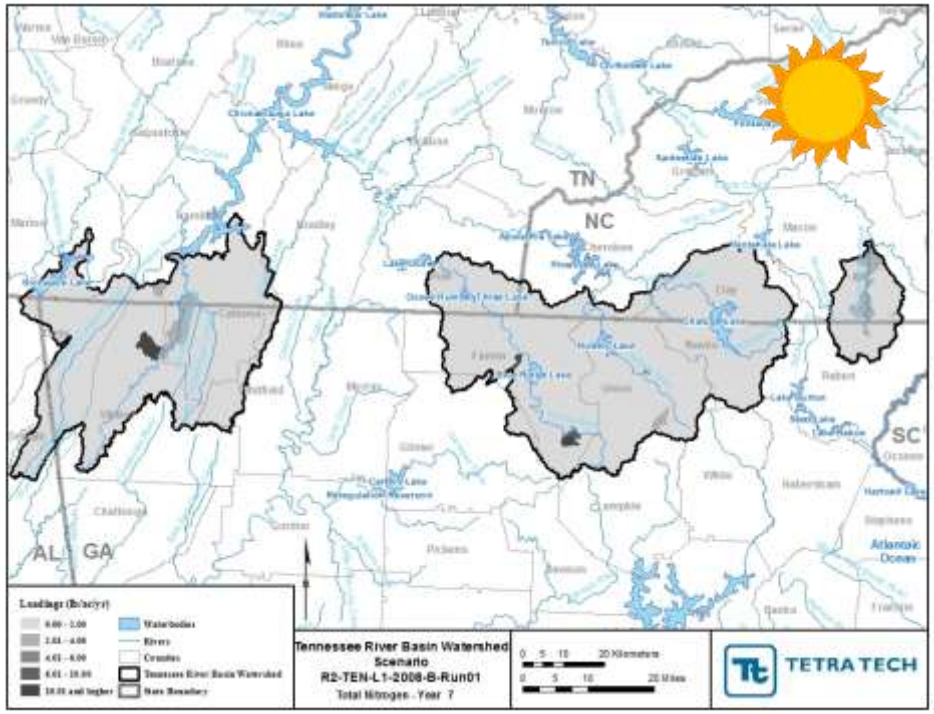


FUTURE CONDITIONS (2050)

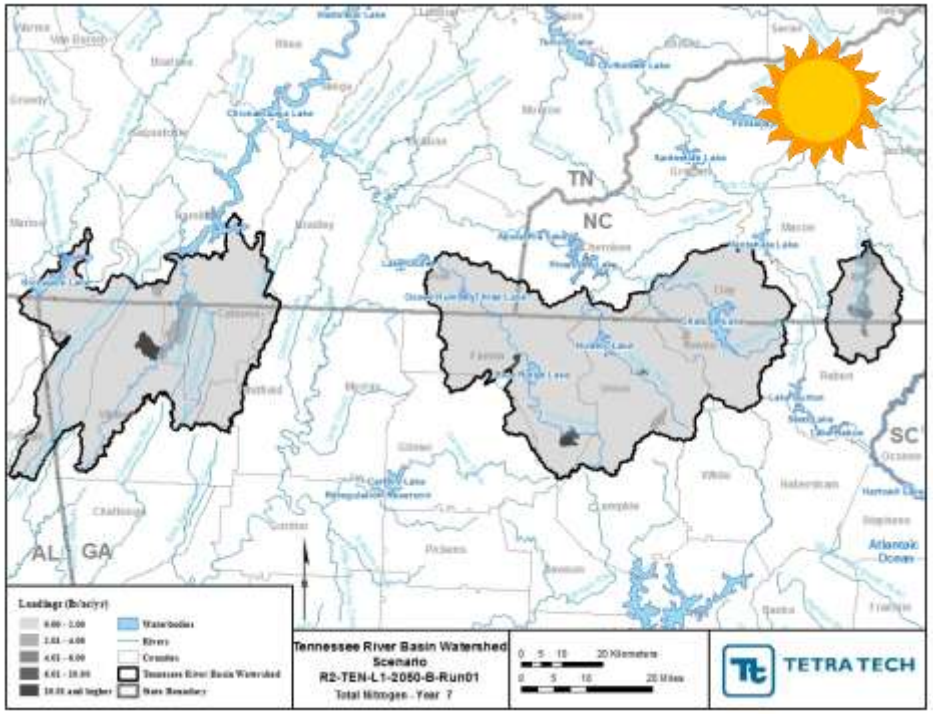


TENNESSEE BASIN: TOTAL N "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

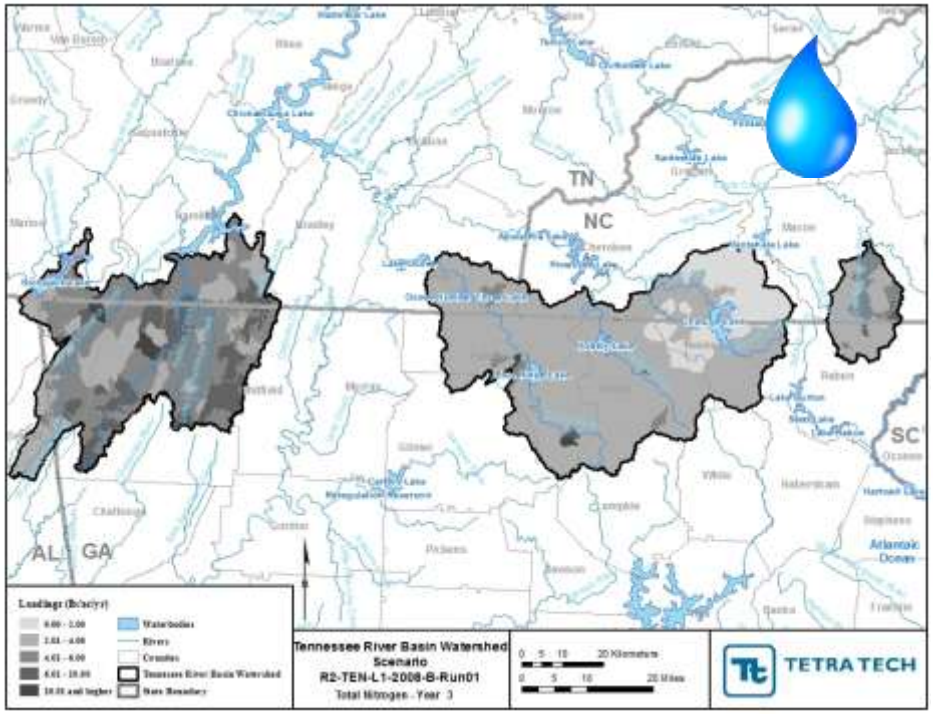


FUTURE CONDITIONS (2050)

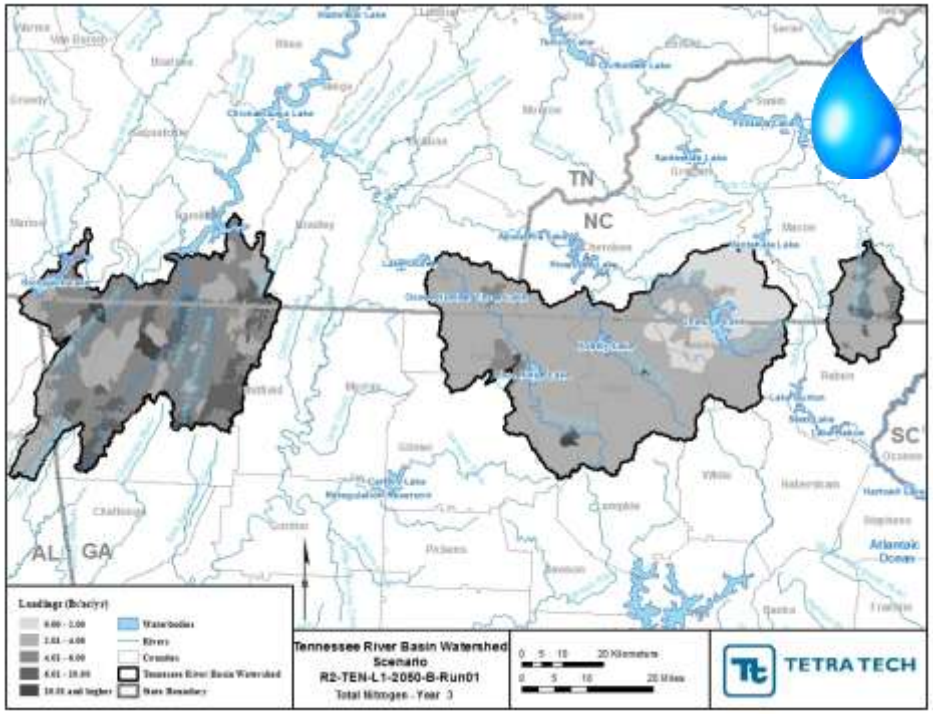


TENNESSEE BASIN: TOTAL N "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

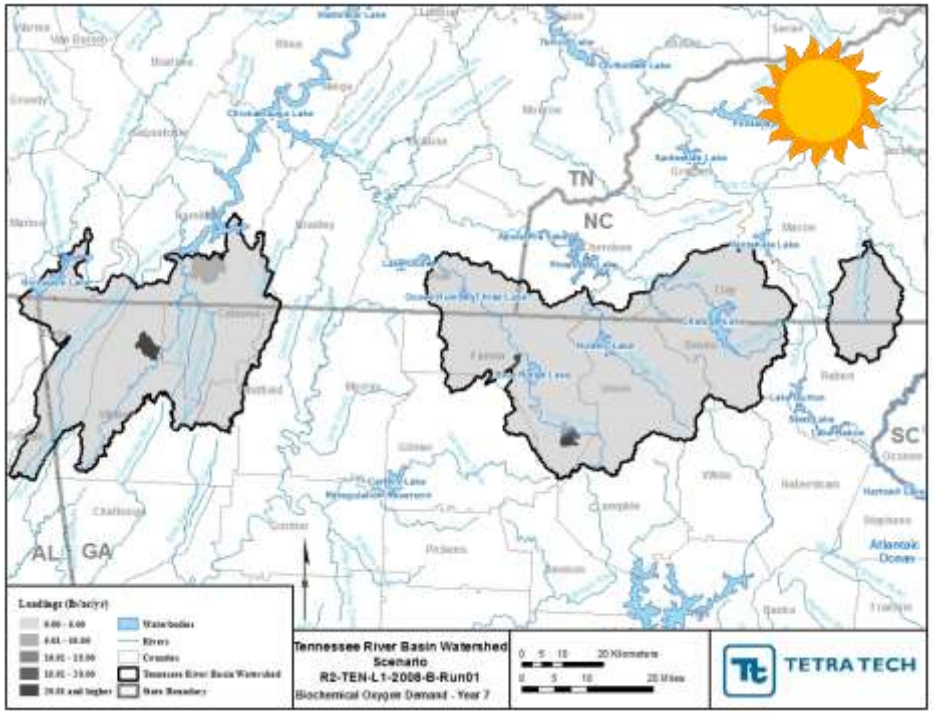


FUTURE CONDITIONS (2050)

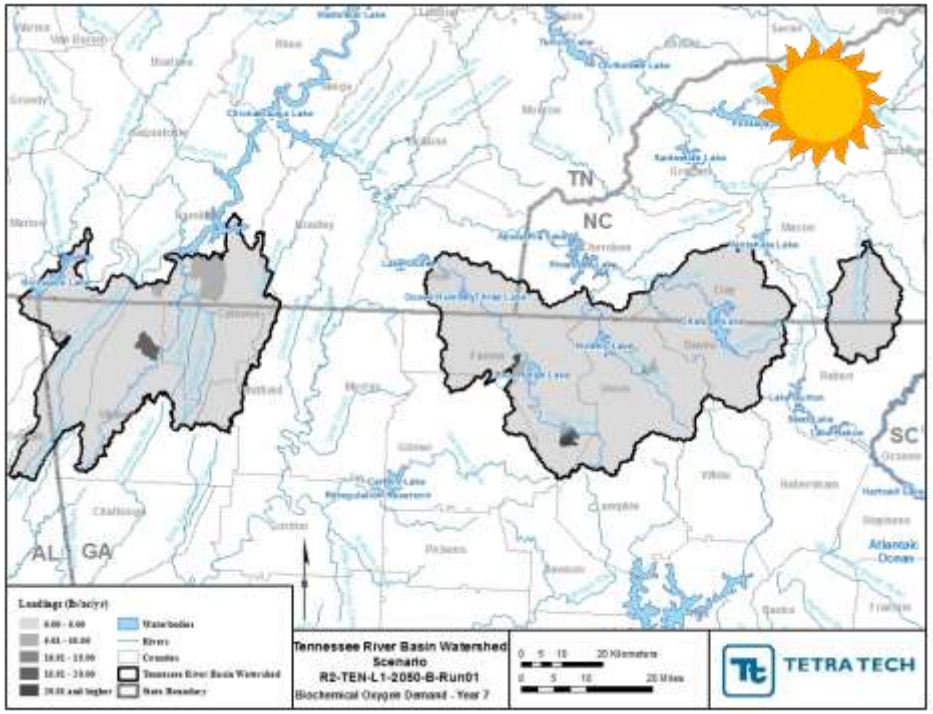


TENNESSEE BASIN: BOD "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

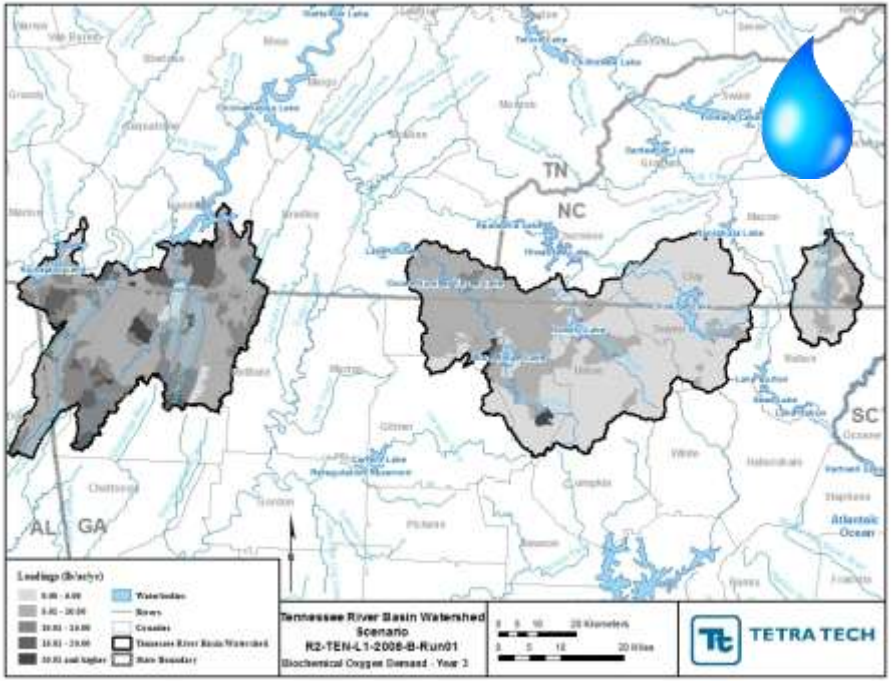


FUTURE CONDITIONS (2050)

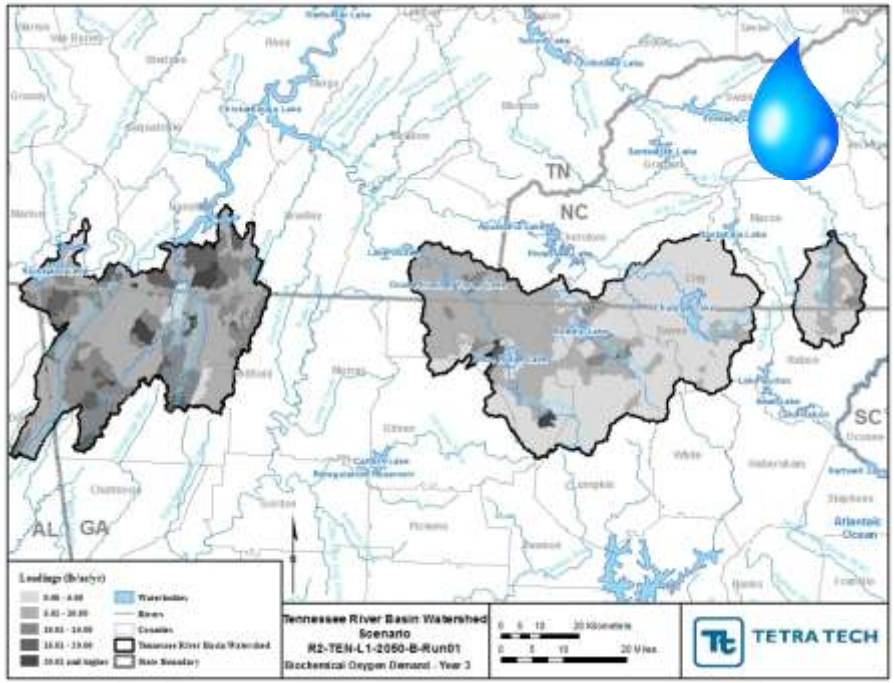


TENNESSEE BASIN: BOD "HEAT MAPS" – WET YEAR

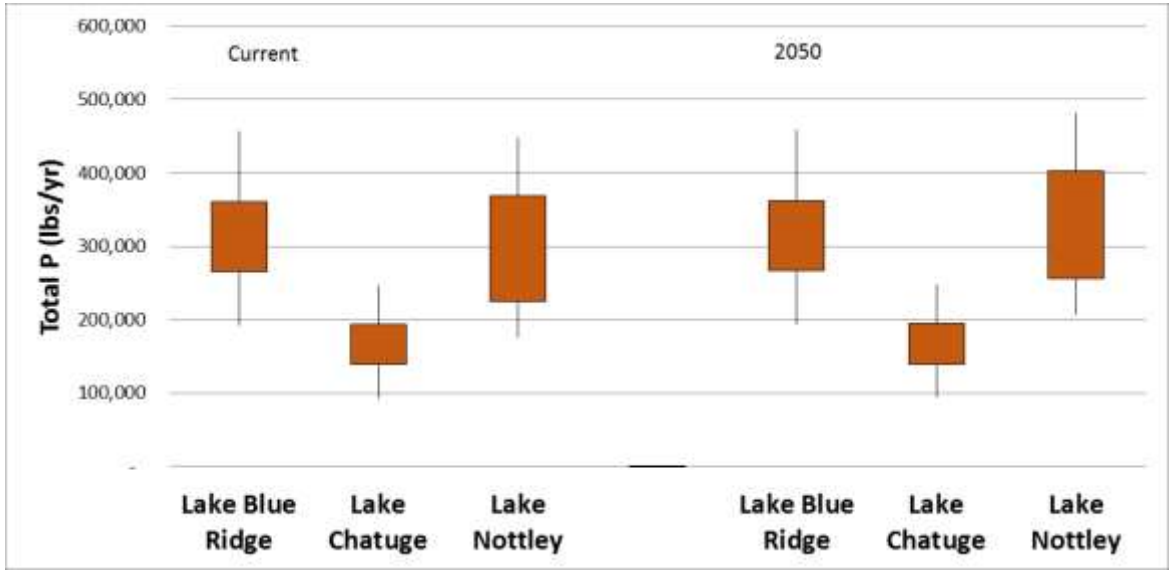
CURRENT CONDITIONS

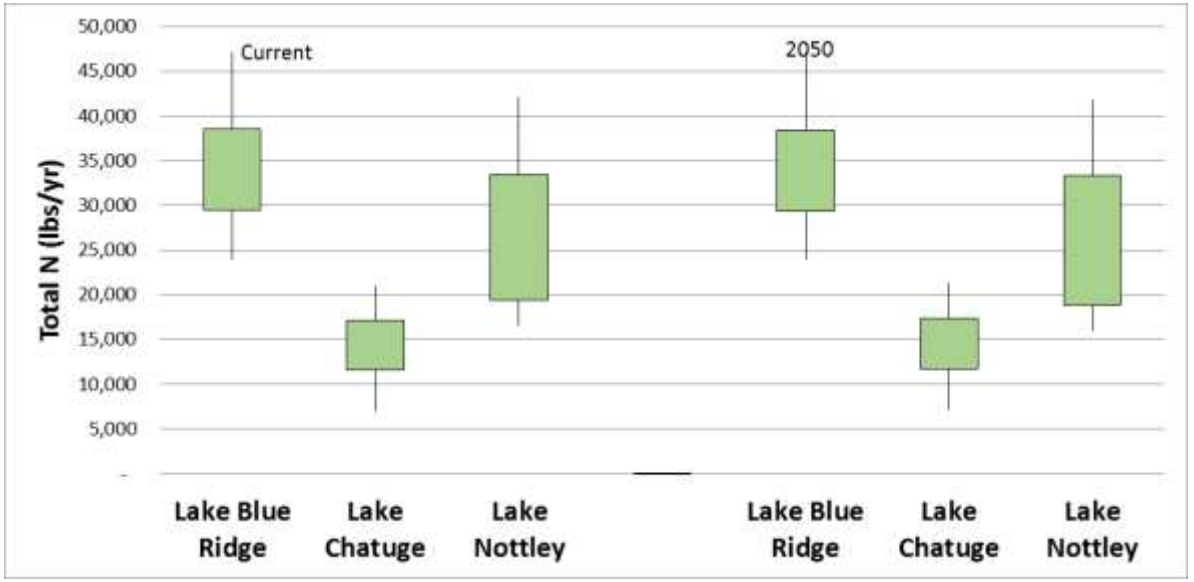


FUTURE CONDITIONS (2050)

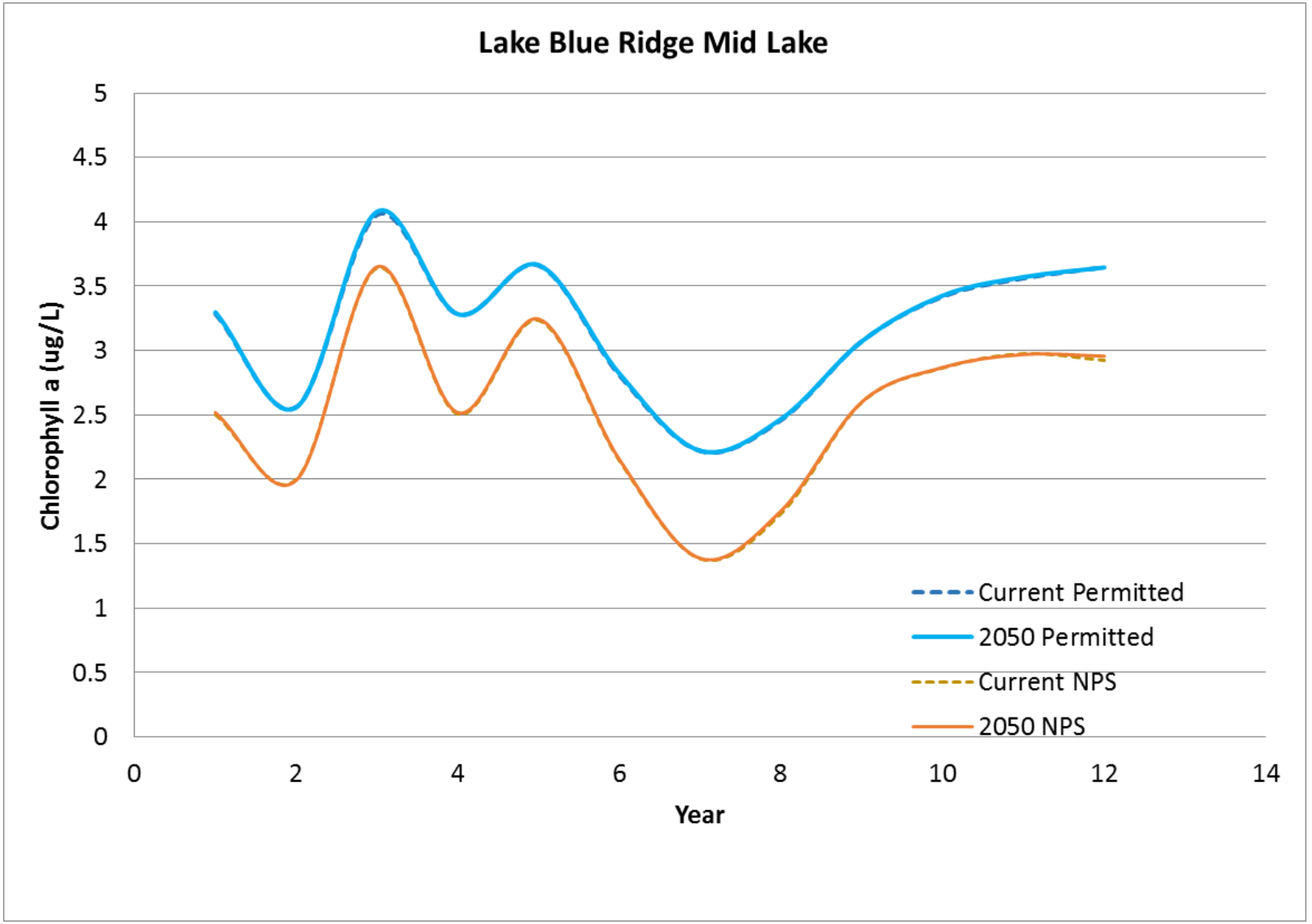


TENNESSEE BASIN: NUTRIENT LOADS (lbs/yr) BEING DELIVERED TO THE LAKES

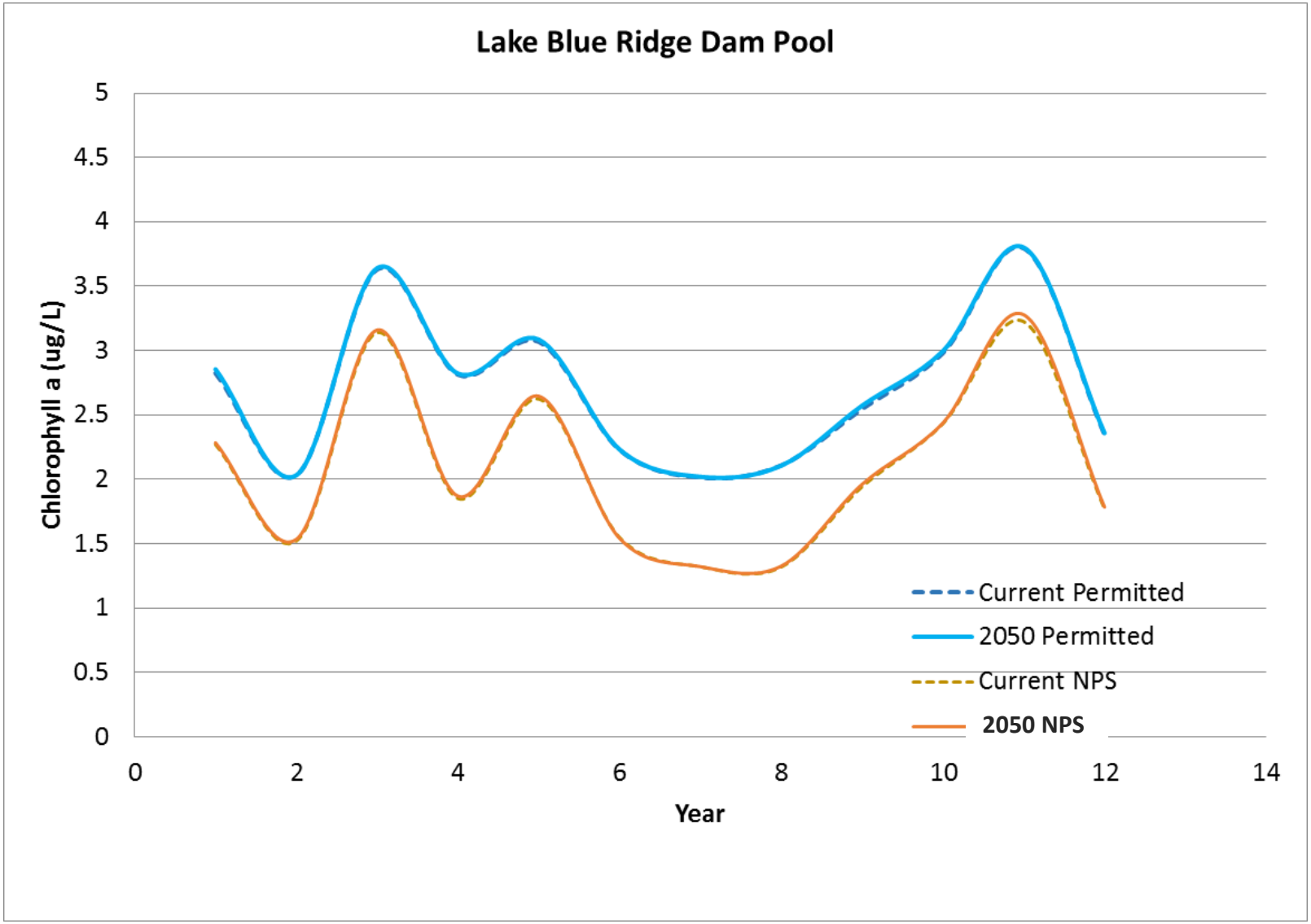




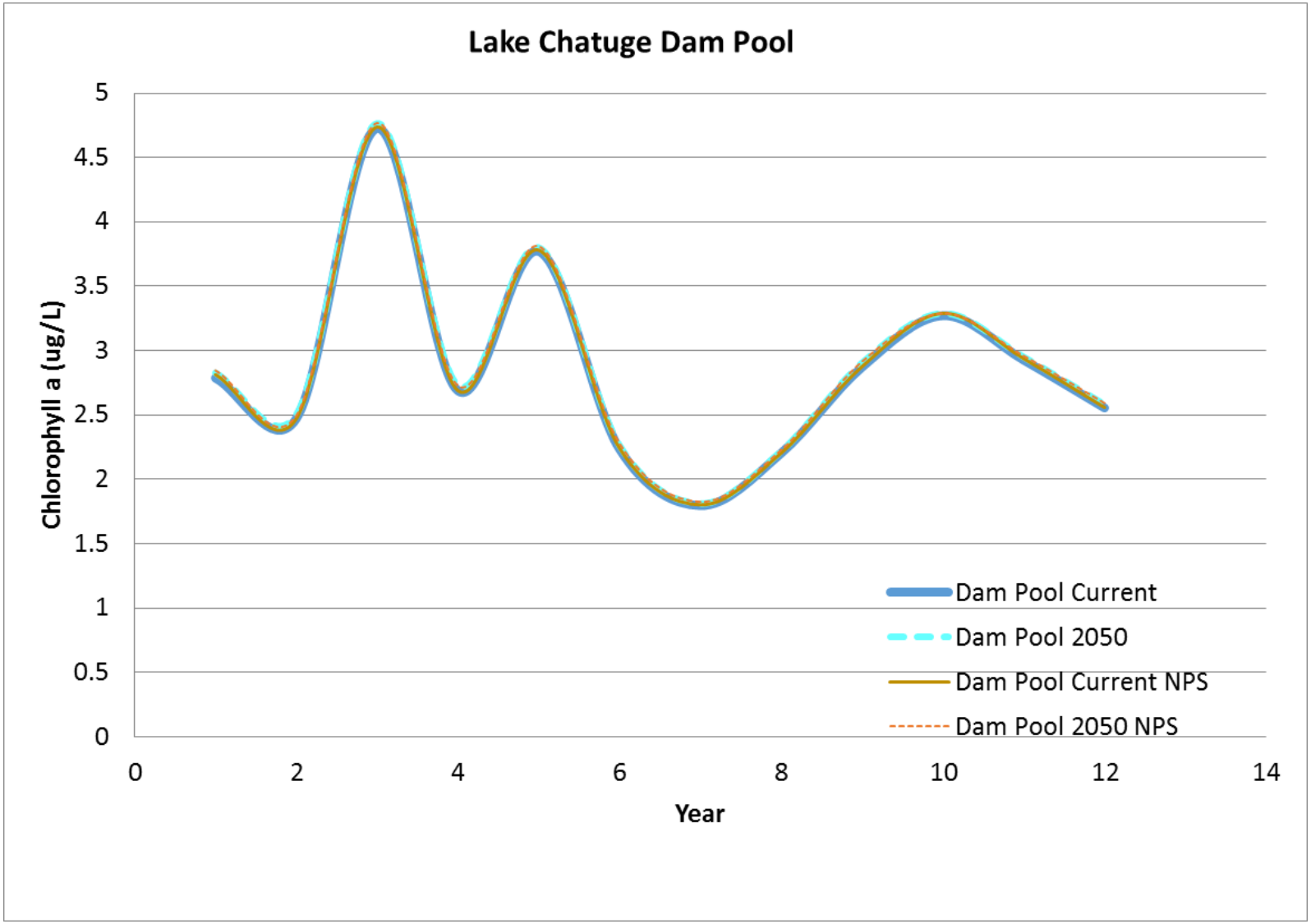
CHLOROPHYLL *a* LEVELS FROM POINT AND NONPOINT SOURCES (CURRENT & FUTURE)



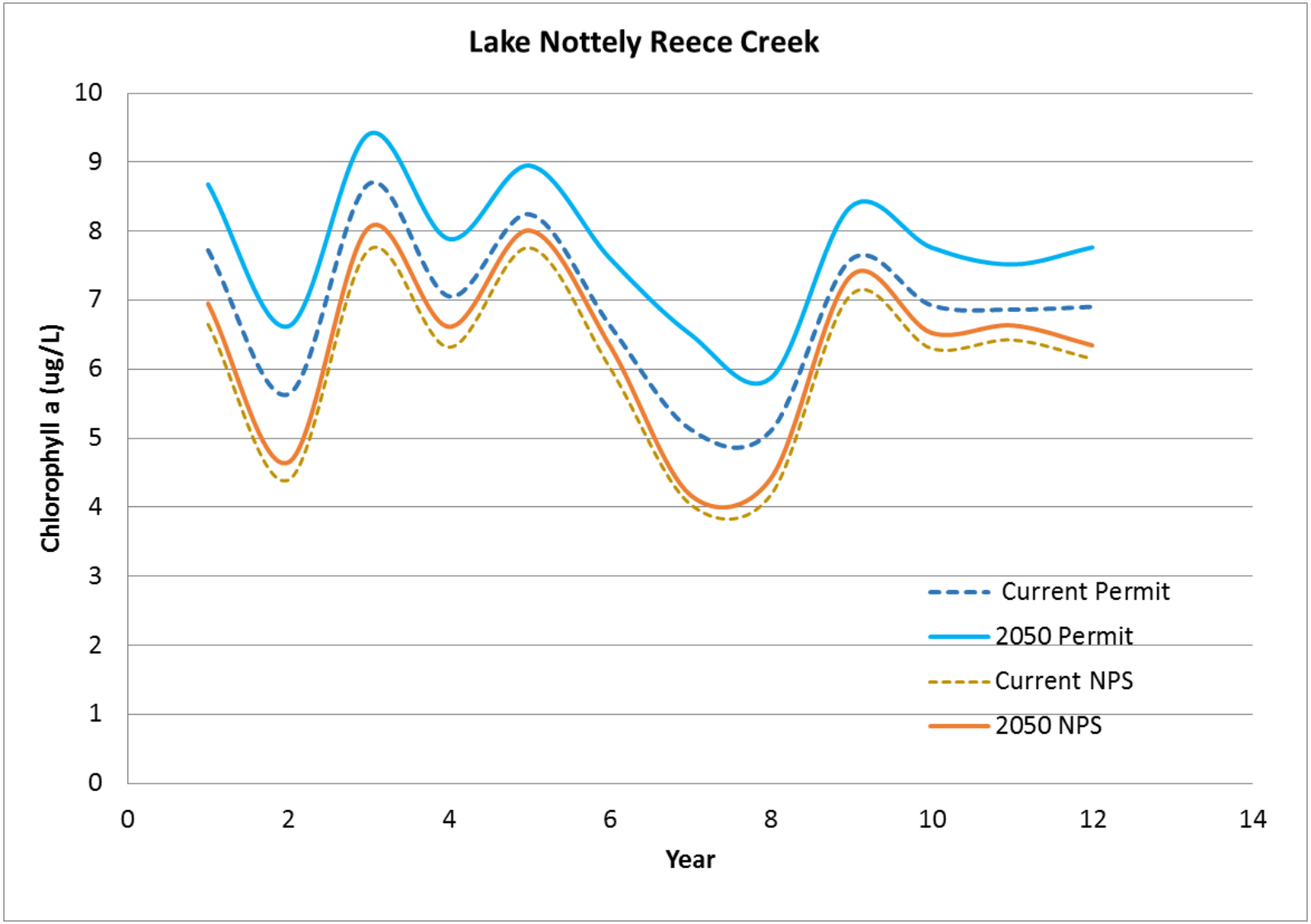
CHLOROPHYLL *a* LEVELS FROM POINT AND NONPOINT SOURCES (CURRENT & FUTURE)



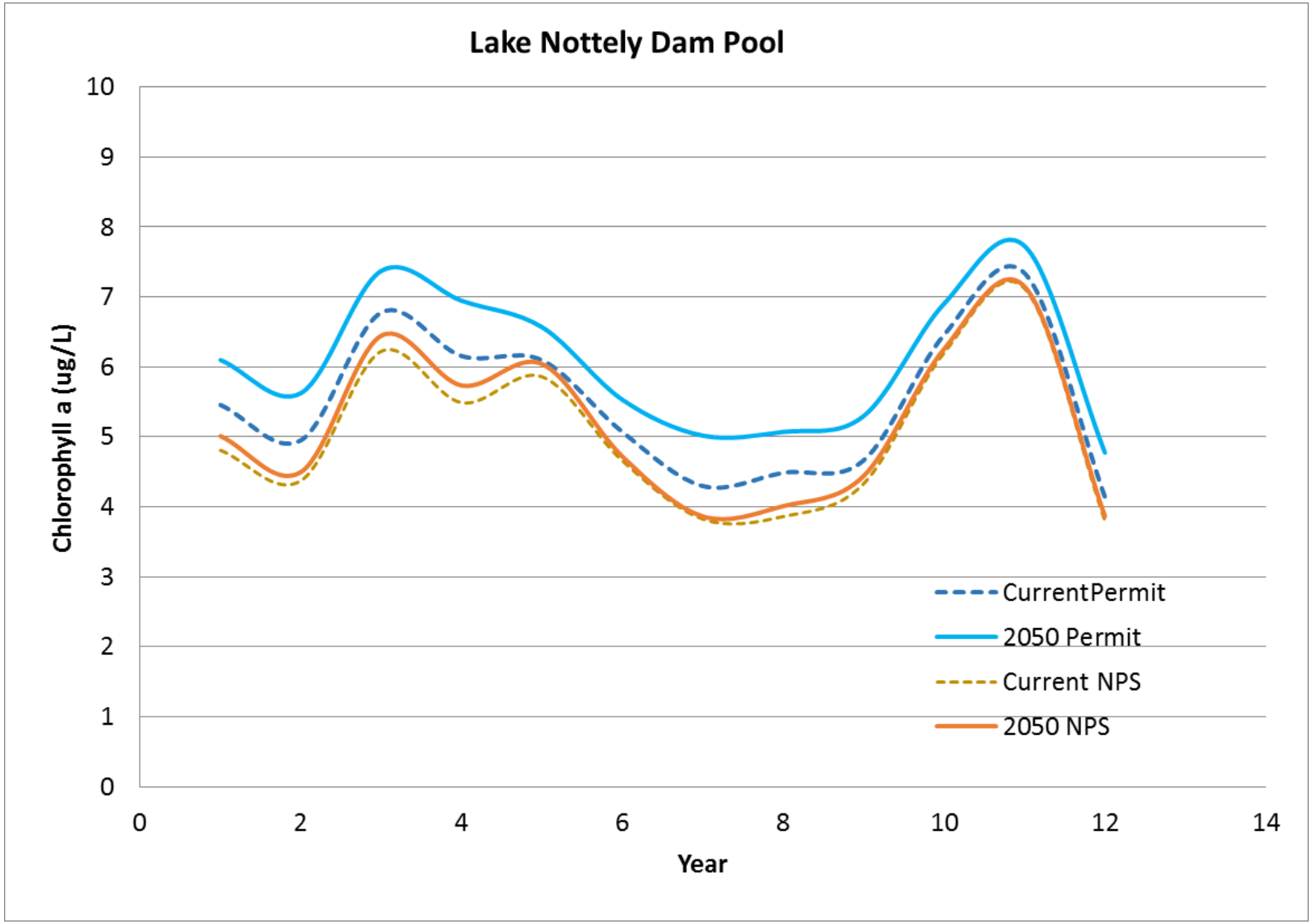
CHLOROPHYLL *a* LEVELS FROM POINT AND NONPOINT SOURCES (CURRENT & FUTURE)



CHLOROPHYLL *a* LEVELS FROM POINT AND NONPOINT SOURCES (CURRENT & FUTURE)



CHLOROPHYLL *a* LEVELS FROM POINT AND NONPOINT SOURCES (CURRENT & FUTURE)

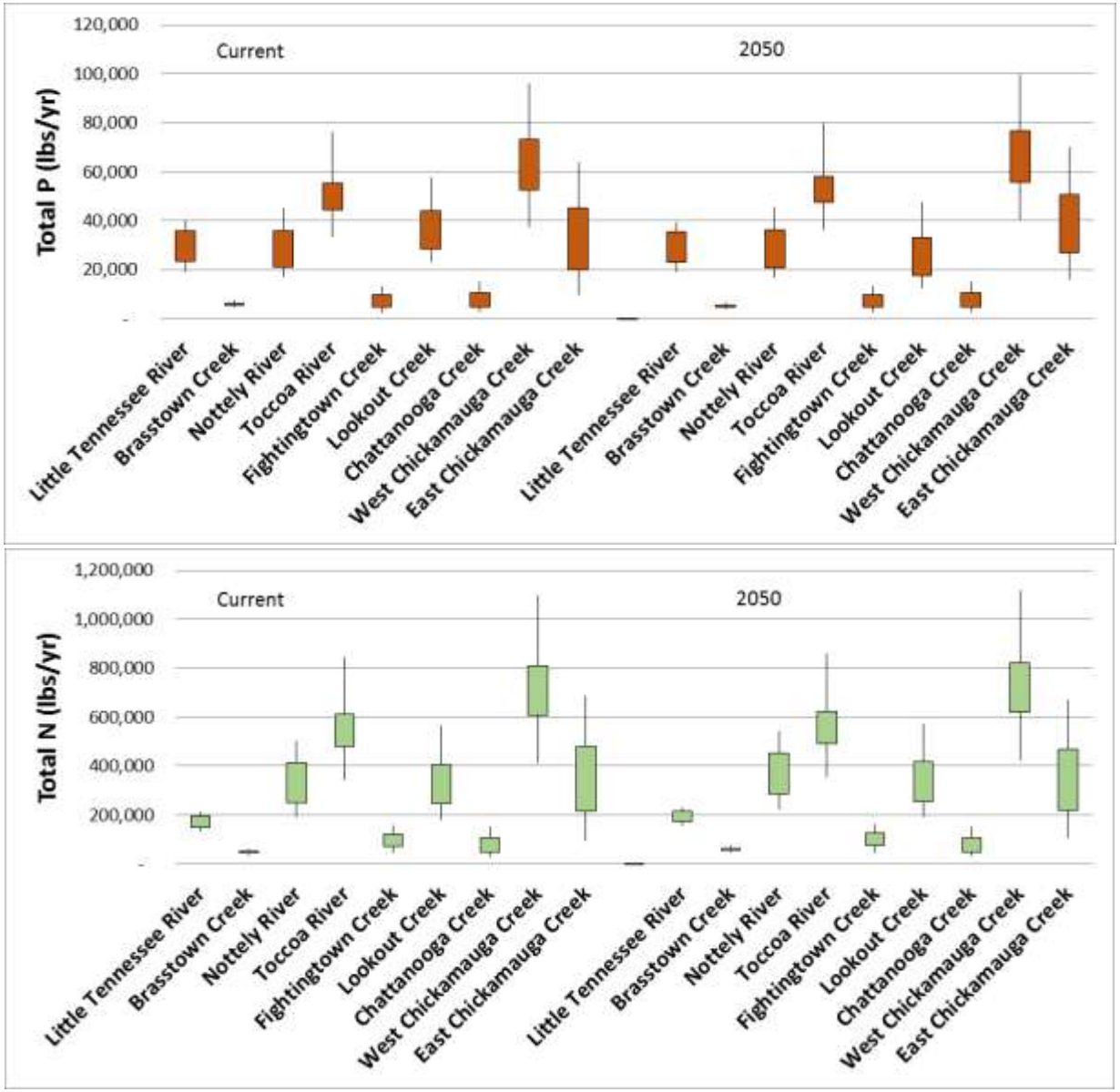


CURRENT AND FUTURE GROWING SEASON AVERAGE TOTAL N AND TOTAL P LEVELS

	Scenario	Lake Blue Ridge	Lake Chatuge	Lake Nottely
Total N (mg/L)	**Current NPS**	0.15	0.15	0.14
	Current	0.17	0.15	0.14
	2050 NPS	0.15	0.16	0.14
	2050	0.17	0.16	0.16
Total P (mg/L)	**Current NPS**	0.011	0.017	0.012
	Current	0.018	0.017	0.016
	2050 NPS	0.011	0.017	0.014
	2050	0.018	0.017	0.017

NOTE: “Current” and “2050” results include both point and nonpoint source contributions.

TENNESSEE BASIN: STATELINE NUTRIENT LOADS (lbs/yr)



LSPC (WATERSHED) MODEL RESULTS

TOTAL PHOSPHORUS (P)

TOTAL NITROGEN (N)

BIOCHEMICAL OXYGEN DEMAND (BOD)

EFDC (LAKE) MODEL RESULTS

CHOROPHYLL A

TOTAL PHOSPHORUS (P)

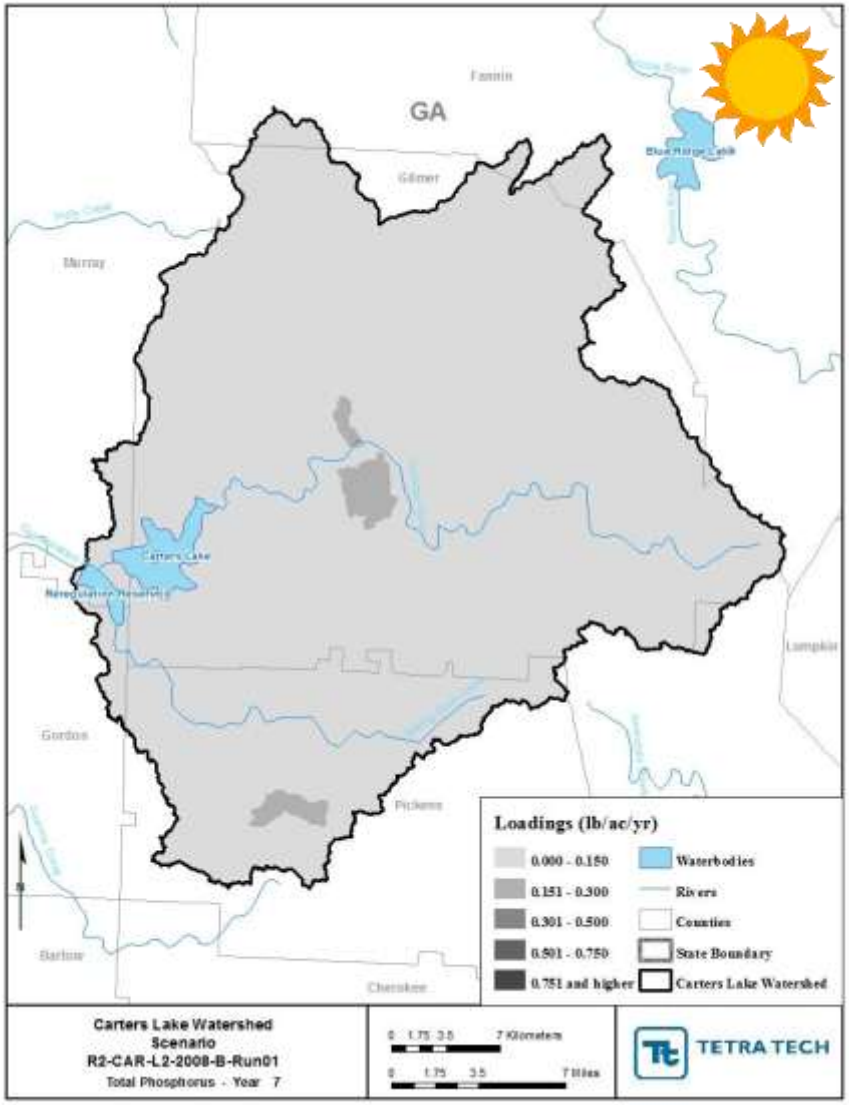
TOTAL NITROGEN (N)

CURRENT & FUTURE CONDITIONS

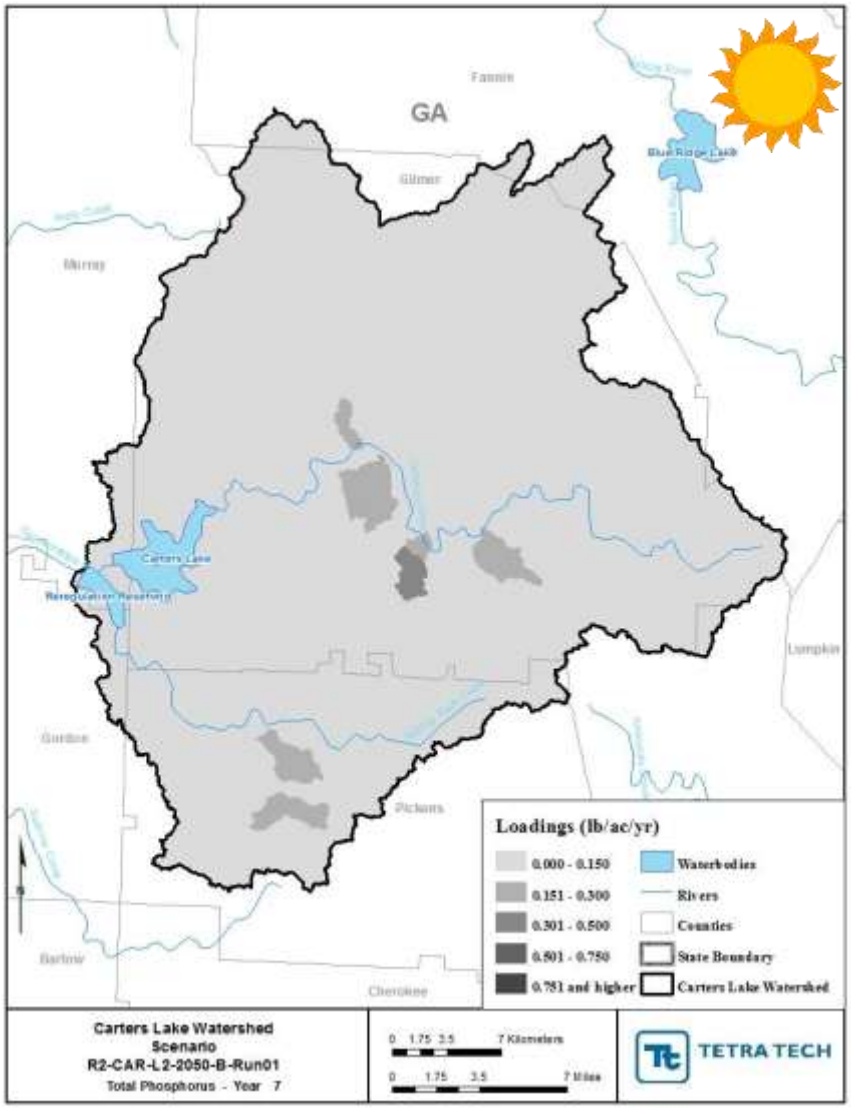
COOSA BASIN

COOSA BASIN: CARTERS LAKE TOTAL P "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

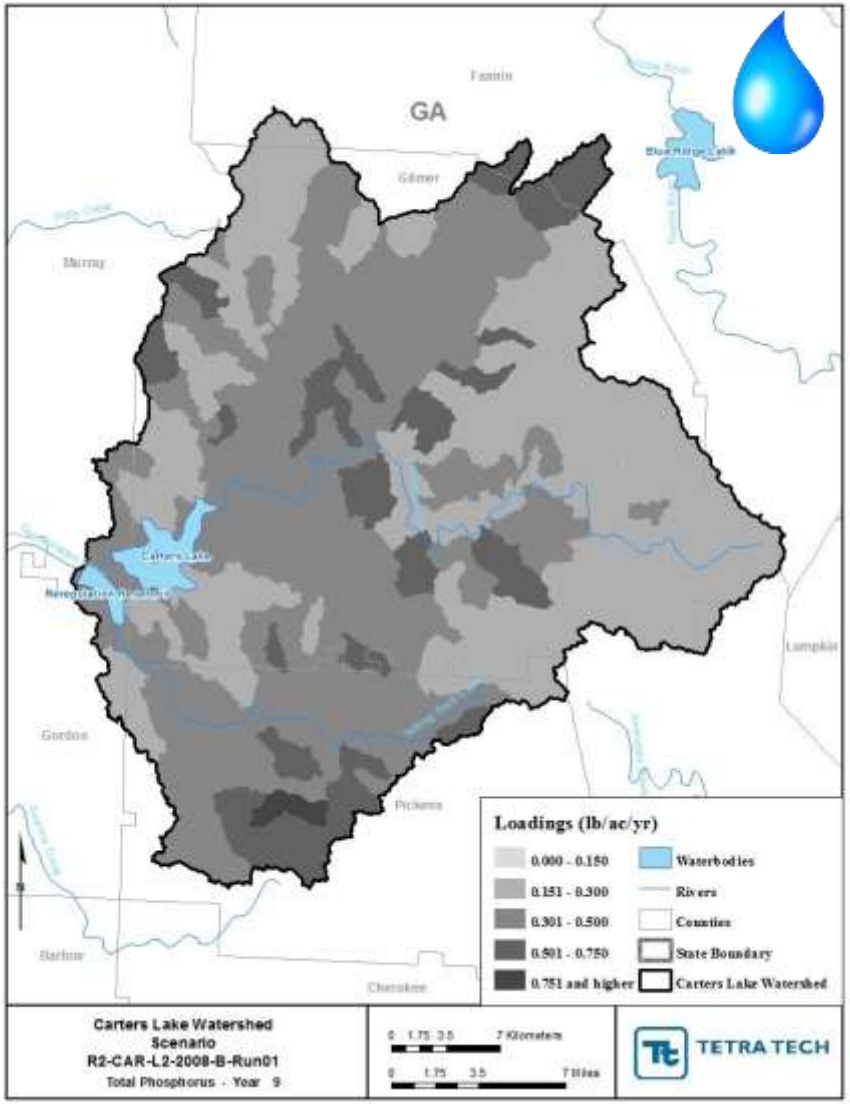


FUTURE CONDITIONS (2050)

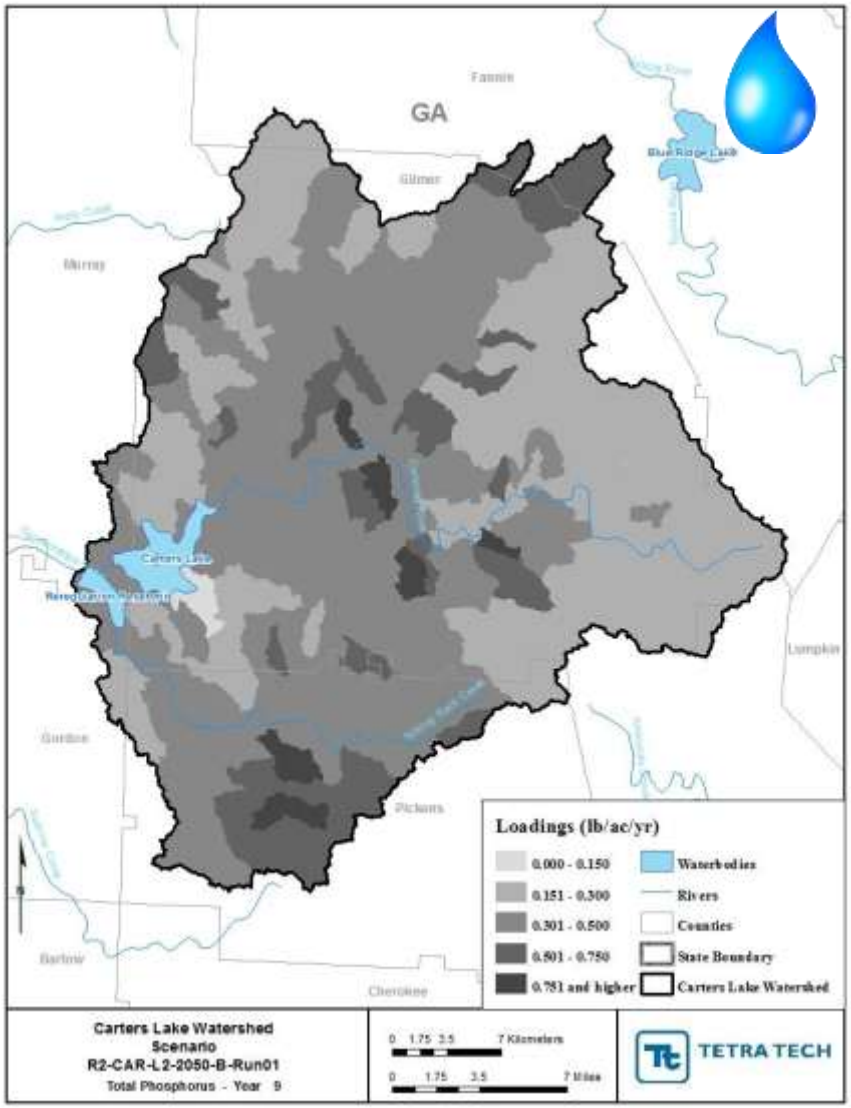


COOSA BASIN: CARTERS LAKE TOTAL P "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

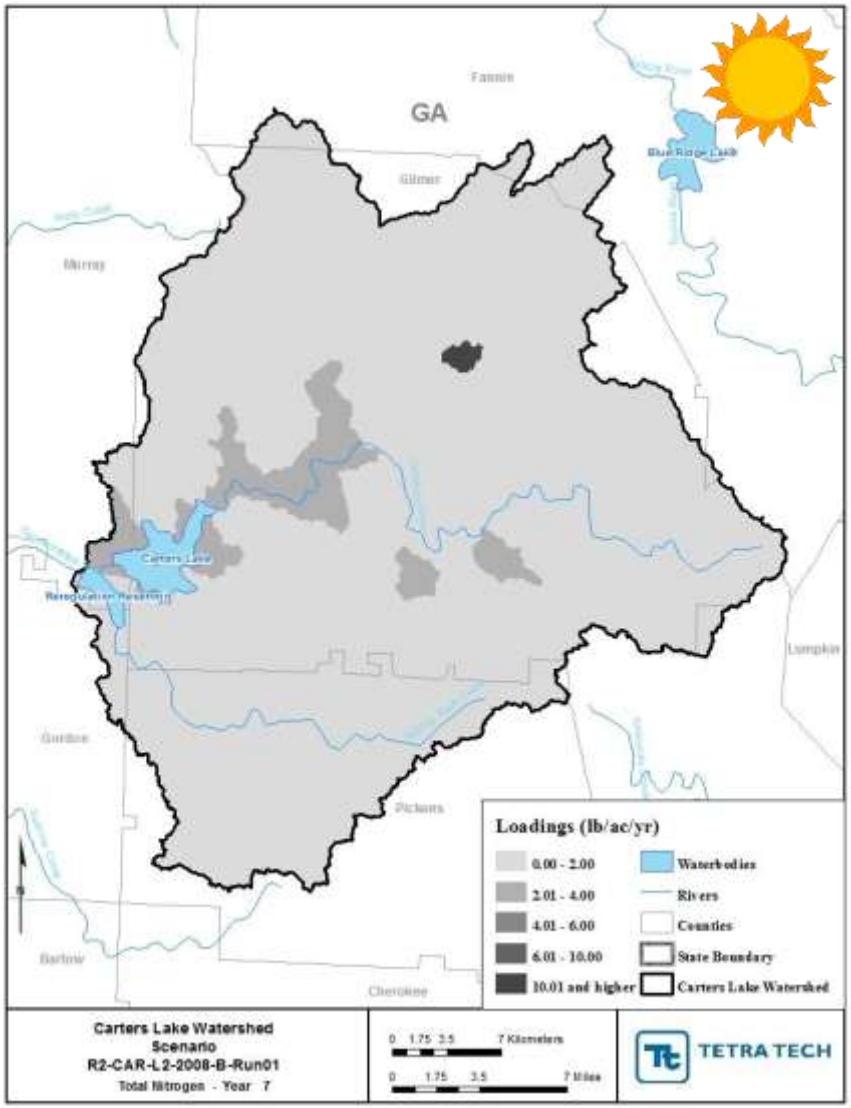


FUTURE CONDITIONS (2050)

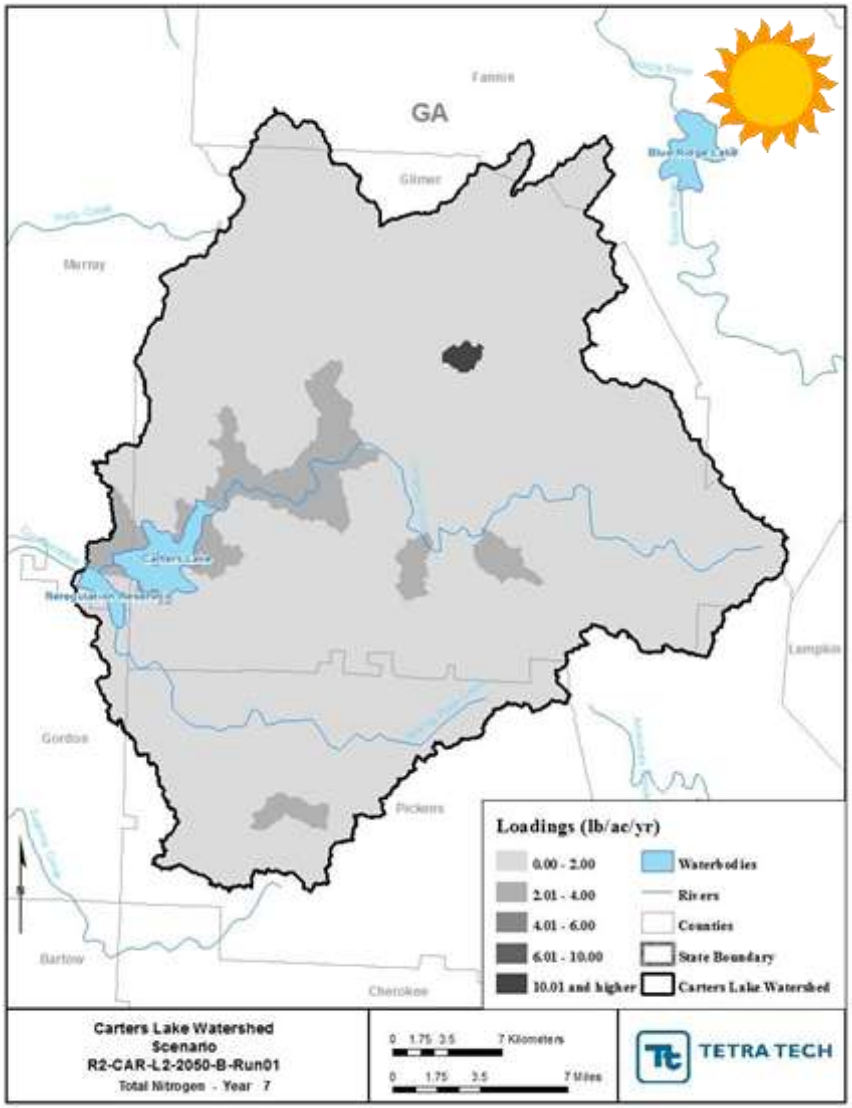


COOSA BASIN: CARTERS LAKE TOTAL N "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

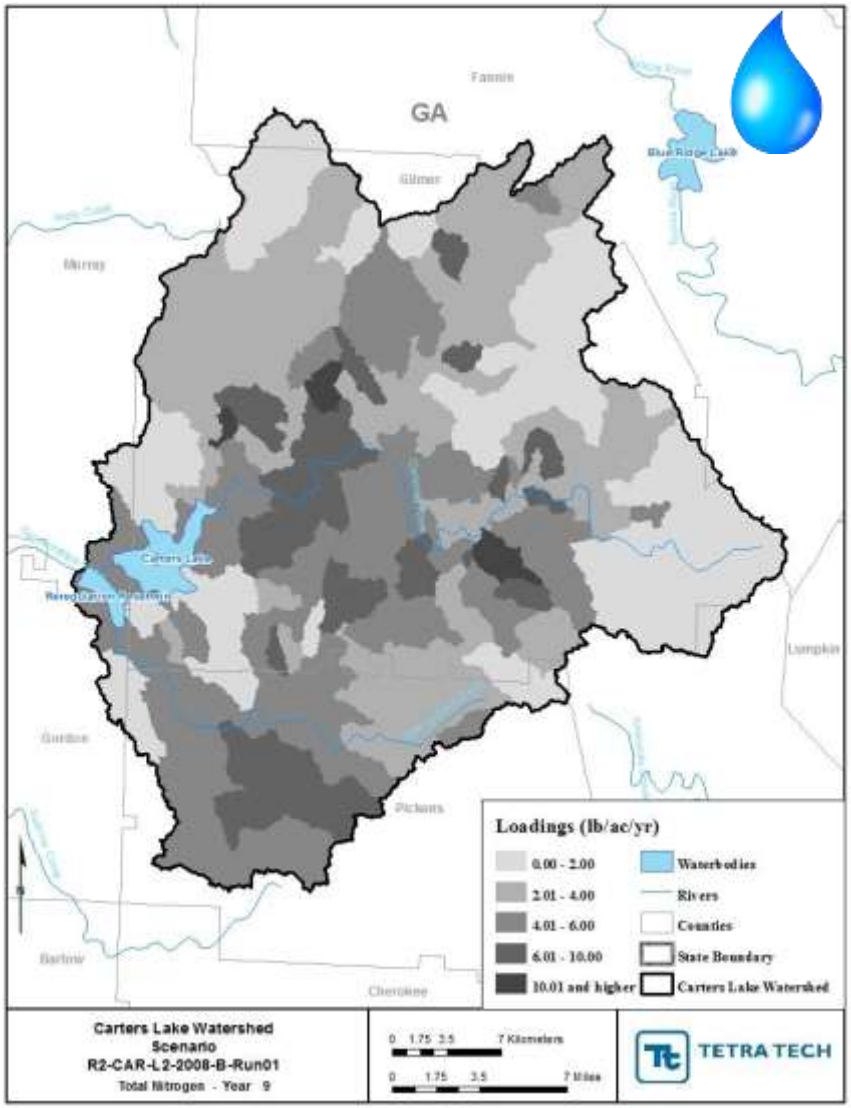


FUTURE CONDITIONS (2050)

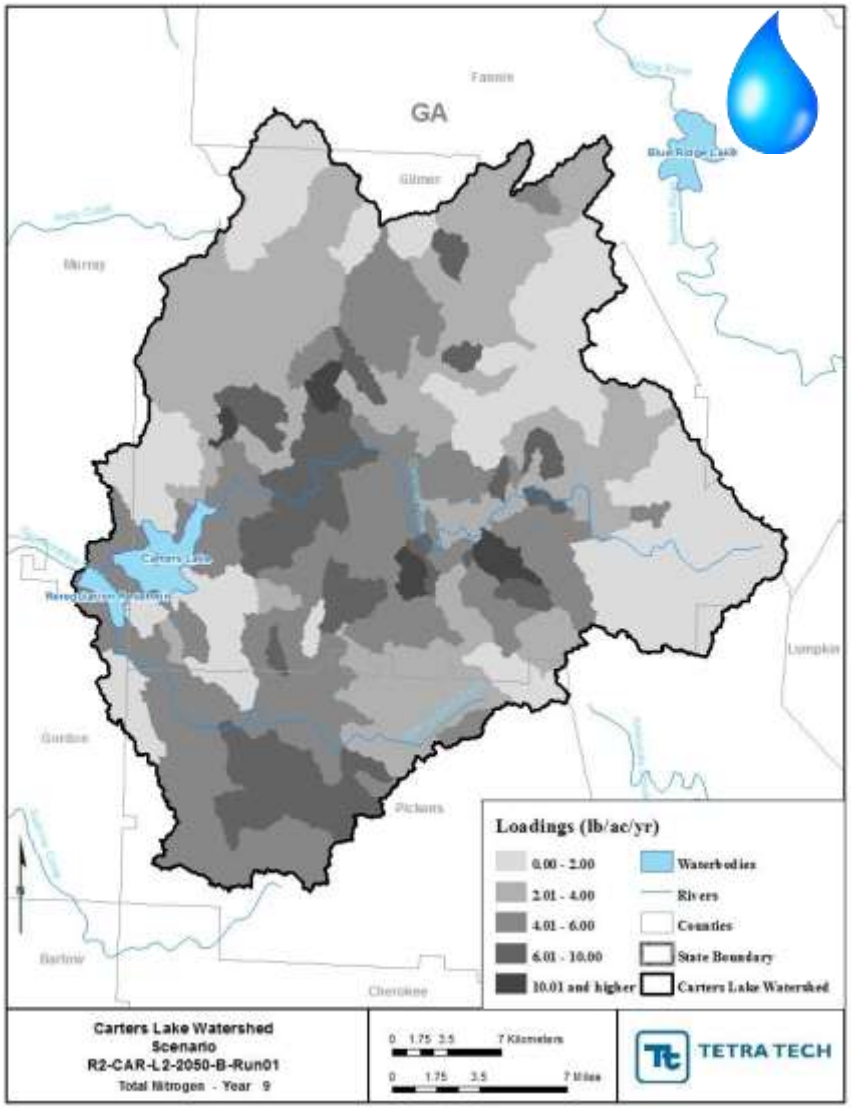


COOSA BASIN: CARTERS LAKE TOTAL N "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

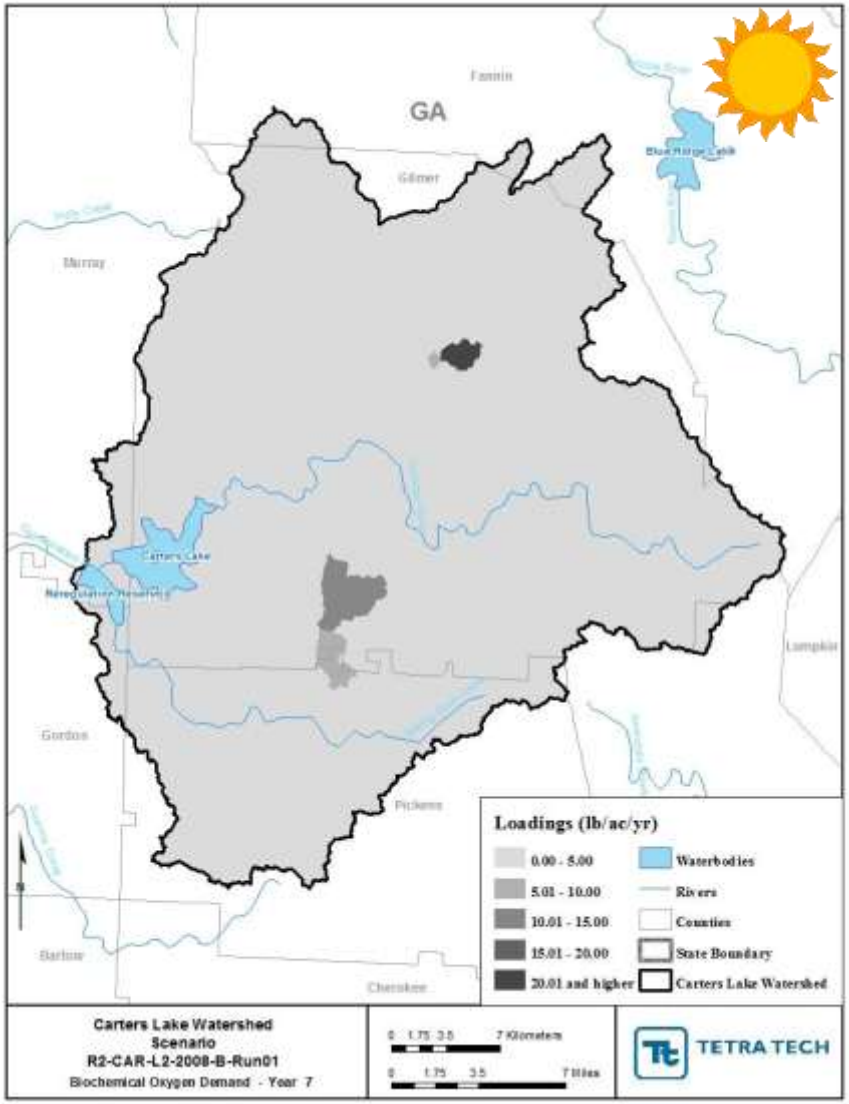


FUTURE CONDITIONS (2050)

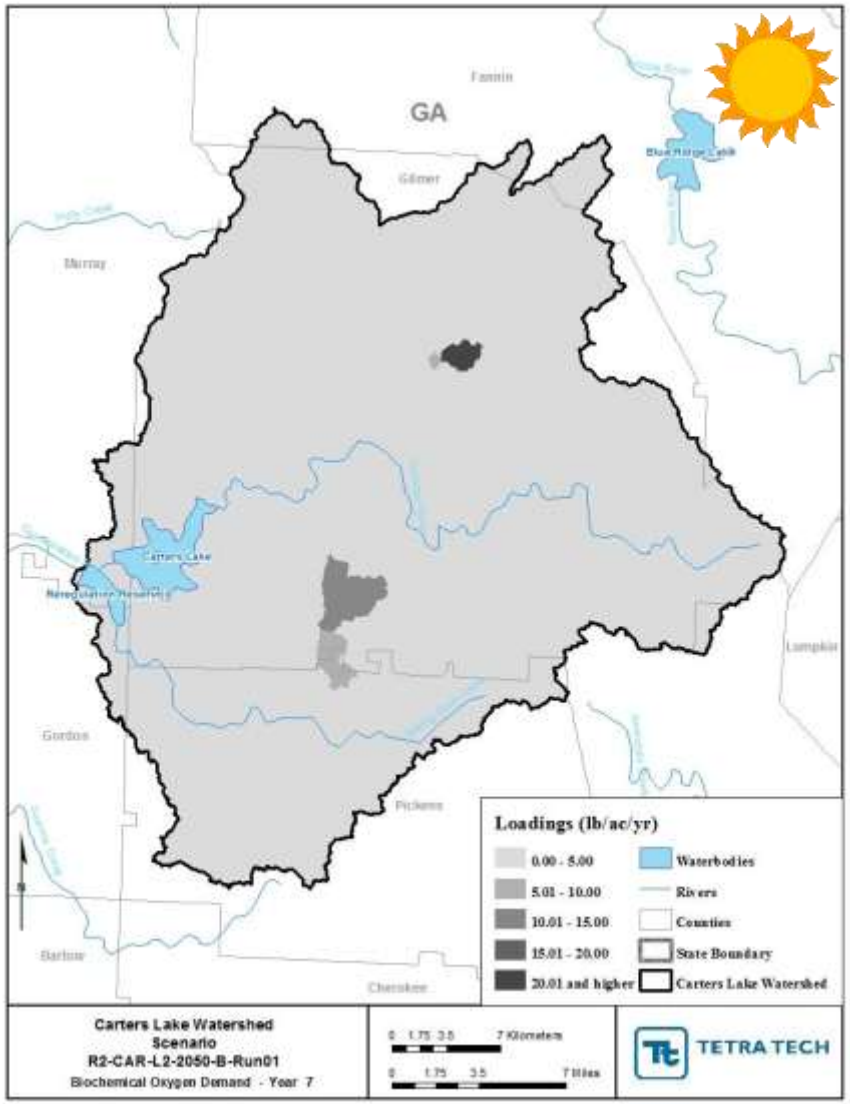


COOSA BASIN: CARTERS LAKE BOD "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

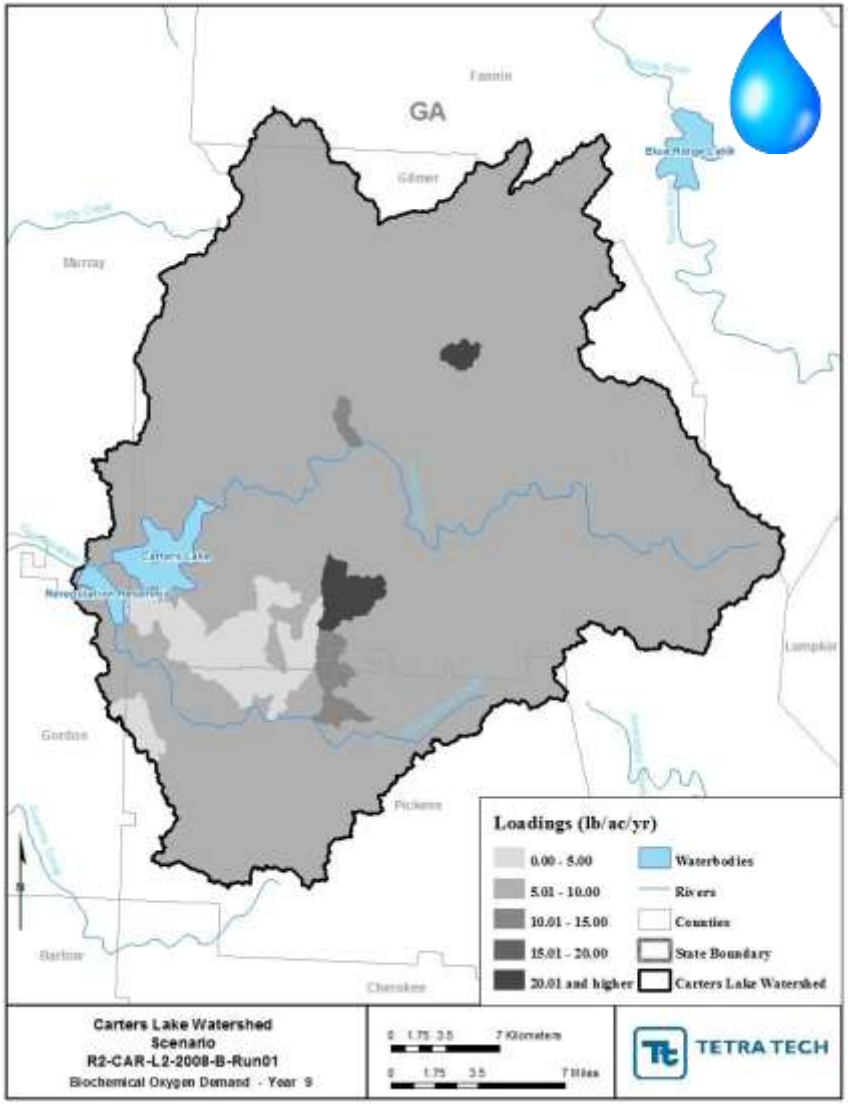


FUTURE CONDITIONS (2050)

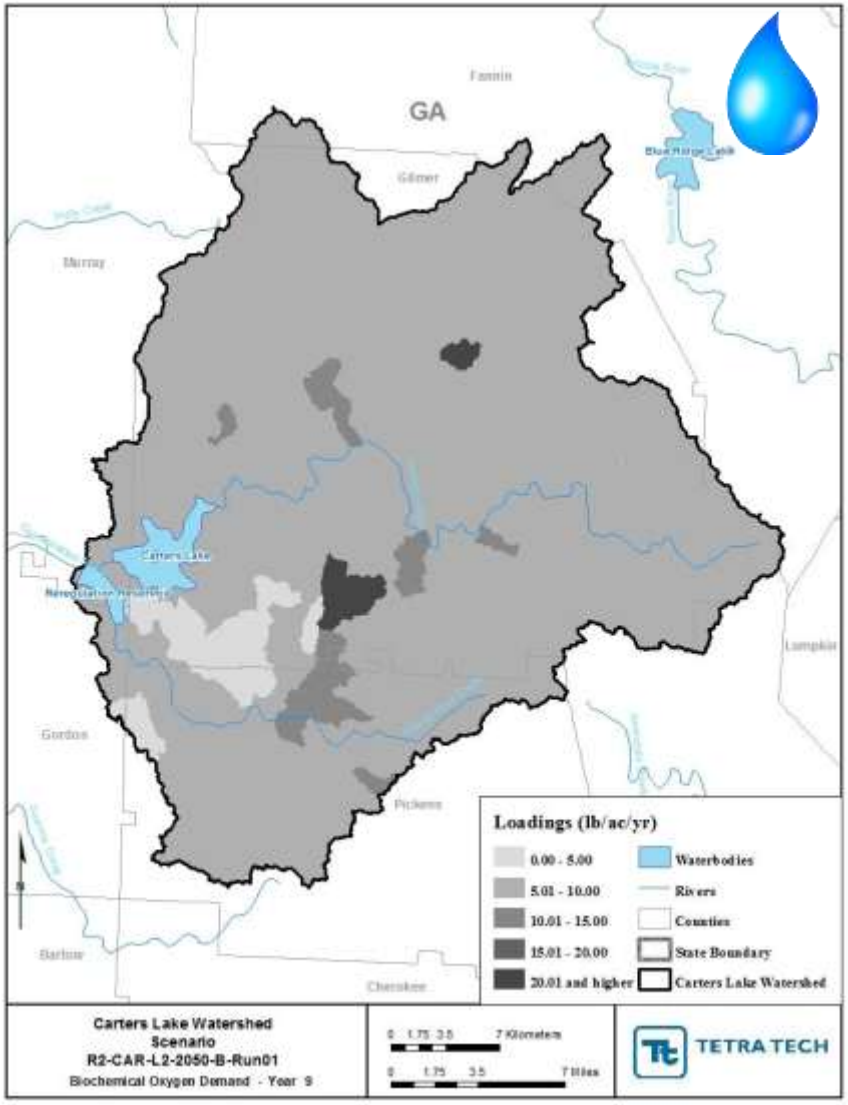


COOSA BASIN: CARTERS LAKE BOD "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

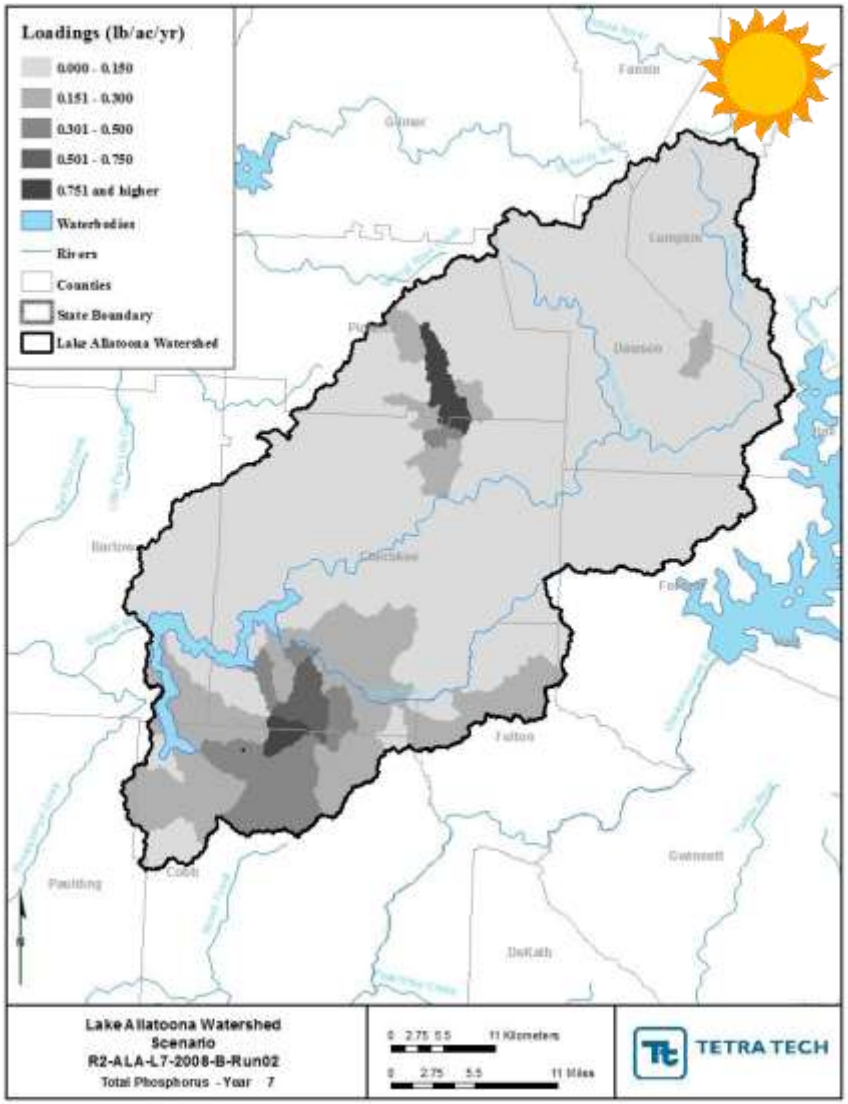


FUTURE CONDITIONS (2050)

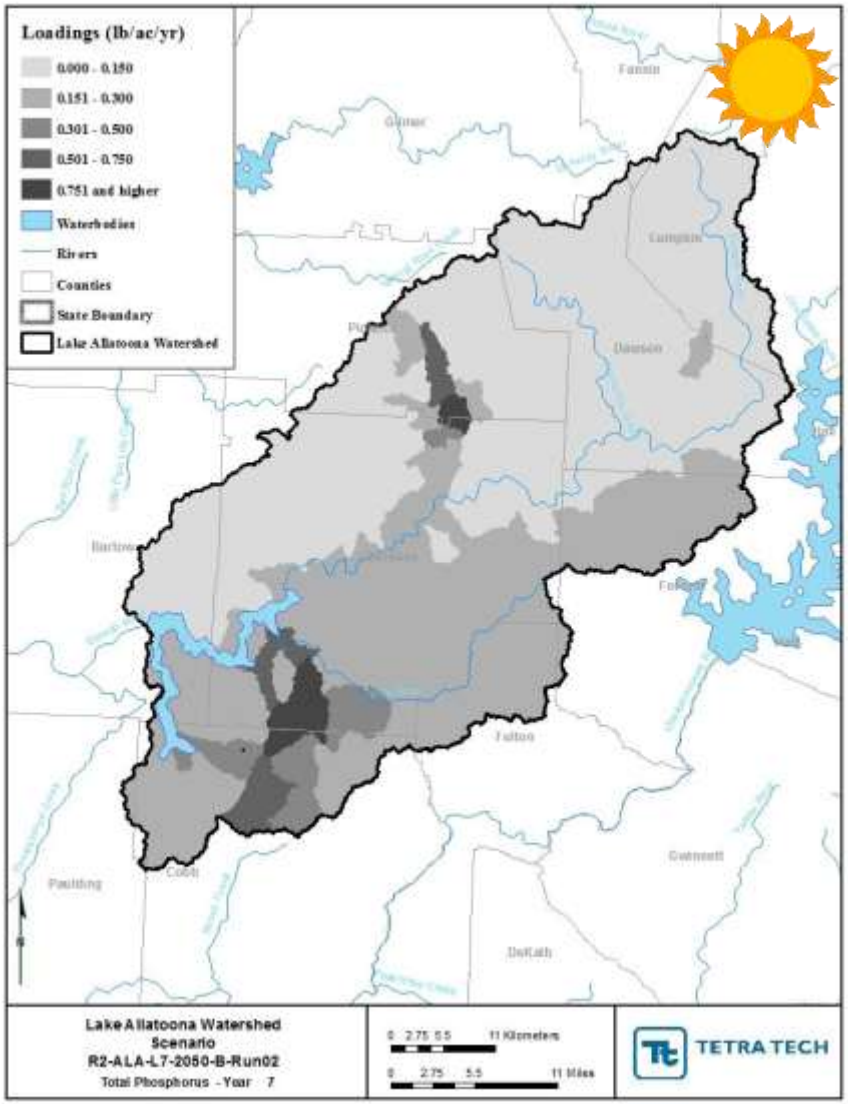


COOSA BASIN: LAKE ALLATOONA TOTAL P "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

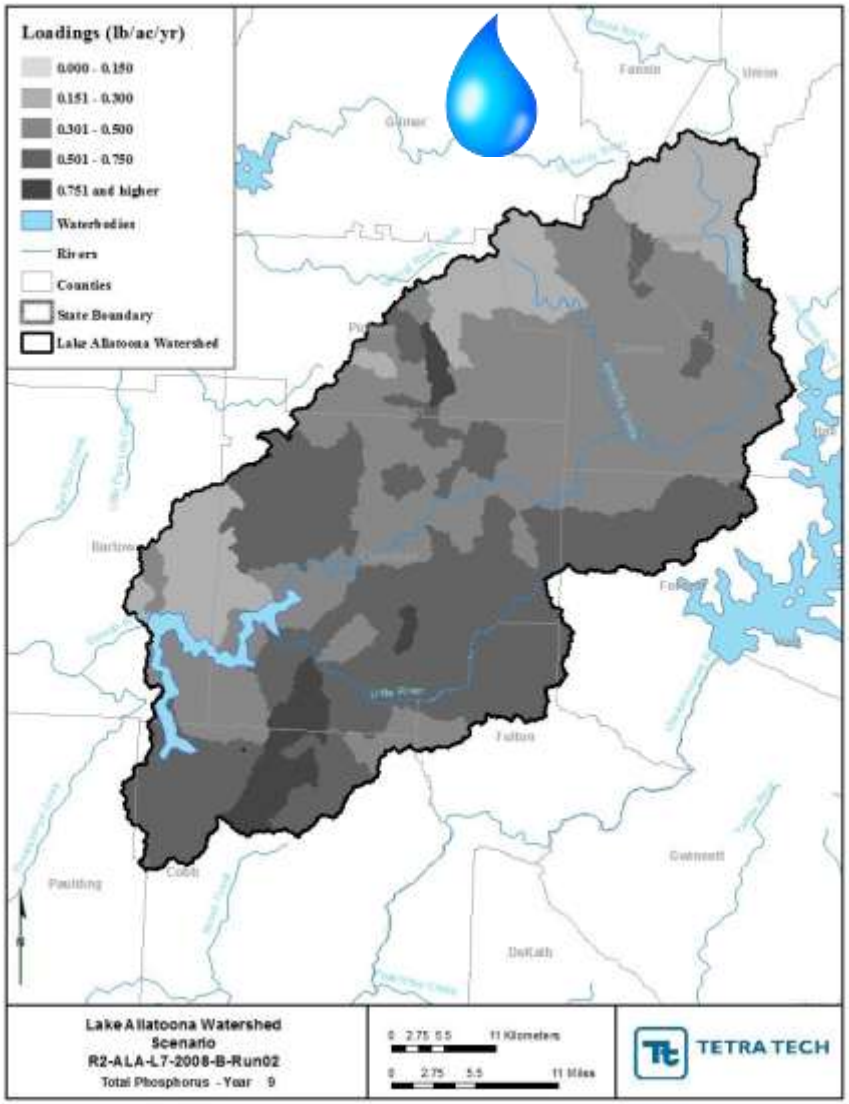


FUTURE CONDITIONS (2050)

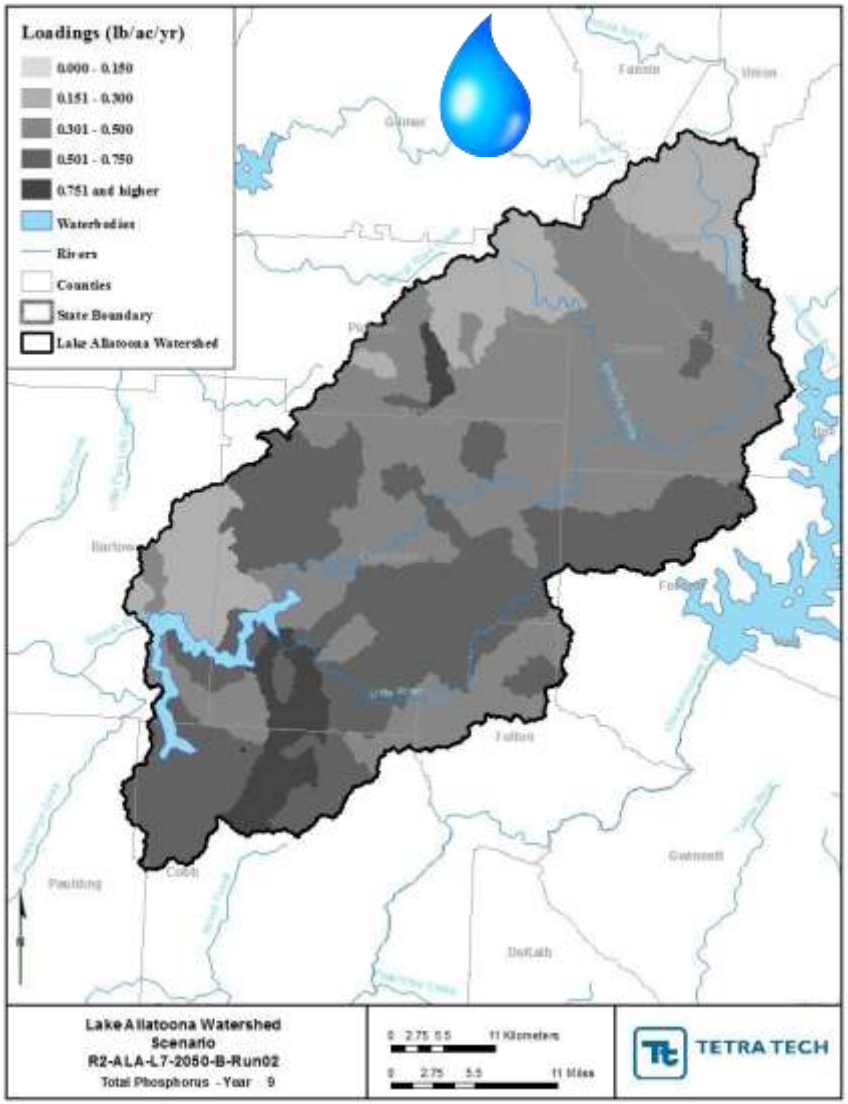


COOSA BASIN: LAKE ALLATOONA TOTAL P "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

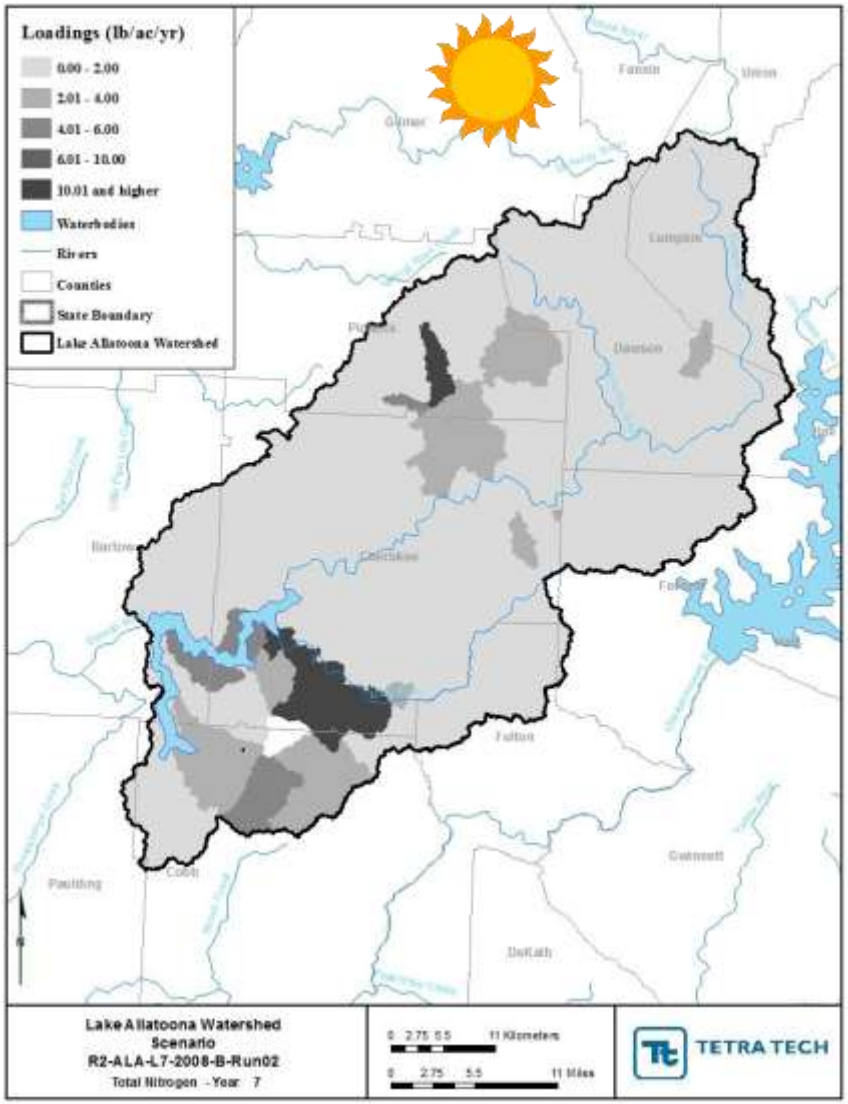


FUTURE CONDITIONS (2050)

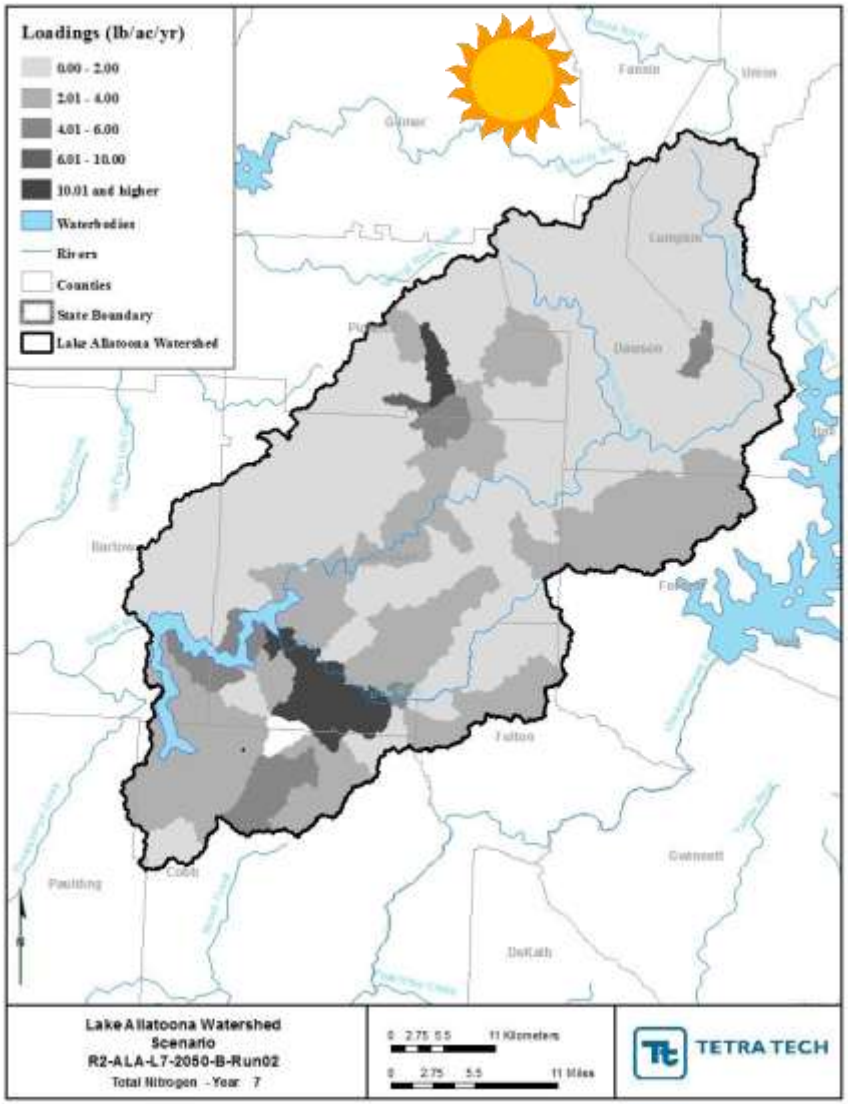


COOSA BASIN: LAKE ALLATOONA TOTAL N "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

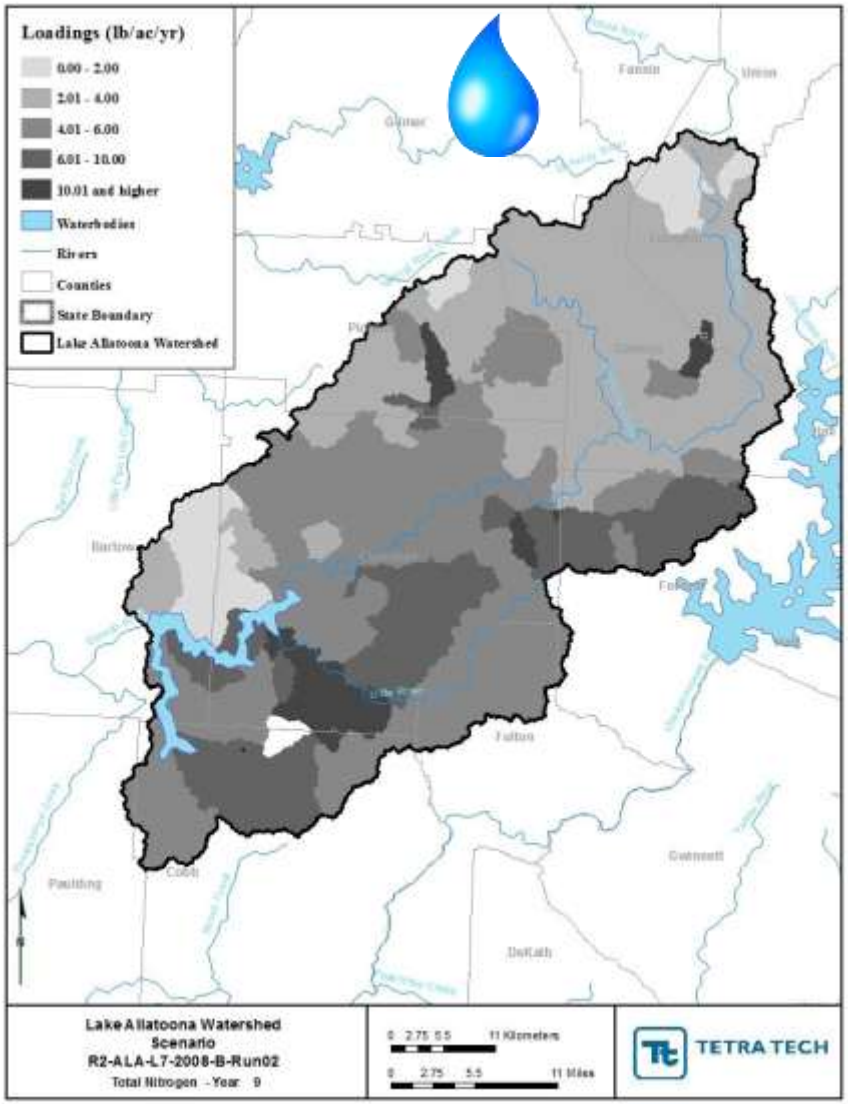


FUTURE CONDITIONS (2050)

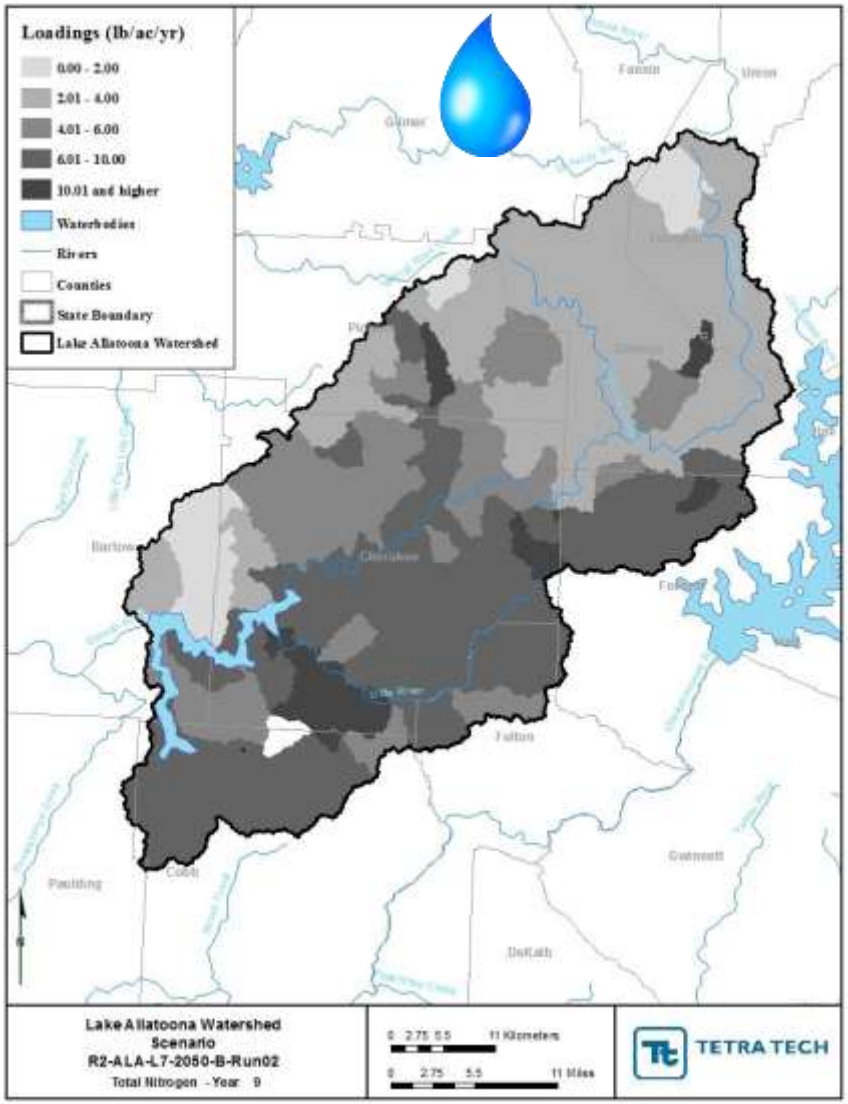


COOSA BASIN: LAKE ALLATOONA TOTAL N "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

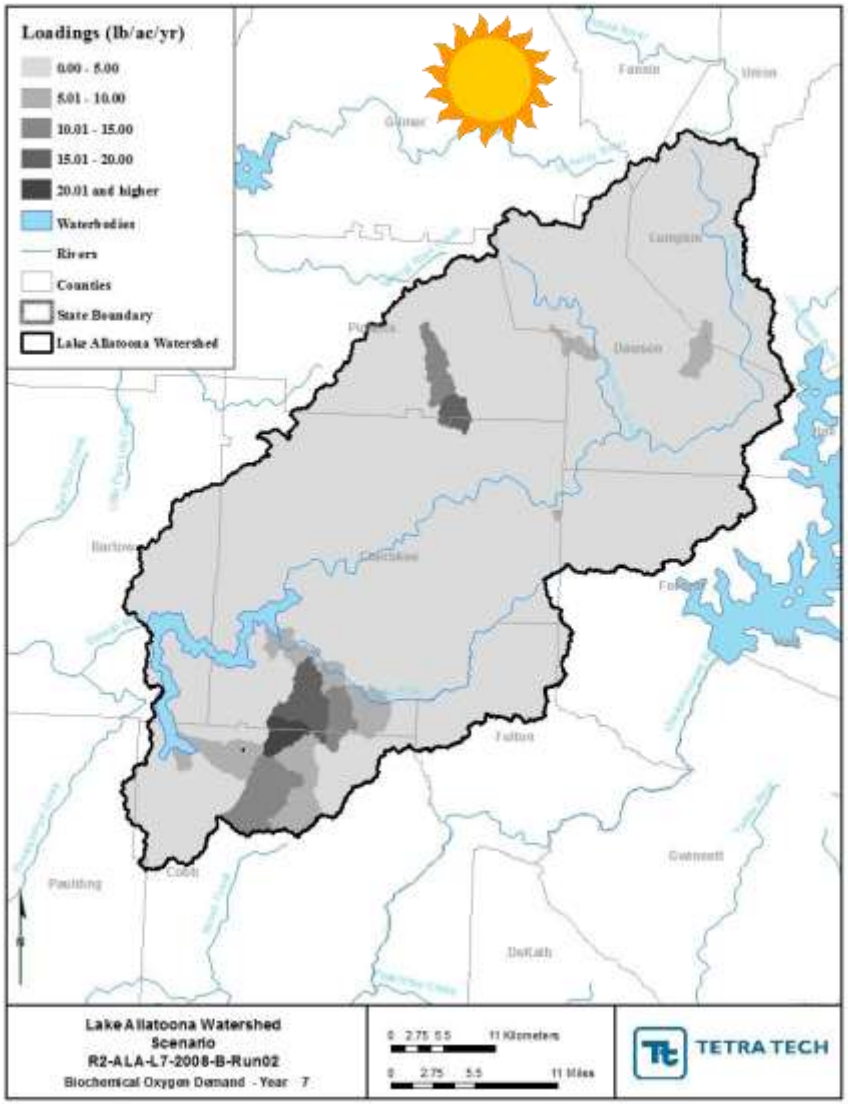


FUTURE CONDITIONS (2050)

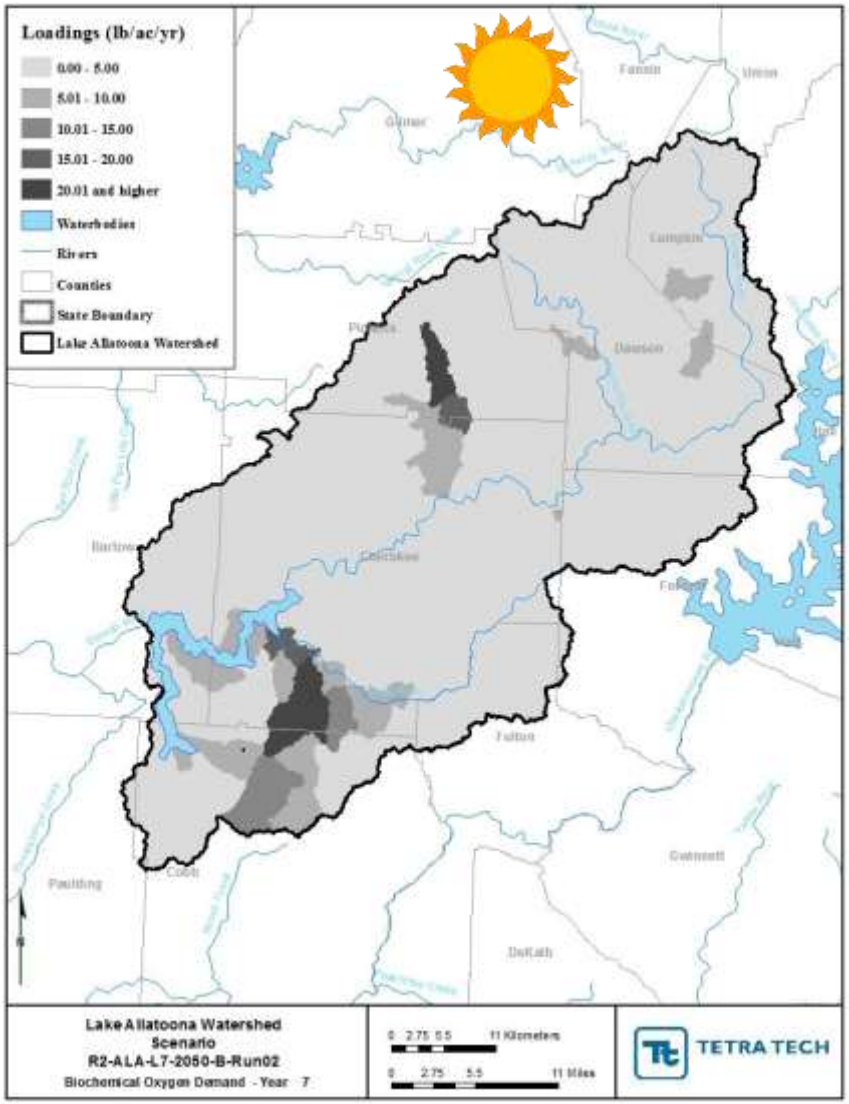


COOSA BASIN: LAKE ALLATOONA BOD "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

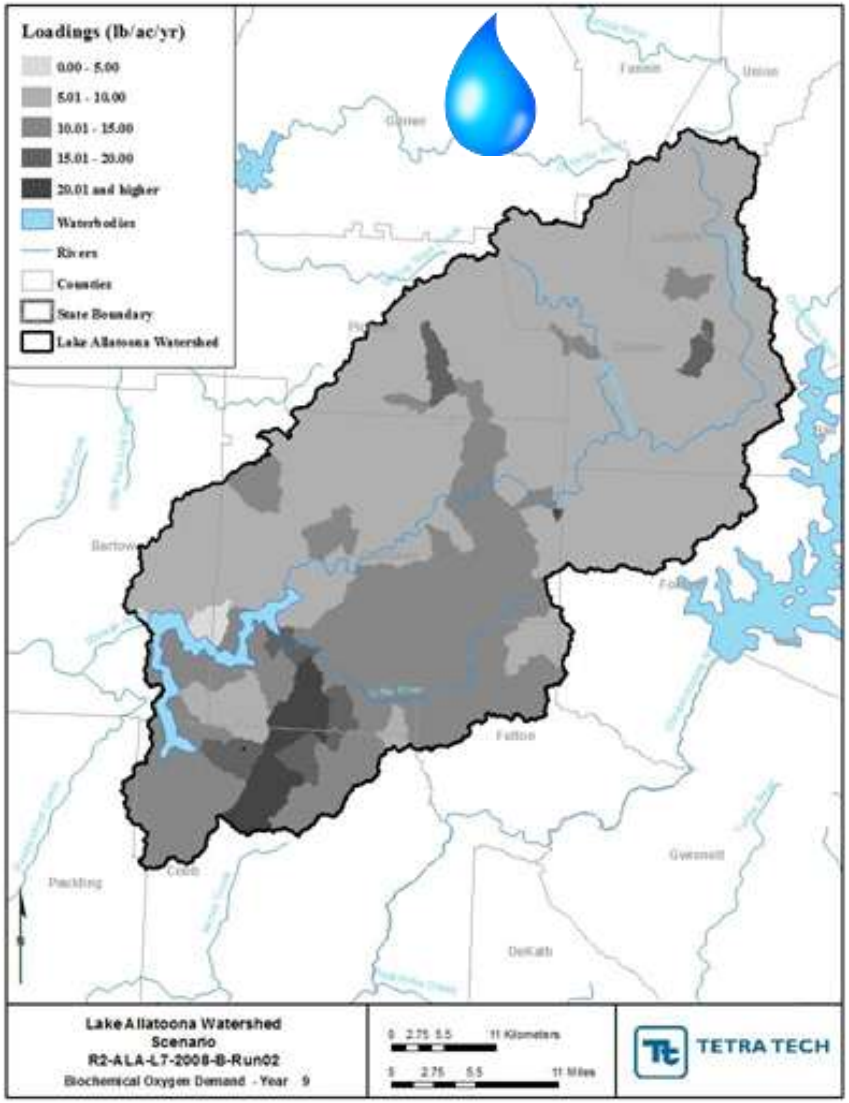


FUTURE CONDITIONS (2050)

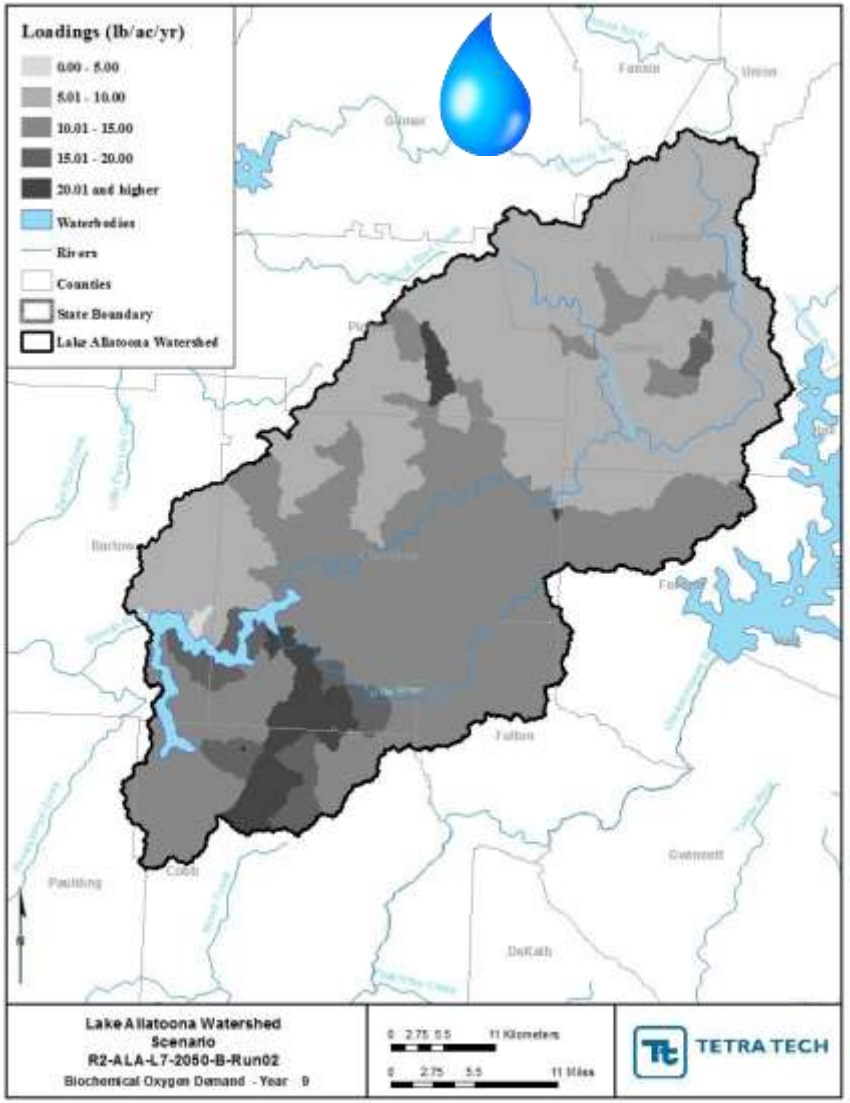


COOSA BASIN: LAKE ALLATOONA BOD "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

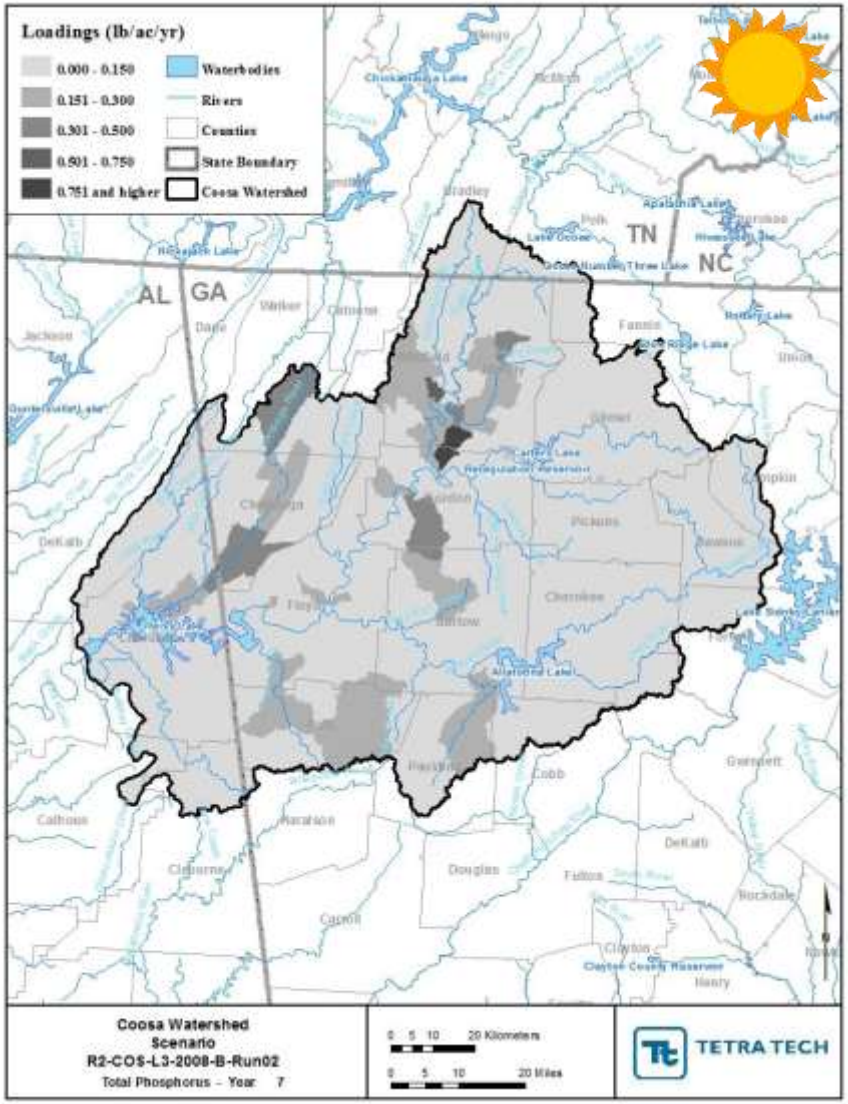


FUTURE CONDITIONS (2050)

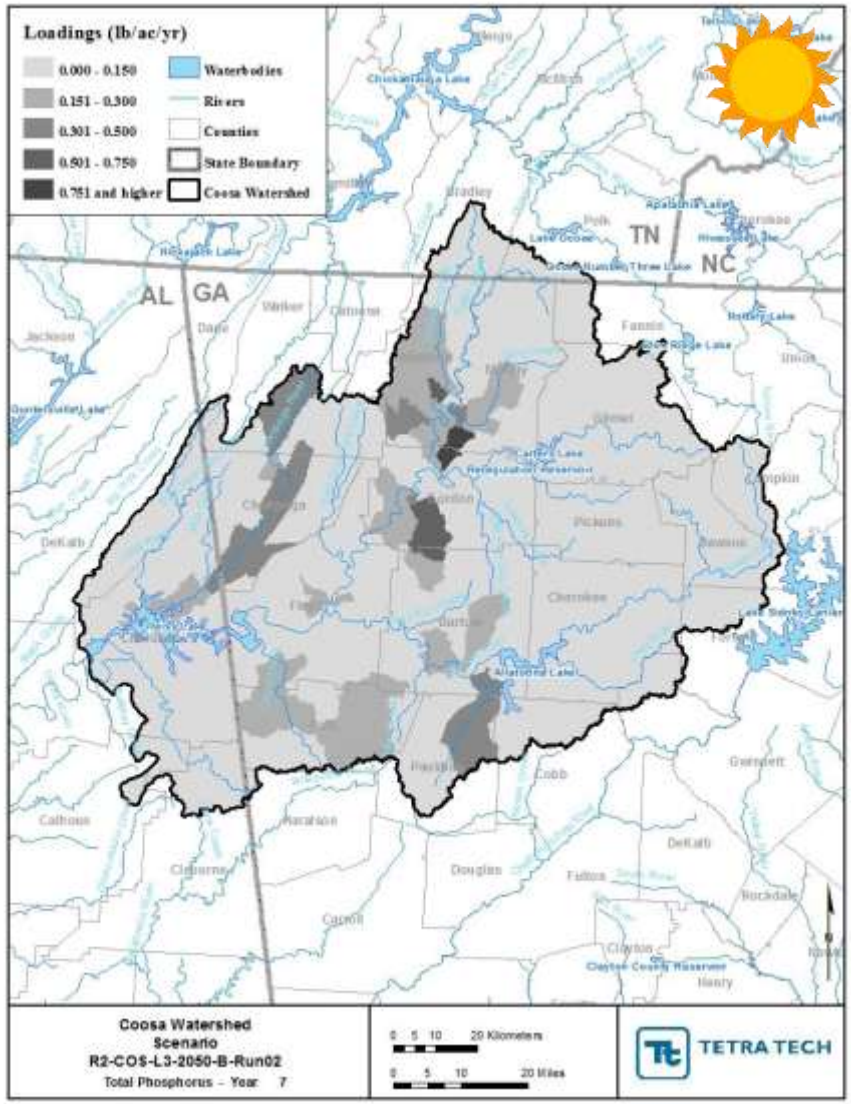


COOSA BASIN: TOTAL P "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

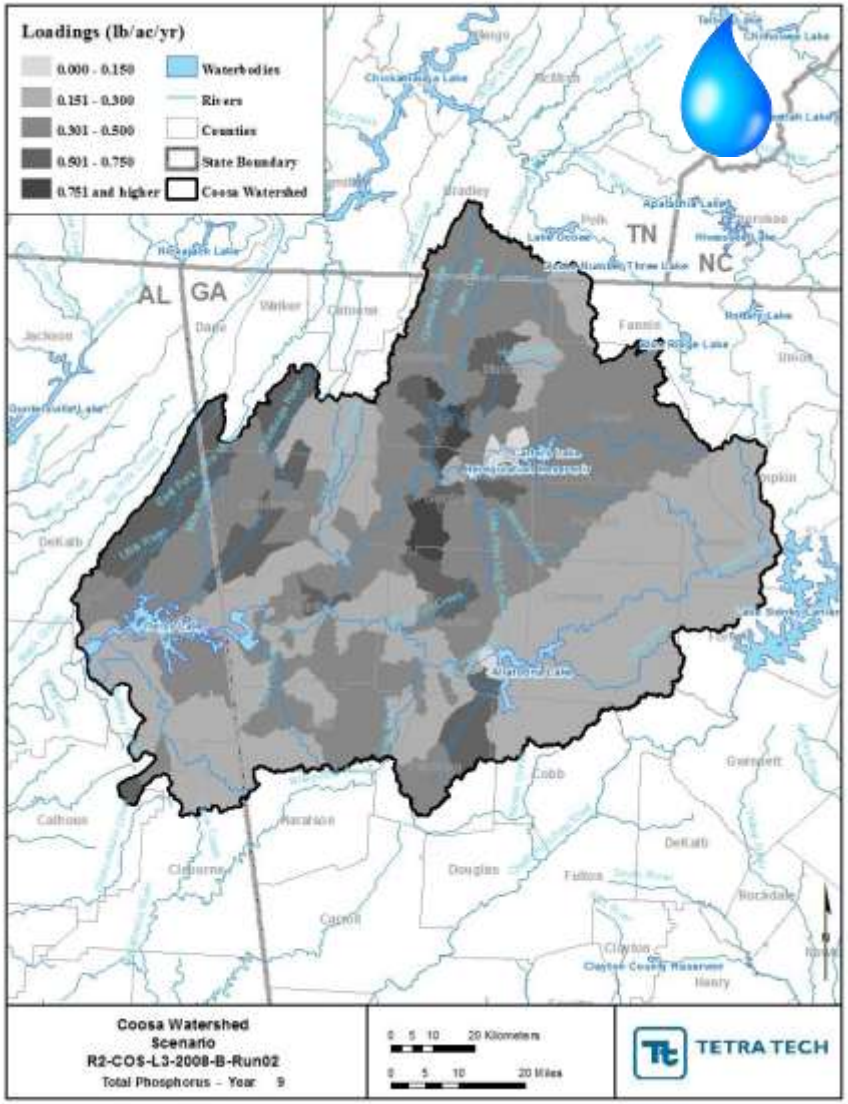


FUTURE CONDITIONS (2050)

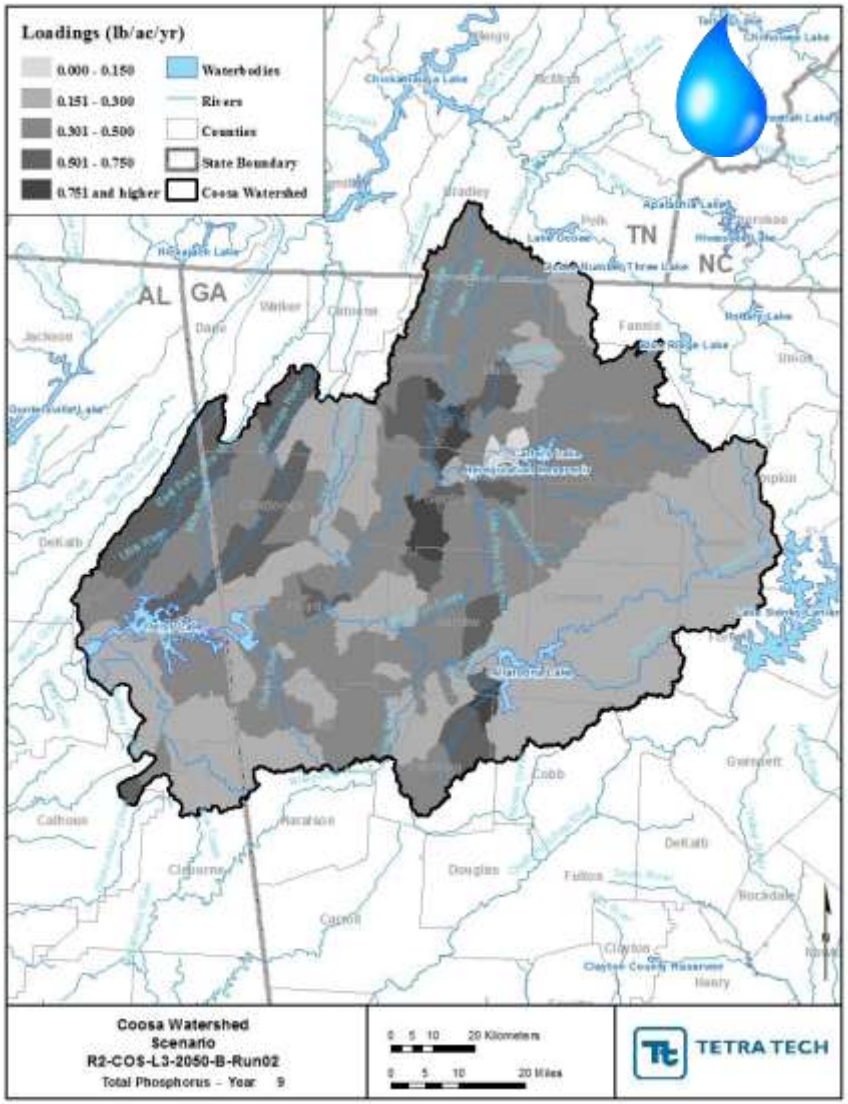


COOSA BASIN: TOTAL P "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

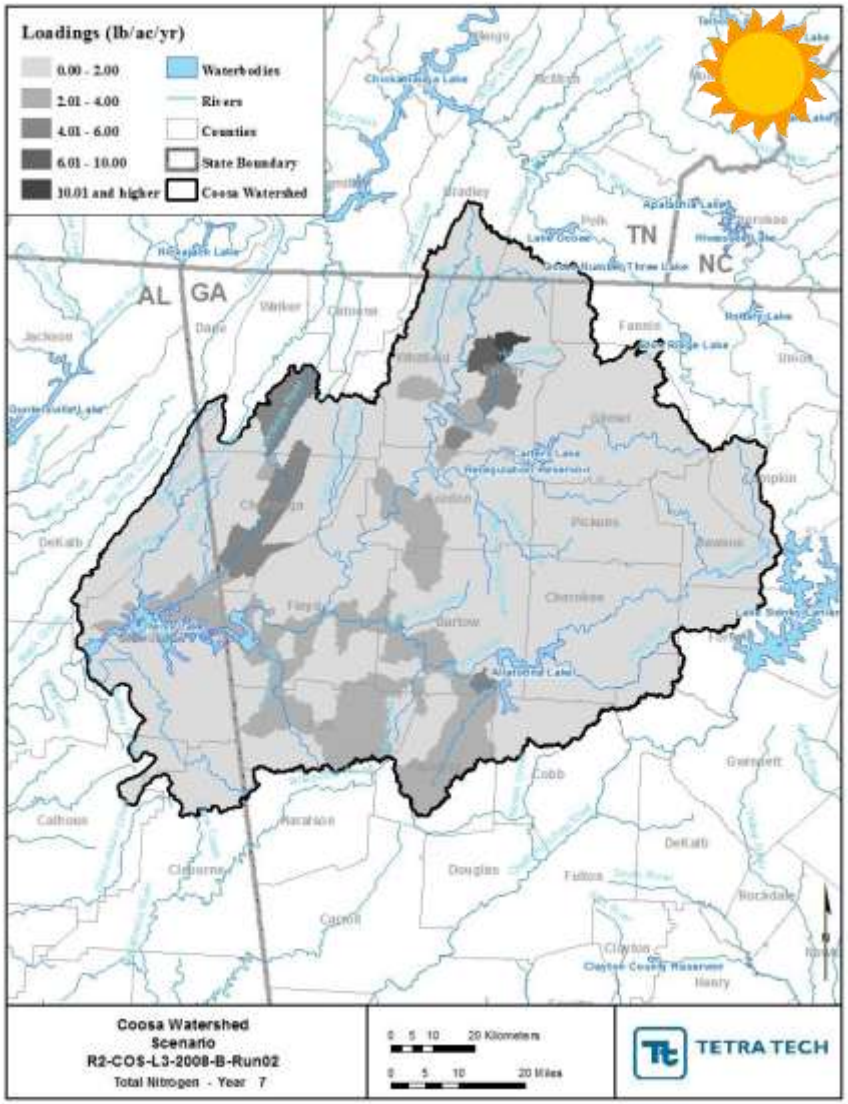


FUTURE CONDITIONS (2050)

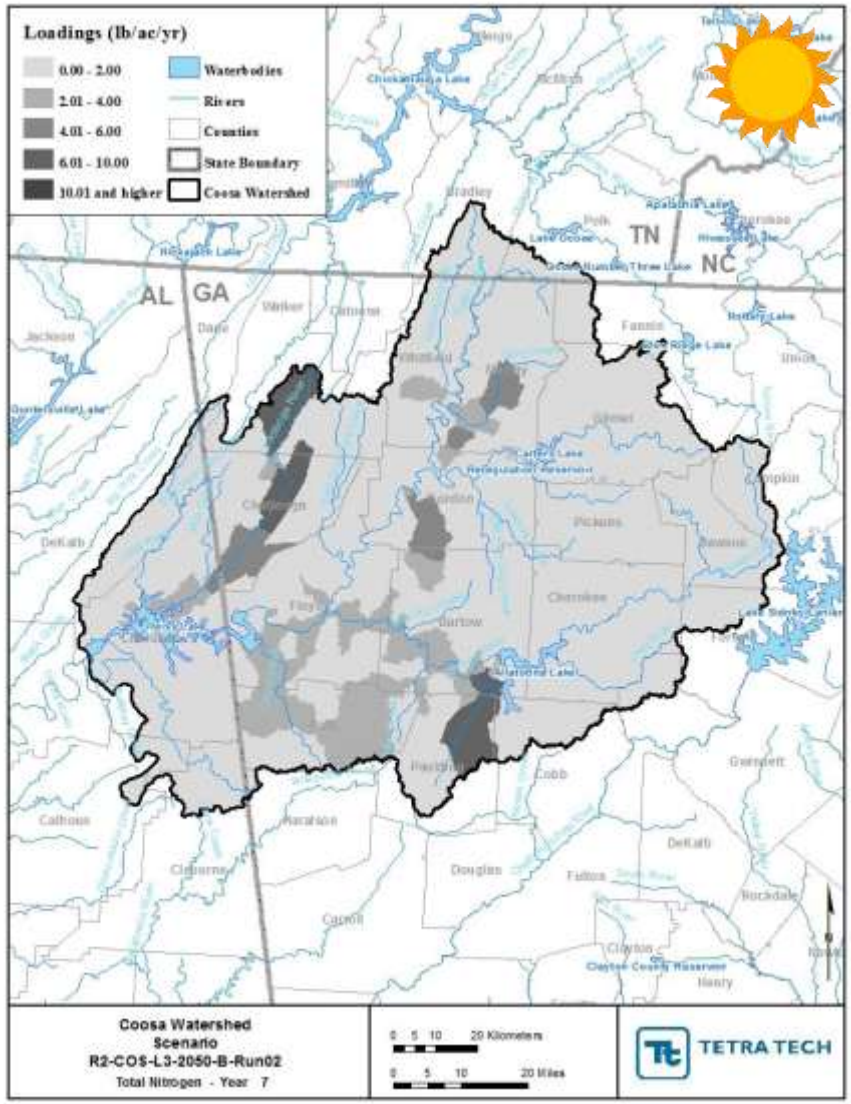


COOSA BASIN: TOTAL N "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

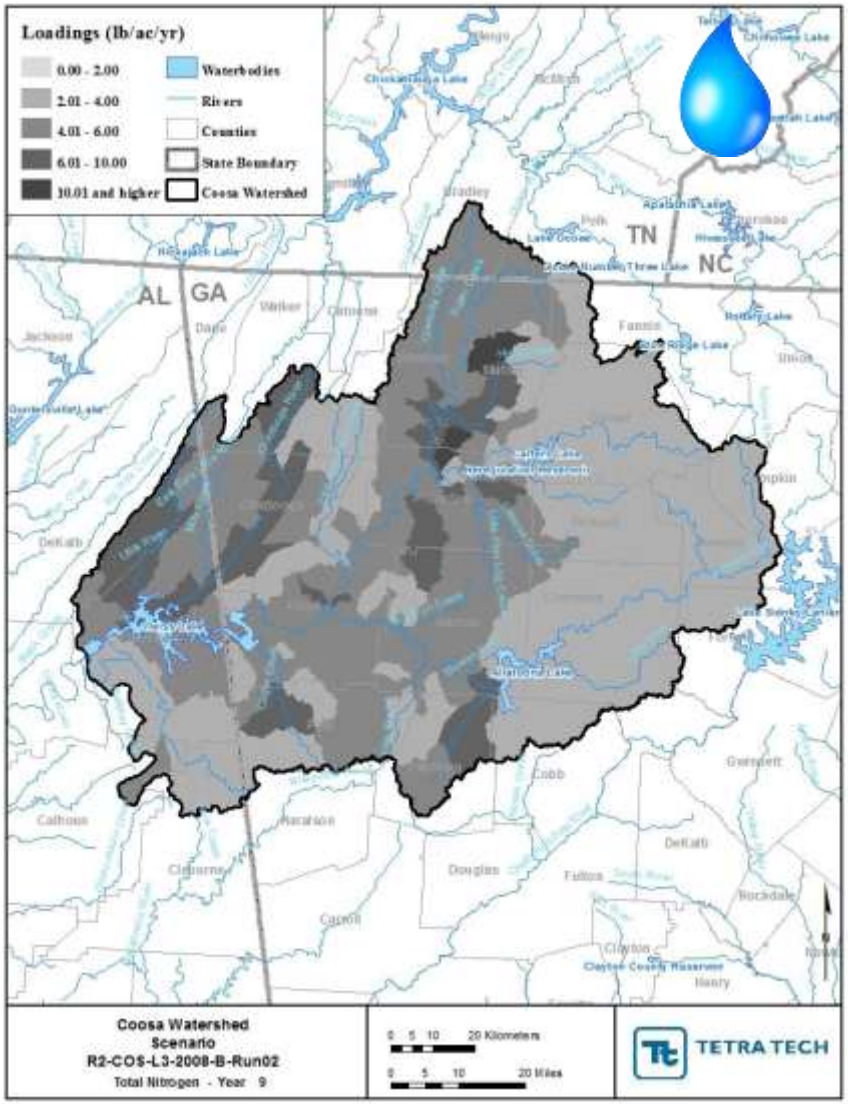


FUTURE CONDITIONS (2050)

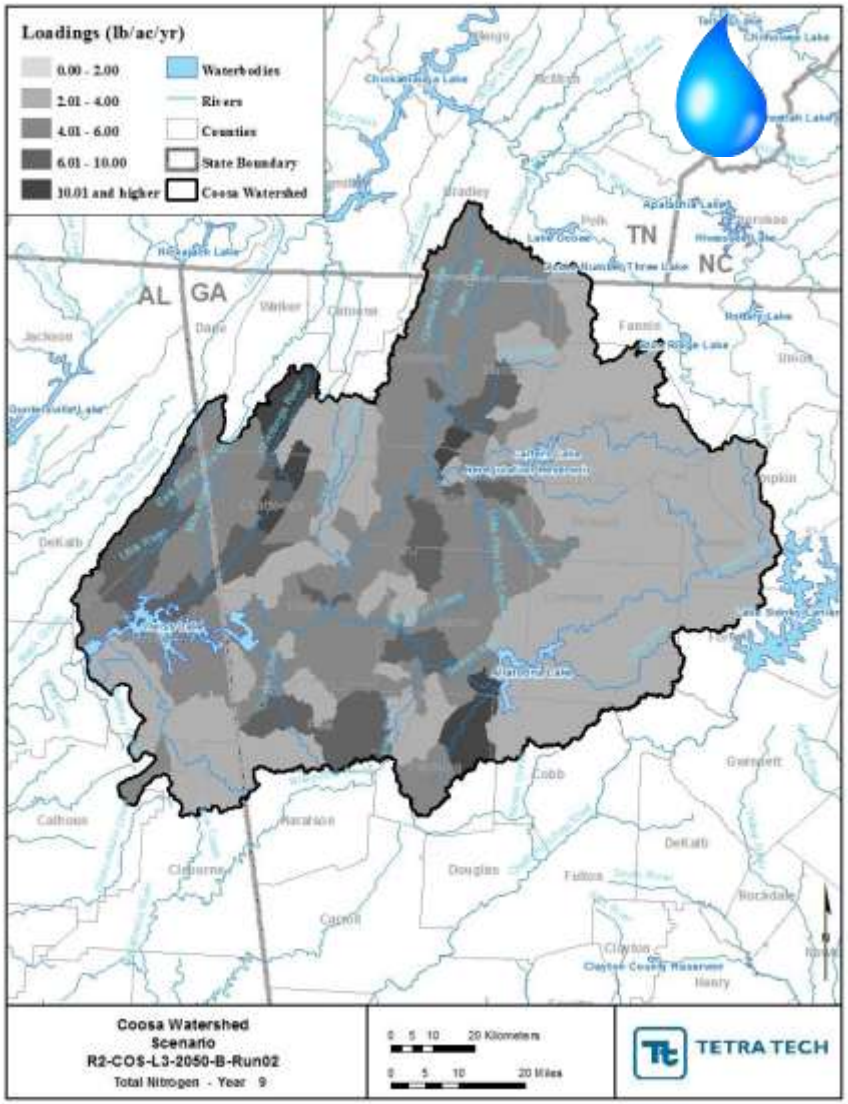


COOSA BASIN: TOTAL N "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

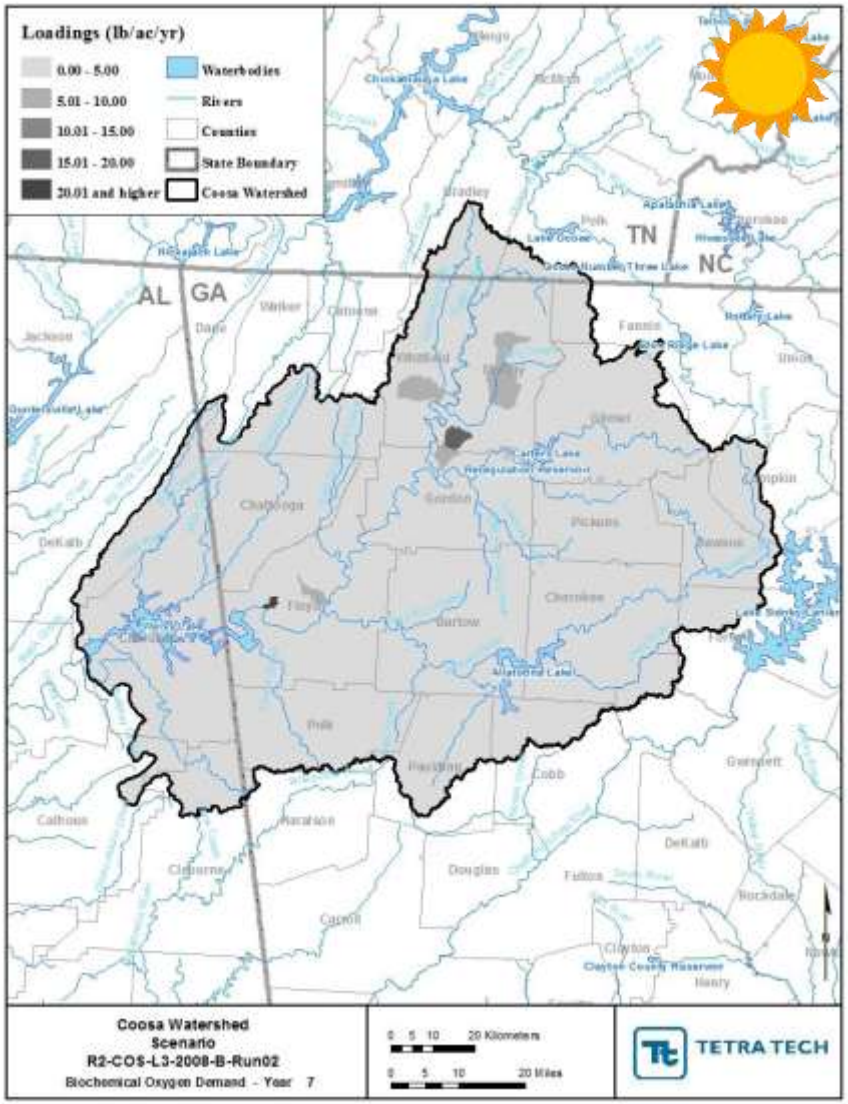


FUTURE CONDITIONS (2050)

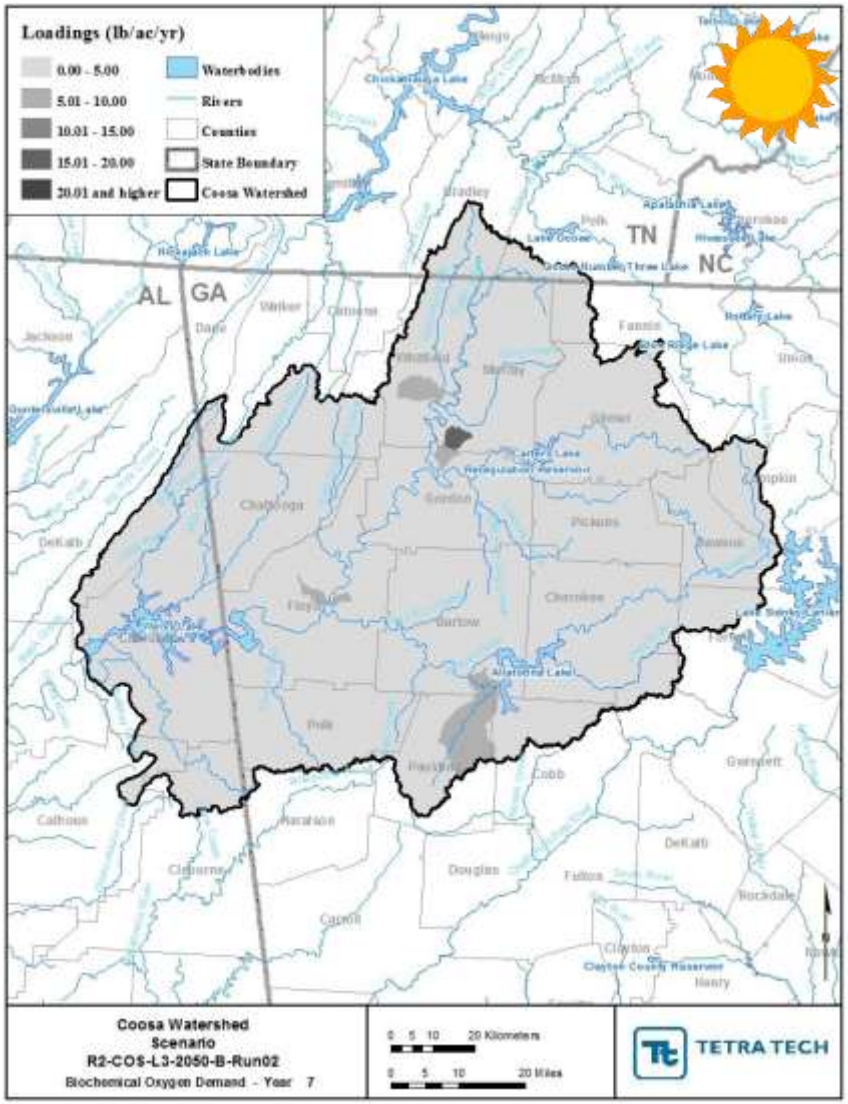


COOSA BASIN: BOD "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

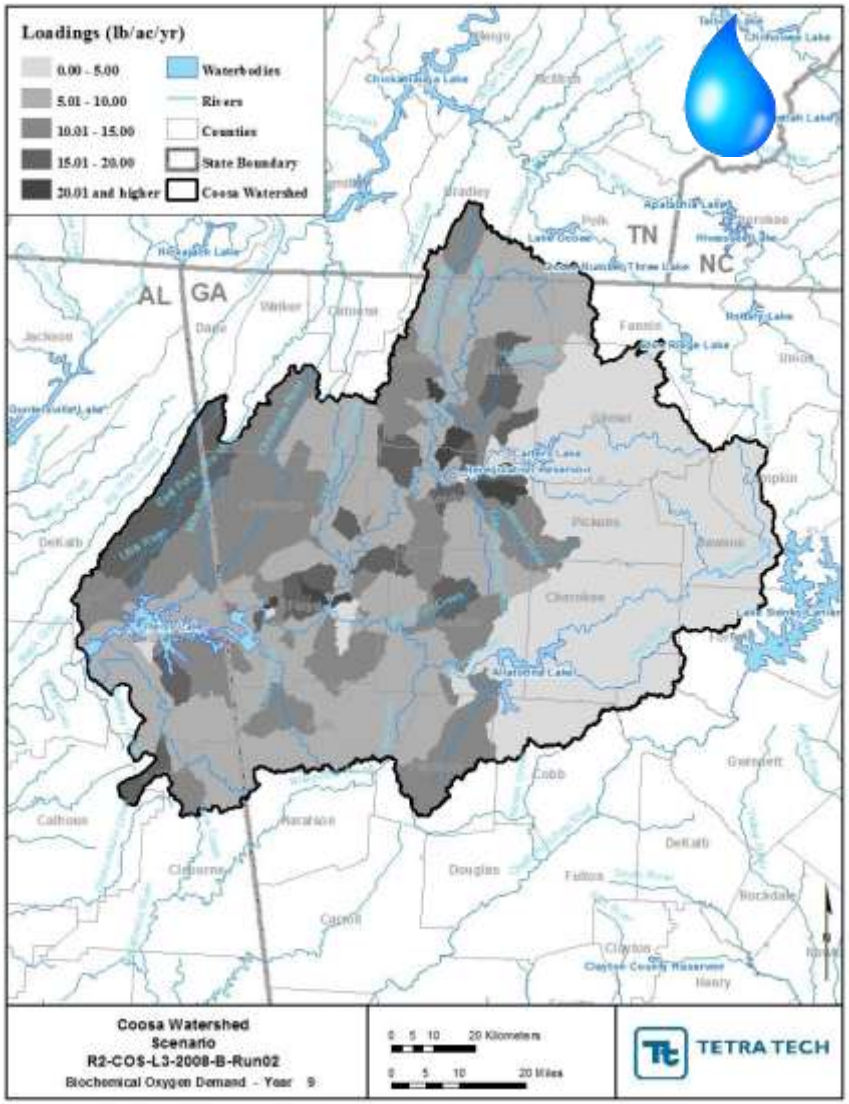


FUTURE CONDITIONS (2050)

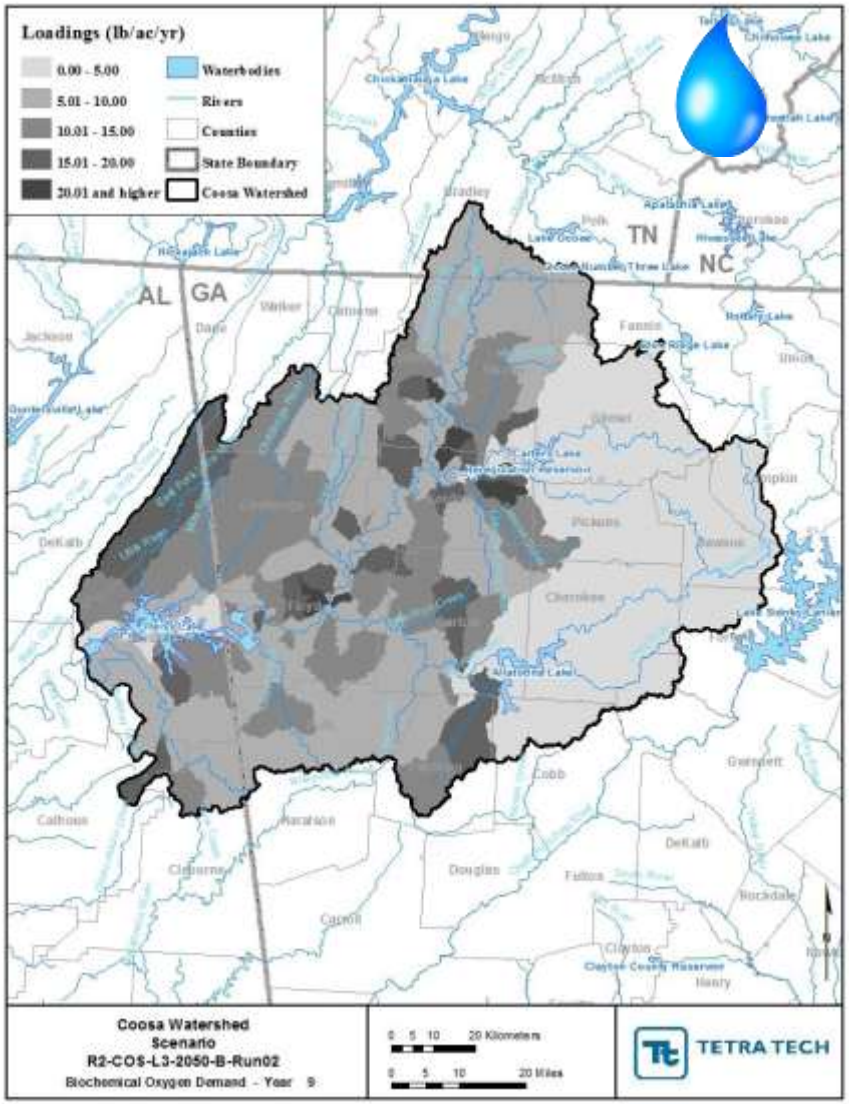


COOSA BASIN: BOD "HEAT MAPS" – WET YEAR

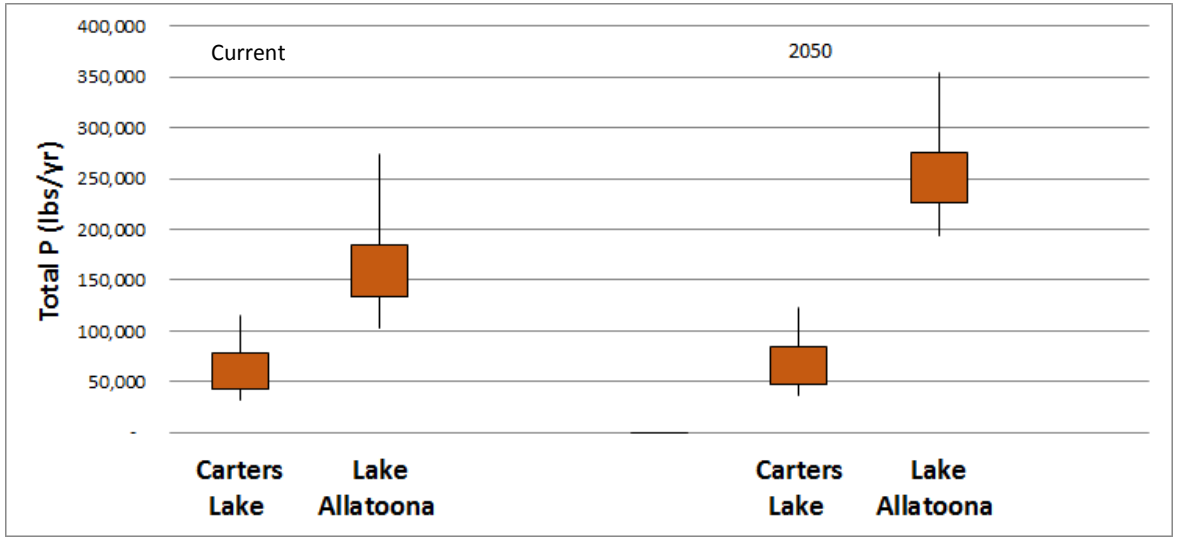
CURRENT CONDITIONS

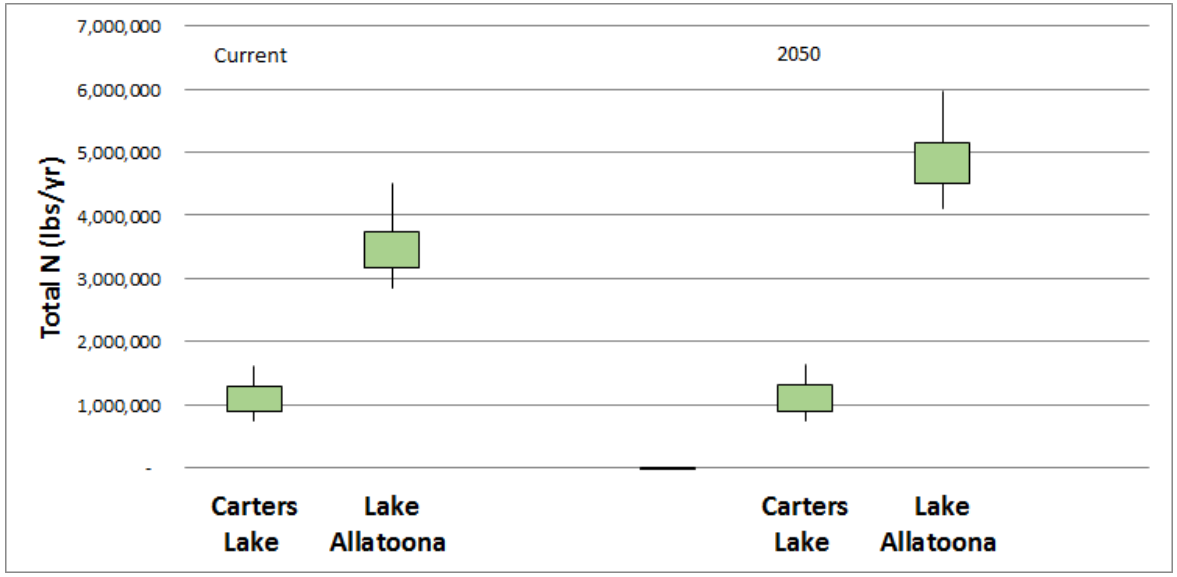


FUTURE CONDITIONS (2050)

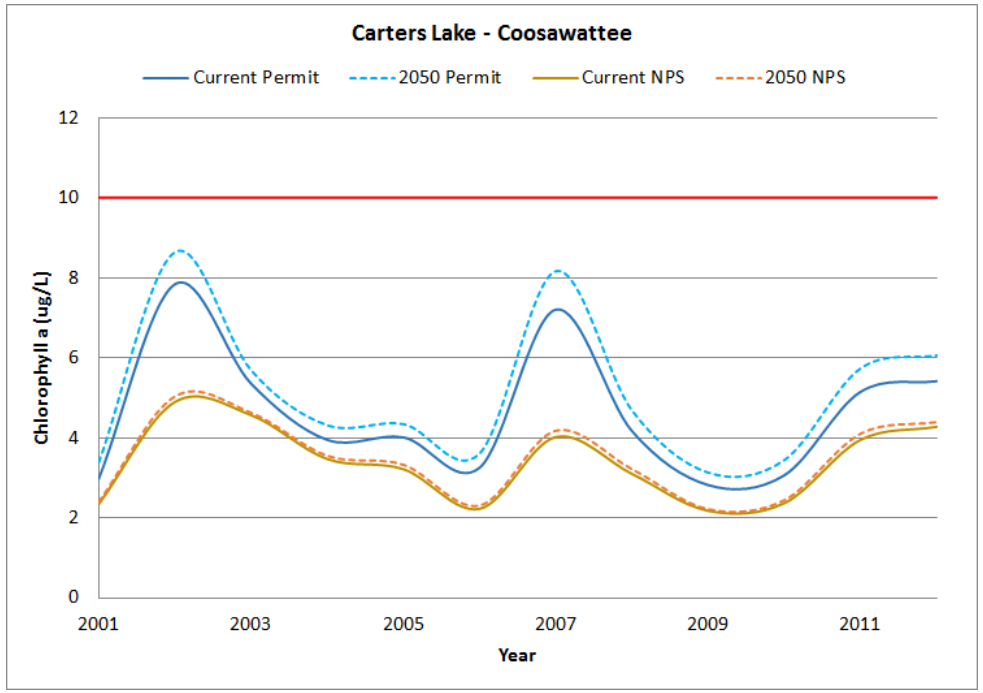


COOSA BASIN: NUTRIENT LOADS (lbs/yr) BEING DELIVERED TO THE LAKES



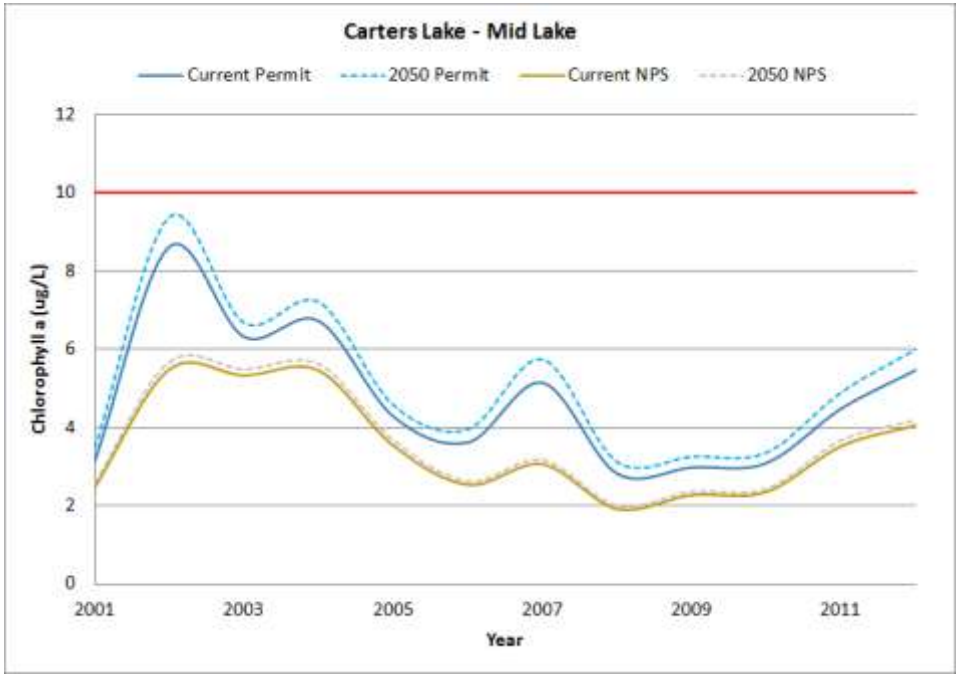


Carters Lake Coosawattee



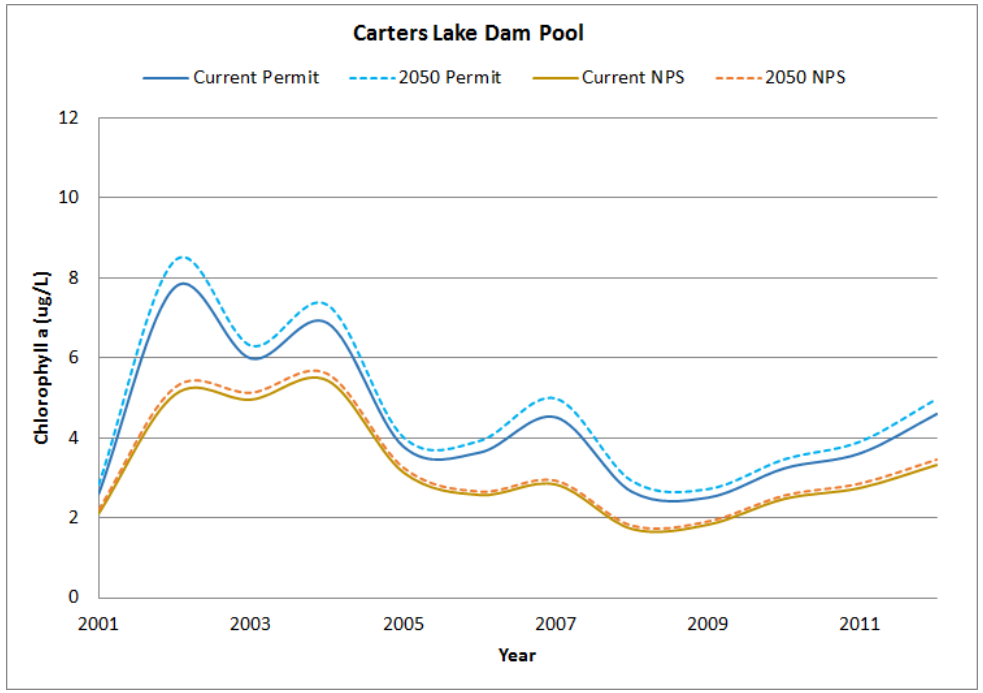
CURRENT AND FUTURE CARTERS LAKE CHLOROPHYLL *a* LEVELS FROM POINT AND NONPOINT SOURCES

Carters Lake Mid Lake Woodring Branch



Preliminary Model Results for 2008 and 2050 landuse with TMDL reductions.

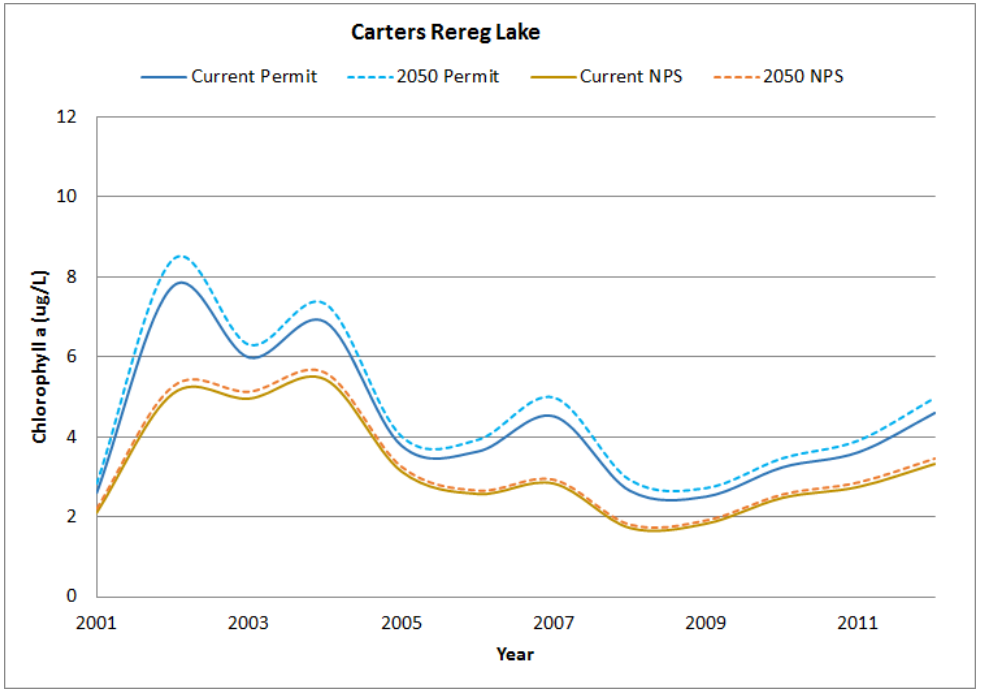
Carters Lake Dam Pool



CURRENT AND FUTURE CARTERS LAKE CHLOROPHYLL *a* LEVELS FROM POINT AND NONPOINT SOURCES

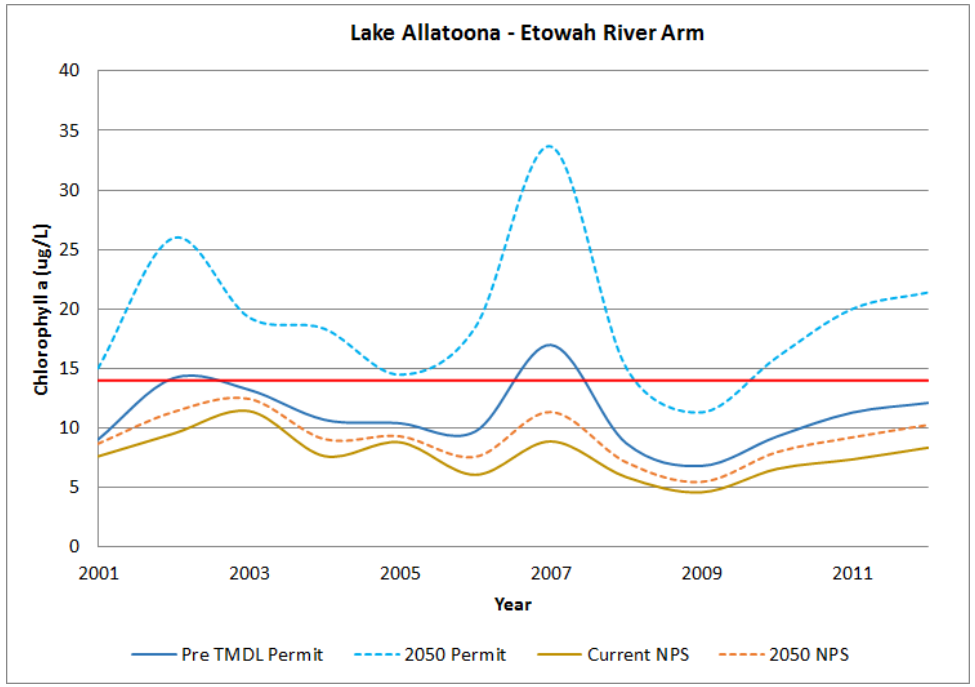
Preliminary Model Results for 2008 and 2050 landuse with TMDL reductions.

Carters Re-Reg Lake



Results presented are DRAFT and are subject to change.

Preliminary model results without the TMDL reductions.

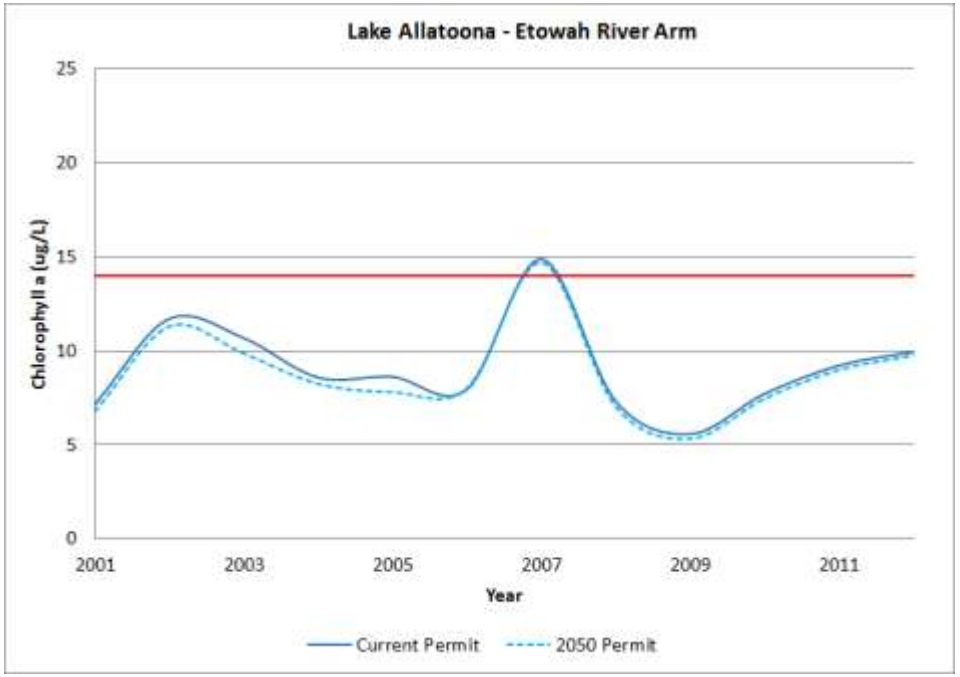


The Lake Allatoona Model has been revised from a WASP model to an EFDC model.

LAKE ALLATOONA - ETOWAH RIVER ARM

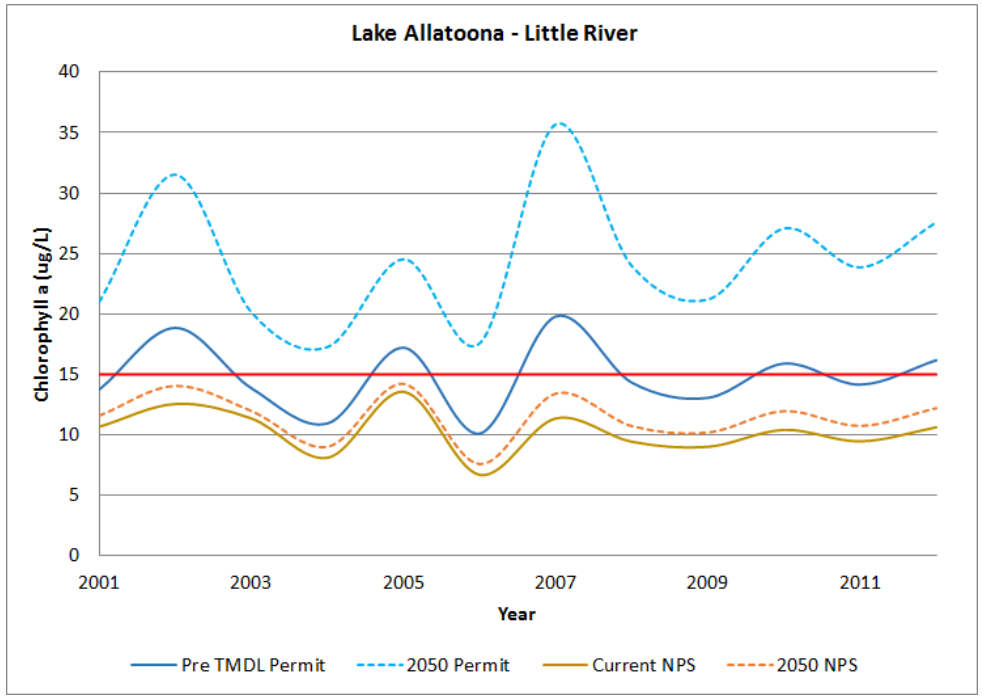
CURRENT AND FUTURE LAKE ALLATOONA CHLOROPHYLL *a* LEVELS

Preliminary Model Results for 2008 and 2050 landuse with TMDL reductions.



Results presented are DRAFT and are subject to change.

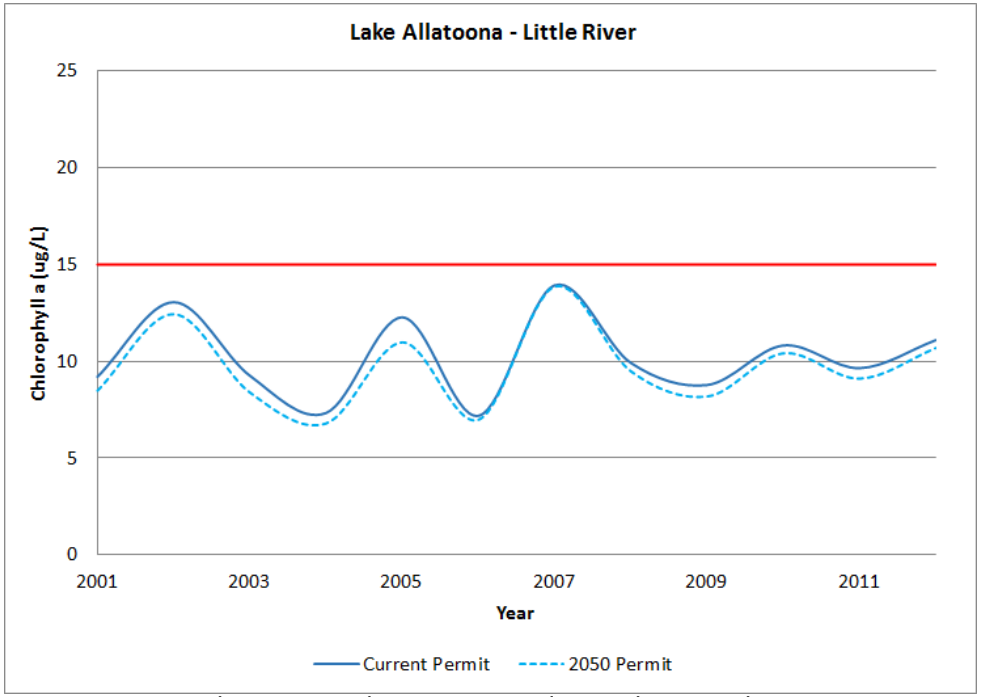
Preliminary model results without the TMDL reductions.



LAKE ALLATOONA - LITTLE RIVER

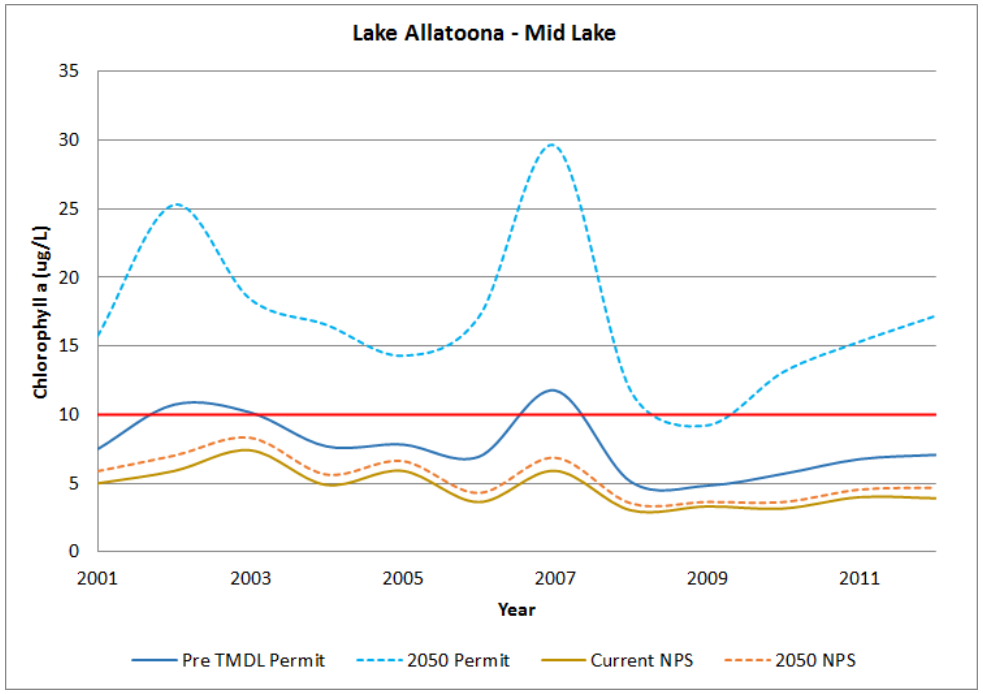
CURRENT AND FUTURE LAKE ALLATOONA CHLOROPHYLL *a* LEVELS

Preliminary Model Results for 2008 and 2050 landuse with TMDL reductions.



Results presented are DRAFT and are subject to change.

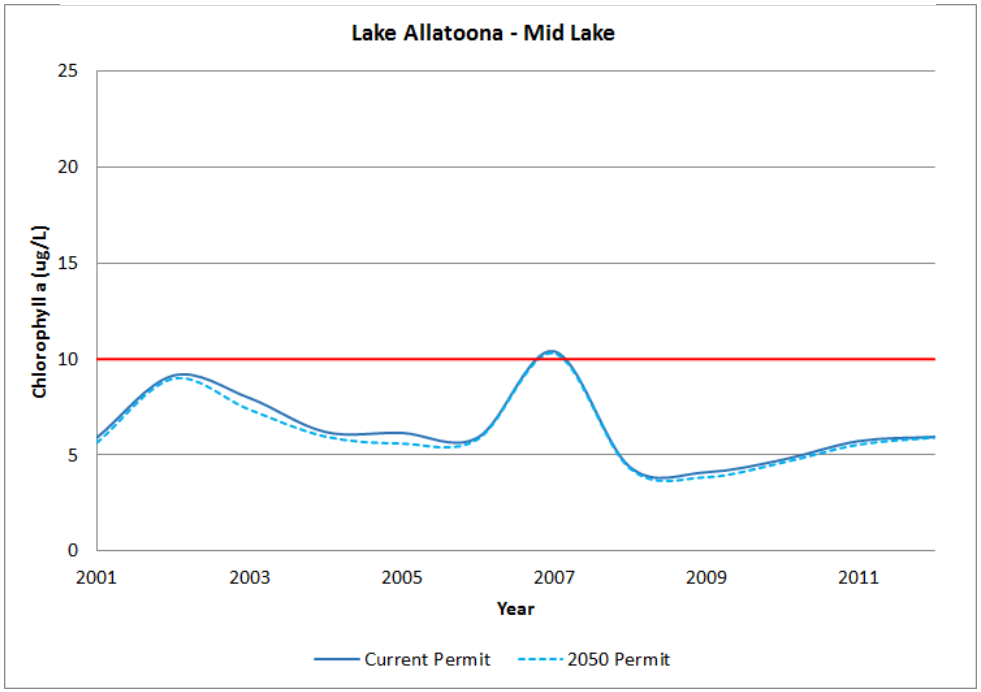
Preliminary model results without the TMDL reductions.



LAKE ALLATOONA - MID LAKE

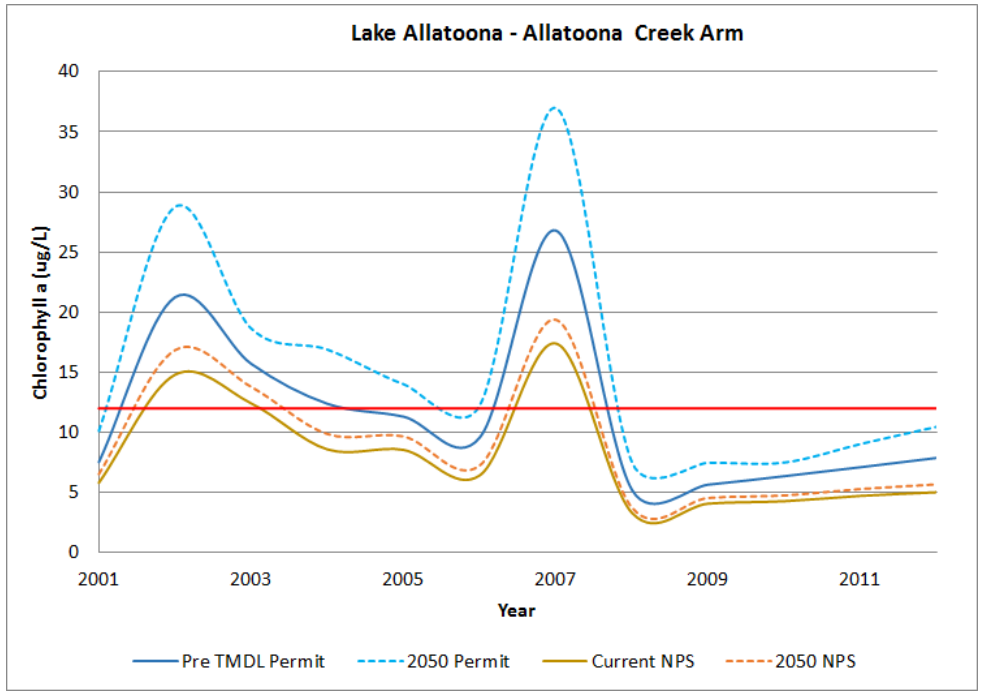
CURRENT AND FUTURE LAKE ALLATOONA CHLOROPHYLL *a* LEVELS

Preliminary Model Results for 2008 and 2050 landuse with TMDL reductions.



Results presented are DRAFT and are subject to change.

Preliminary model results without the TMDL reductions.

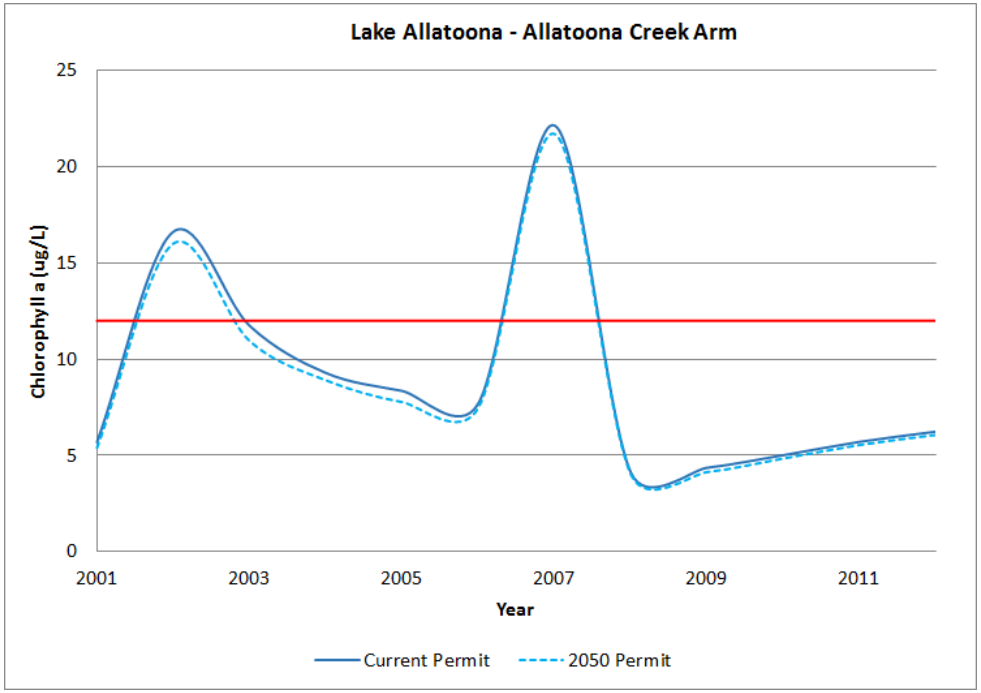


Based on the revised EFDC Lake Allatoona Model, EPD may need to revisit the chlorophyll *a* criteria for this location if monitoring data indicate a problem.

LAKE ALLATOONA - ALLATOONA CREEK ARM

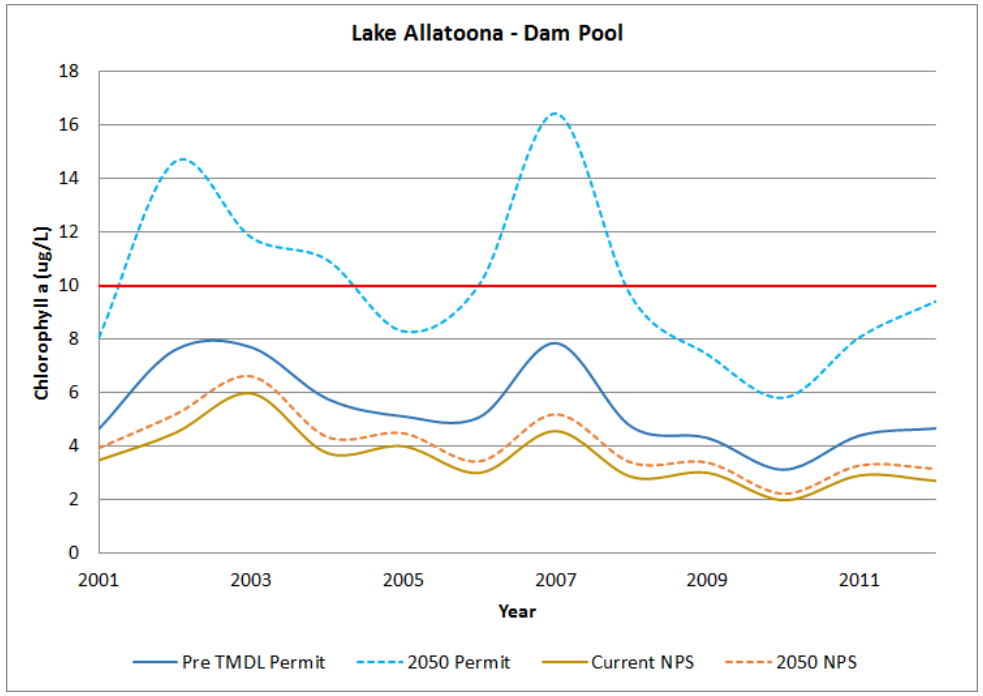
CURRENT AND FUTURE LAKE ALLATOONA CHLOROPHYLL *a* LEVELS

Preliminary Model Results for 2008 and 2050 landuse with TMDL reductions.



Results presented are DRAFT and are subject to change.

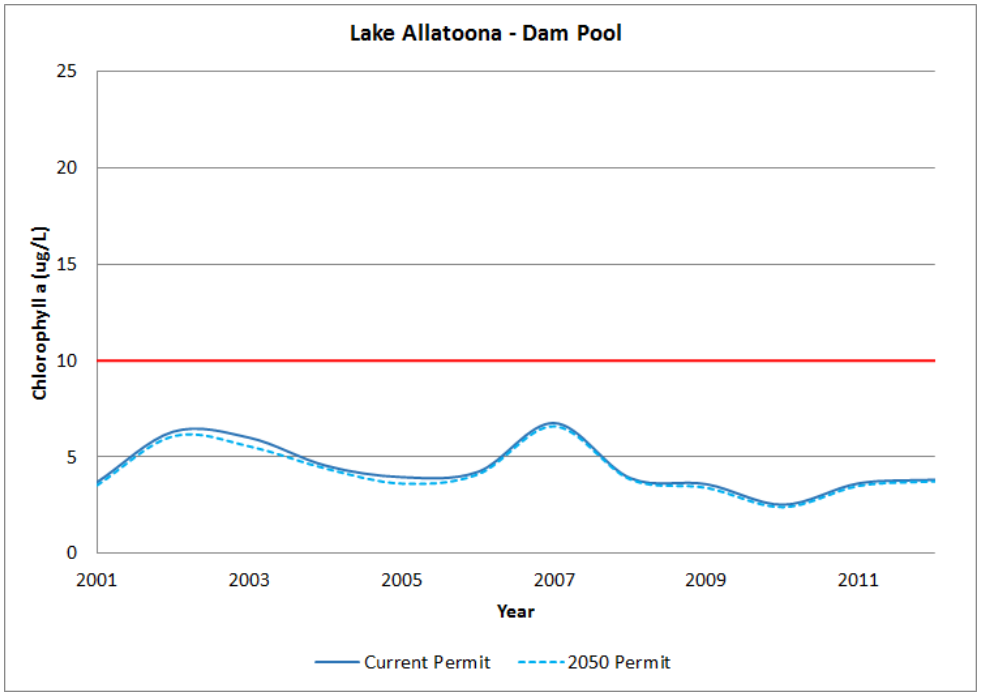
Preliminary model results without the TMDL reductions.



LAKE ALLATOONA DAM POOL

CURRENT AND FUTURE LAKE ALLATOONA CHLOROPHYLL *a* LEVELS

Preliminary Model Results for 2008 and 2050 landuse with TMDL reductions.



Results presented are DRAFT and are subject to change.

CURRENT AND FUTURE GROWING SEASON AVERAGE TOTAL N AND TOTAL P LEVELS

	Scenario	Carters Lake	Carters Rereg	Lake Allatoona
Total N (mg/L)	Current NPS	0.35	0.30	0.511*
	Current (PS+NPS) with TMDL	0.48	0.40	3.168
	2050 NPS	0.35	0.31	0.636*
	2050 (PS+NPS) with TMDL	0.49	0.41	3.124
Total P (mg/L)	Current NPS	0.027	0.019	0.039*
	Current (PS+NPS) with TMDL	0.030	0.021	0.039
	2050 NPS	0.028	0.020	0.042*
	2050 (PS+NPS) with TMDL	0.032	0.022	0.039

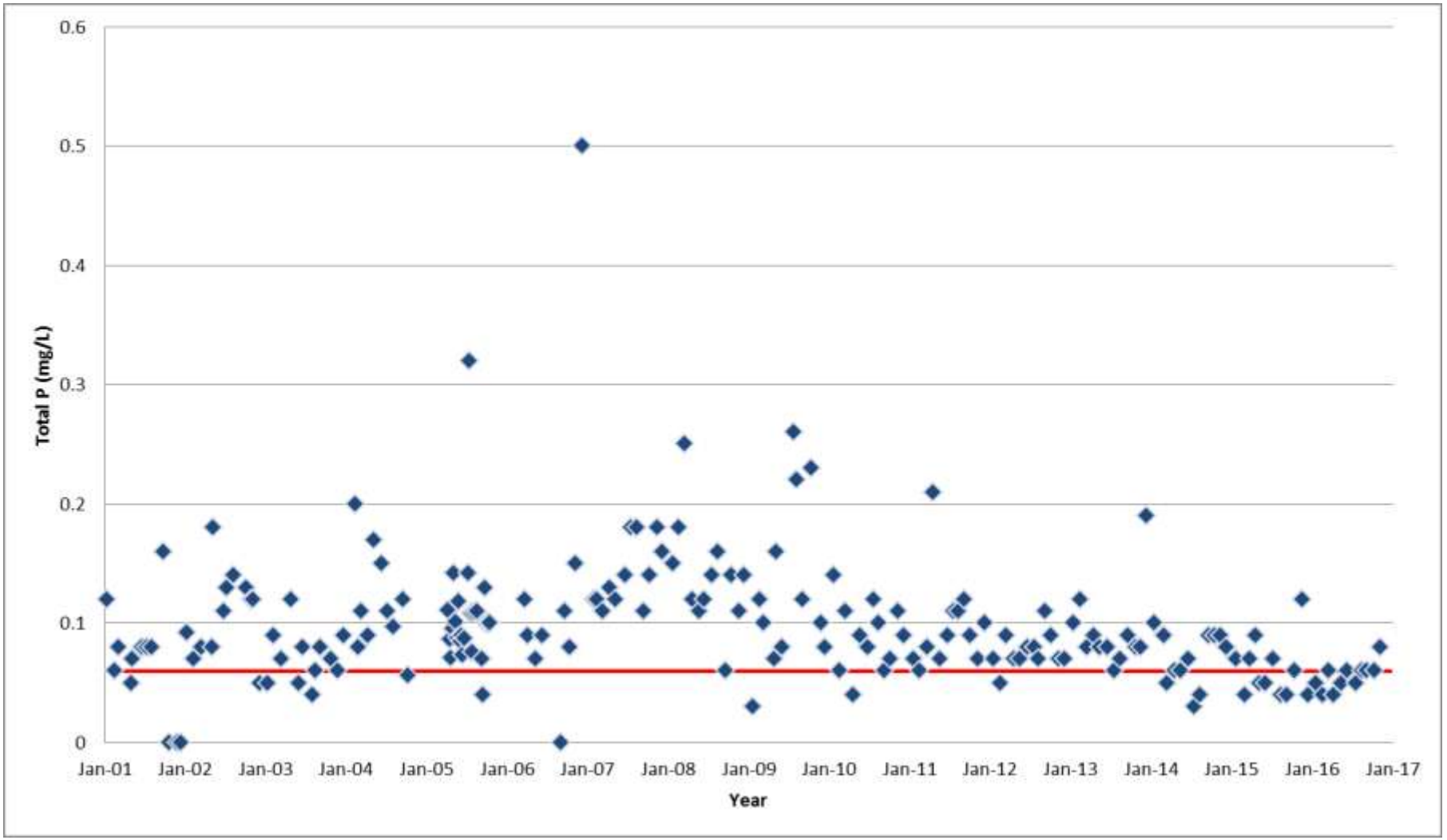
*** Without the TMDL Reductions.**

Carters Lake has a not to exceed Total N criteria of 4.0 mg/L in the photic zone

- **Max Total N (under Current Permit conditions): 1.35 mg/L**
- **Max Total N (under 2050 Permit conditions): 1.34 mg/L**

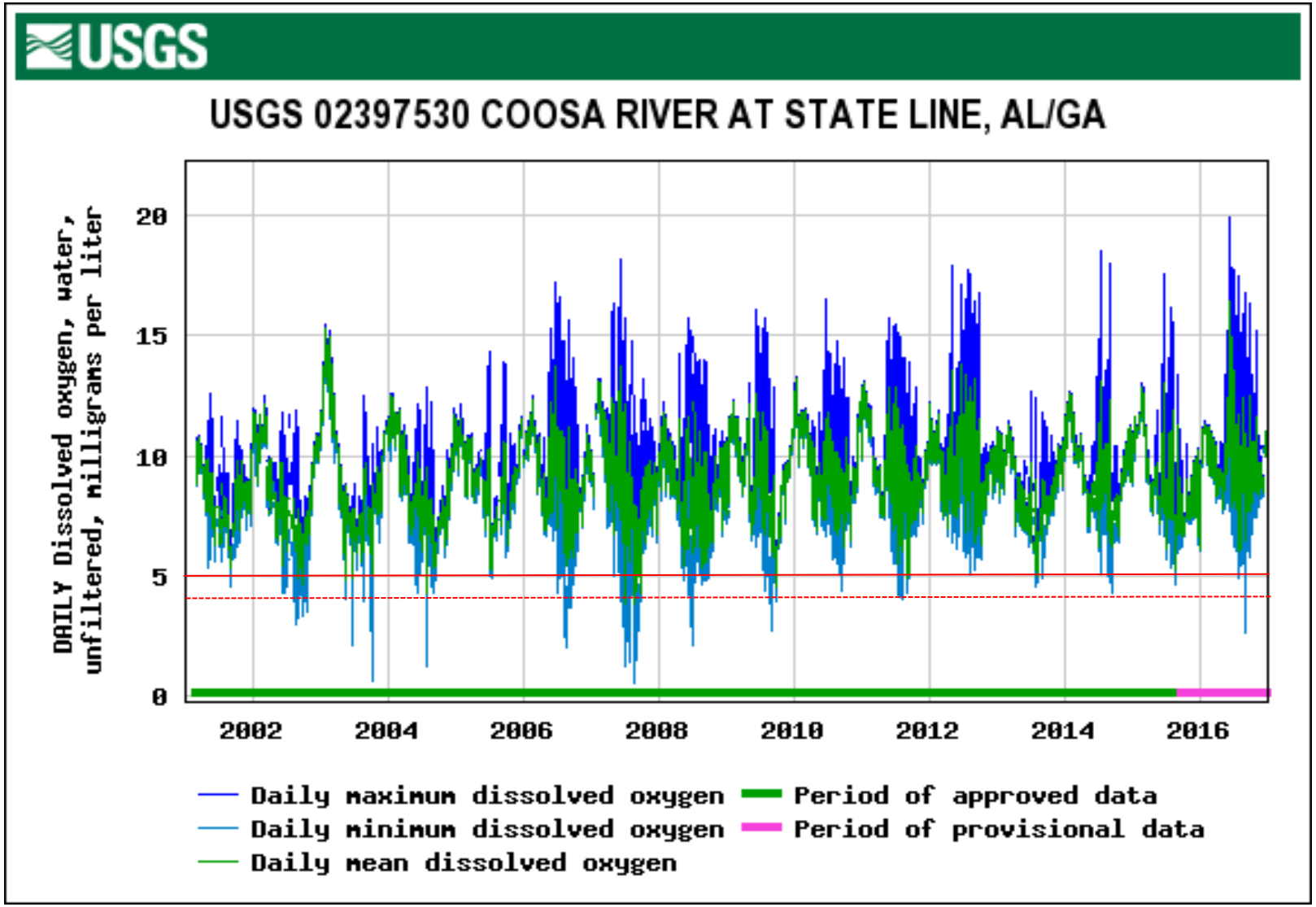
Lake Allatoona has a growing season average Total N criteria of 4 mg/L in the photic zone

Total P Levels in the Coosa River at the State Line



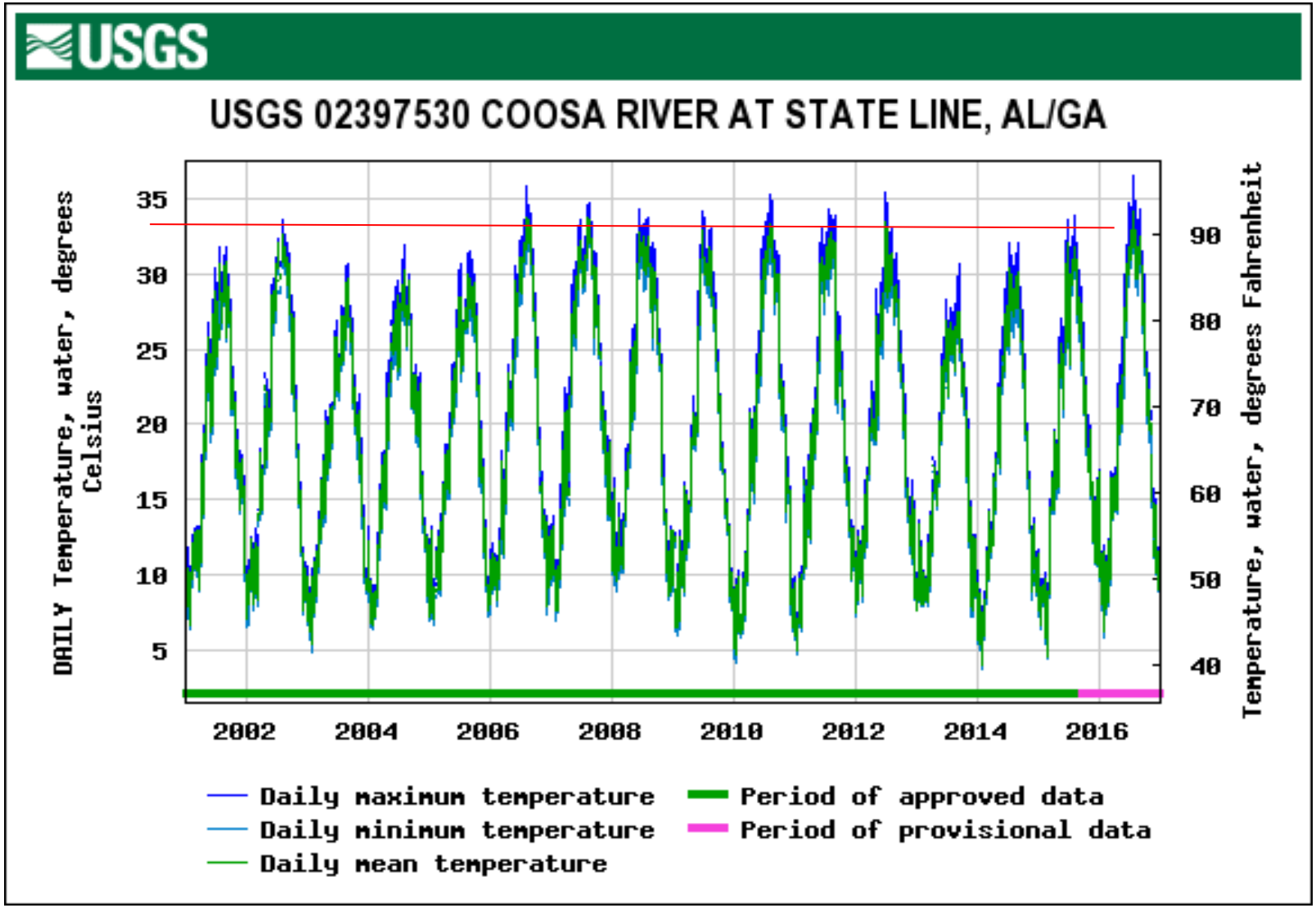
Lake Weiss Nutrient TMDL – Stateline Target 0.06 mg/L Total P

Dissolved Oxygen Levels in the Coosa River at the State Line



DO Standard: Daily Average of 5.0 mg/L and not less than 4.0 mg/L

Temperature Levels in the Coosa River at the State Line



Temperature Standard: Not to Exceed 90 °F or no increase more than 5 °F

LSPC (WATERSHED) MODEL RESULTS

TOTAL PHOSPHORUS (P)

TOTAL NITROGEN (N)

BIOCHEMICAL OXYGEN DEMAND (BOD)

EFDC (LAKE) MODEL RESULTS

CHOROPHYLL A

TOTAL PHOSPHORUS (P)

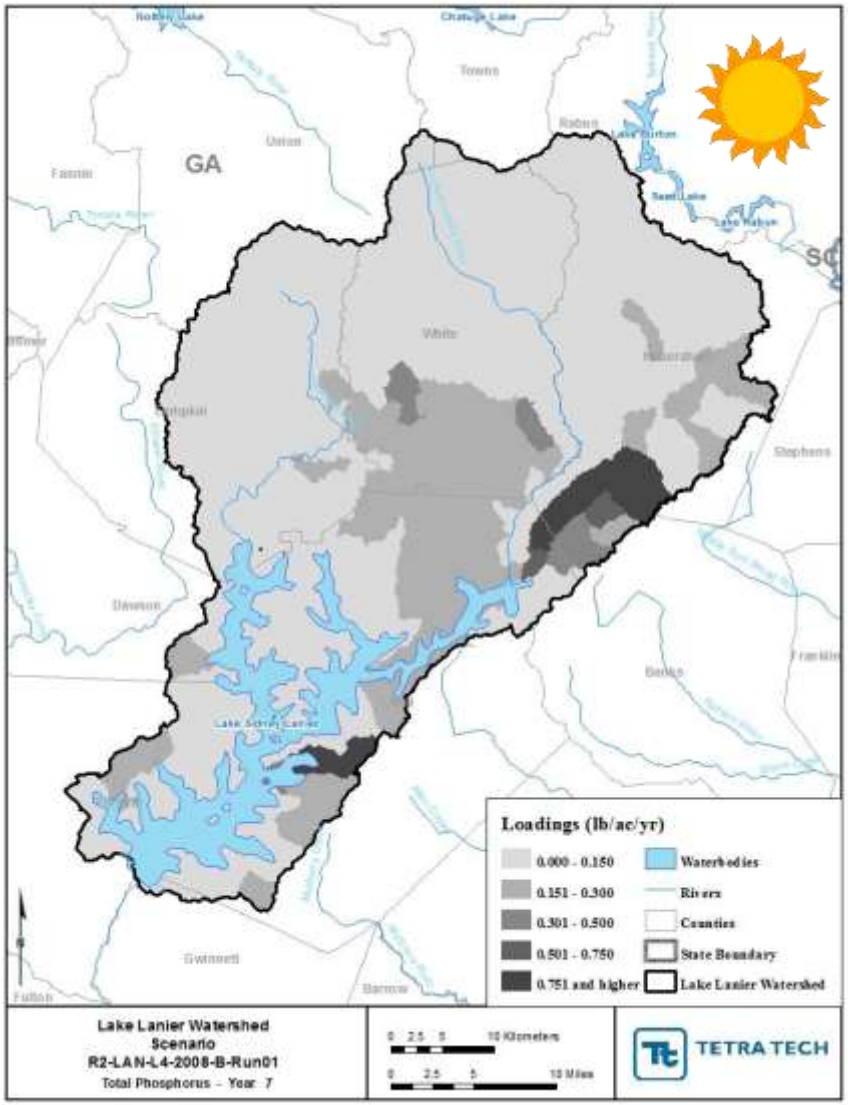
TOTAL NITROGEN (N)

CURRENT & FUTURE CONDITIONS

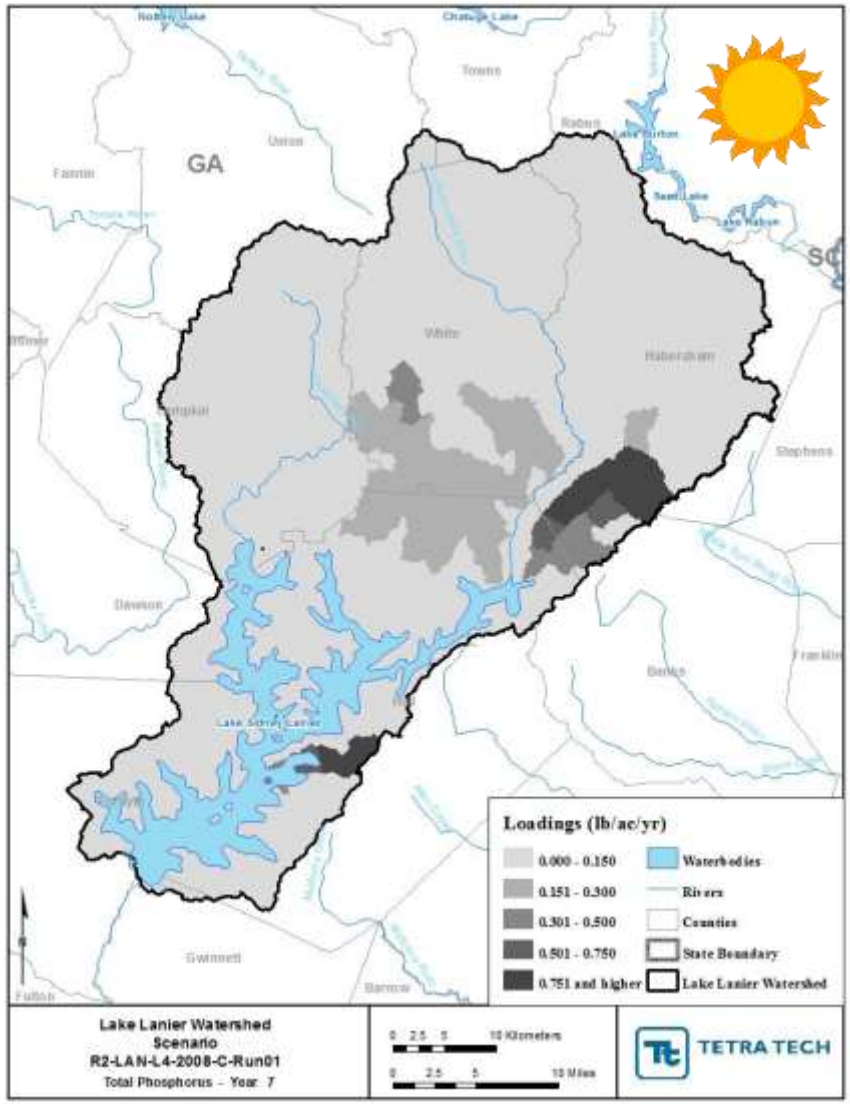
LANIER CHATTAHOOCHEE BASIN

LANIER CHATTAHOOCHEE BASIN: TOTAL P "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

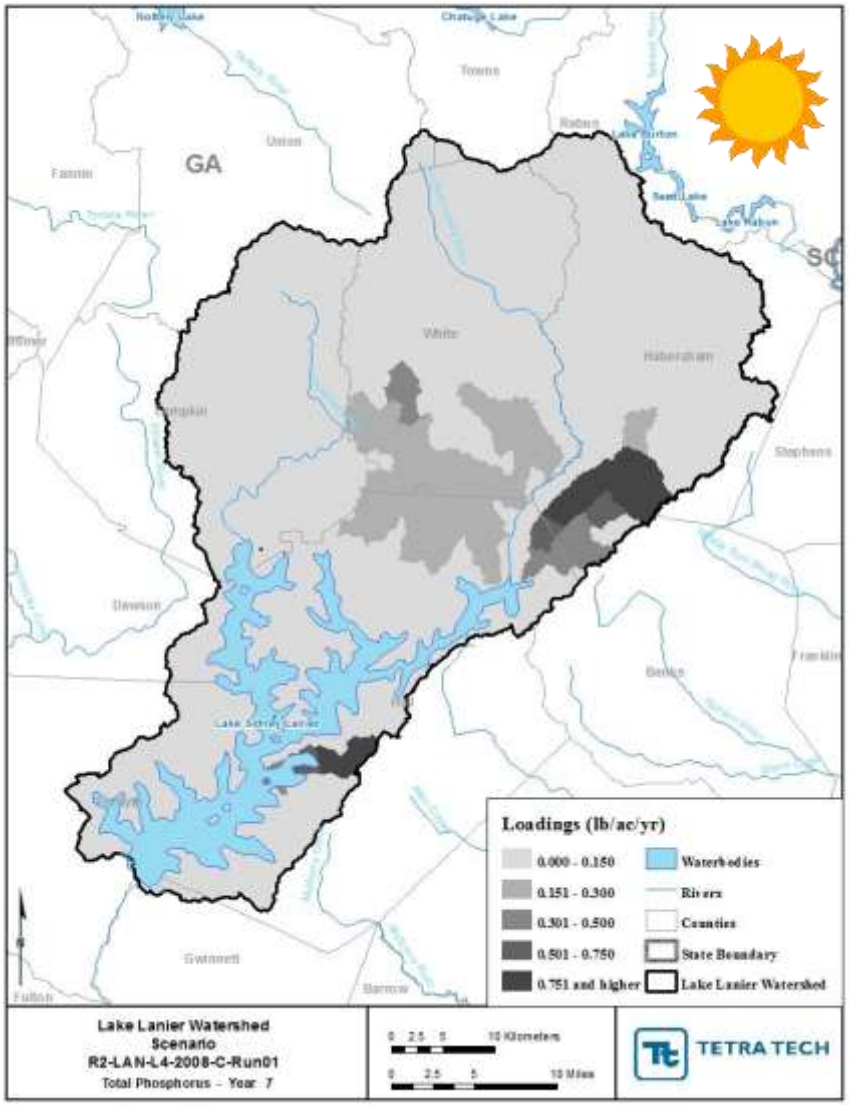


TMDL

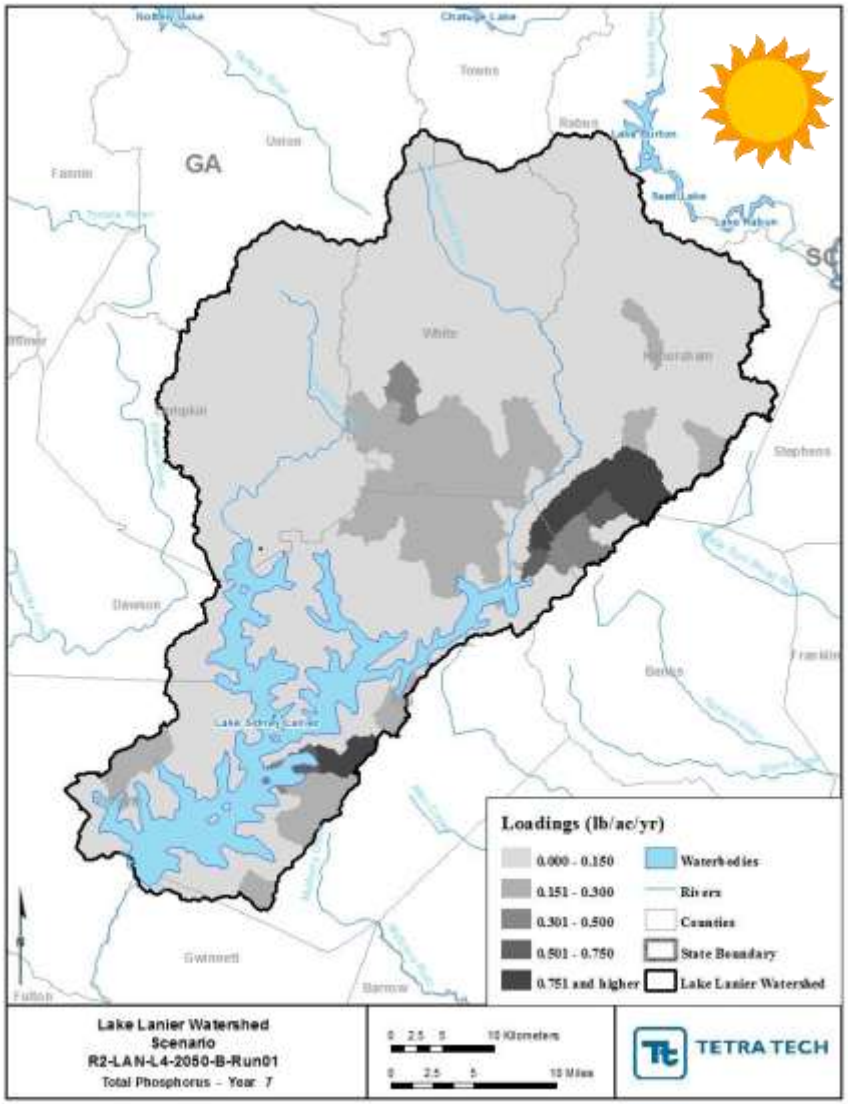


LANIER CHATTAHOOCHEE BASIN: TOTAL P "HEAT MAPS" – DRY YEAR

TMDL

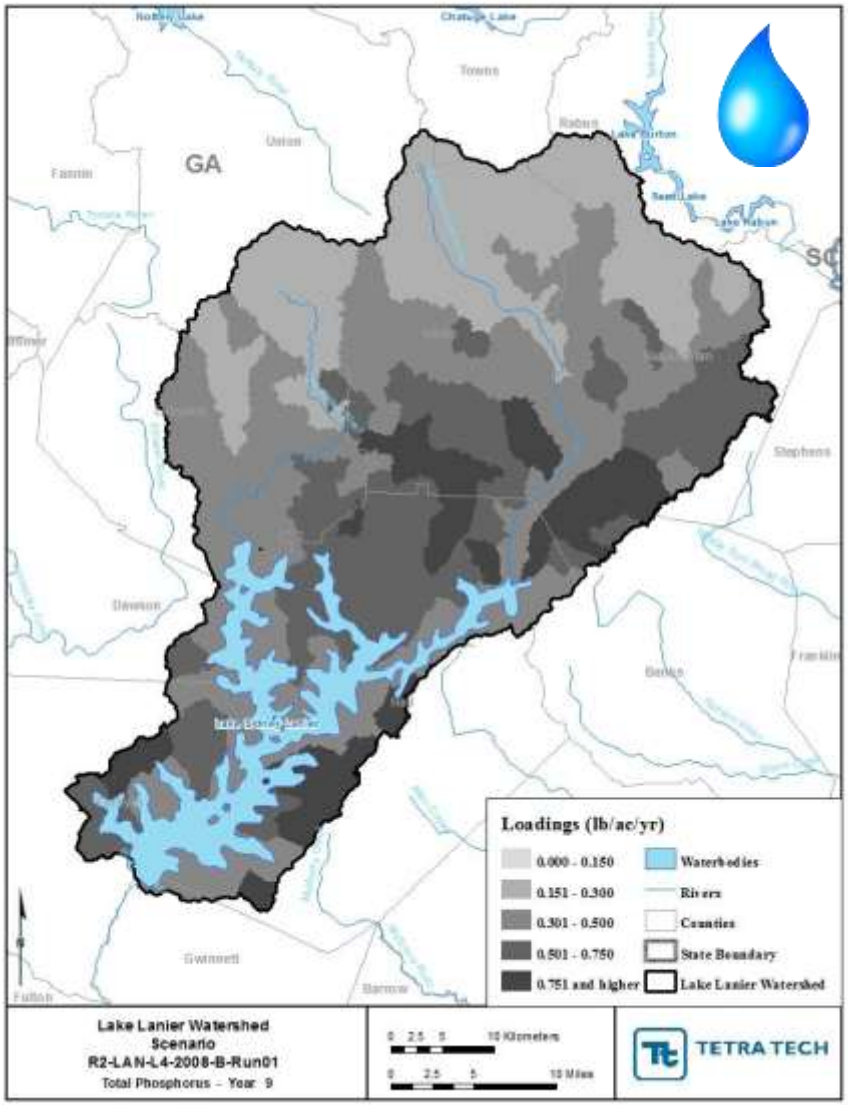


FUTURE CONDITIONS (2050)

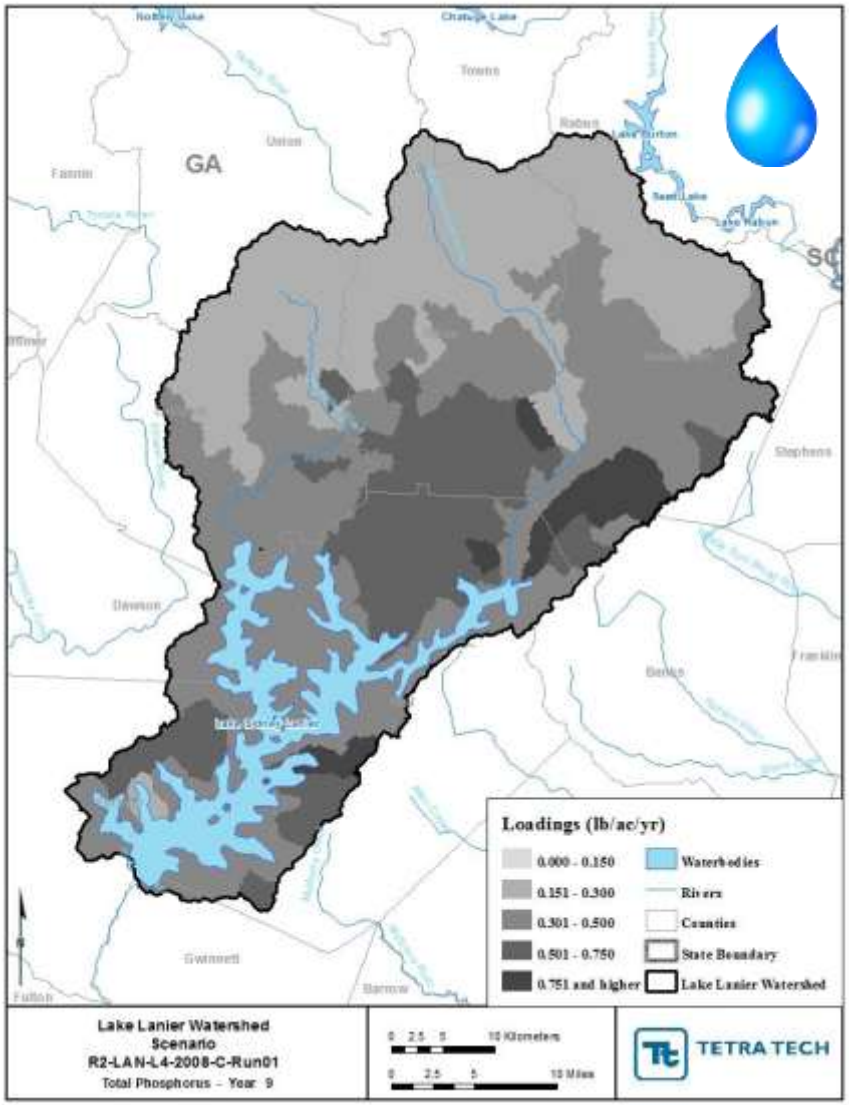


LANIER CHATTAHOOCHEE BASIN: TOTAL P "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

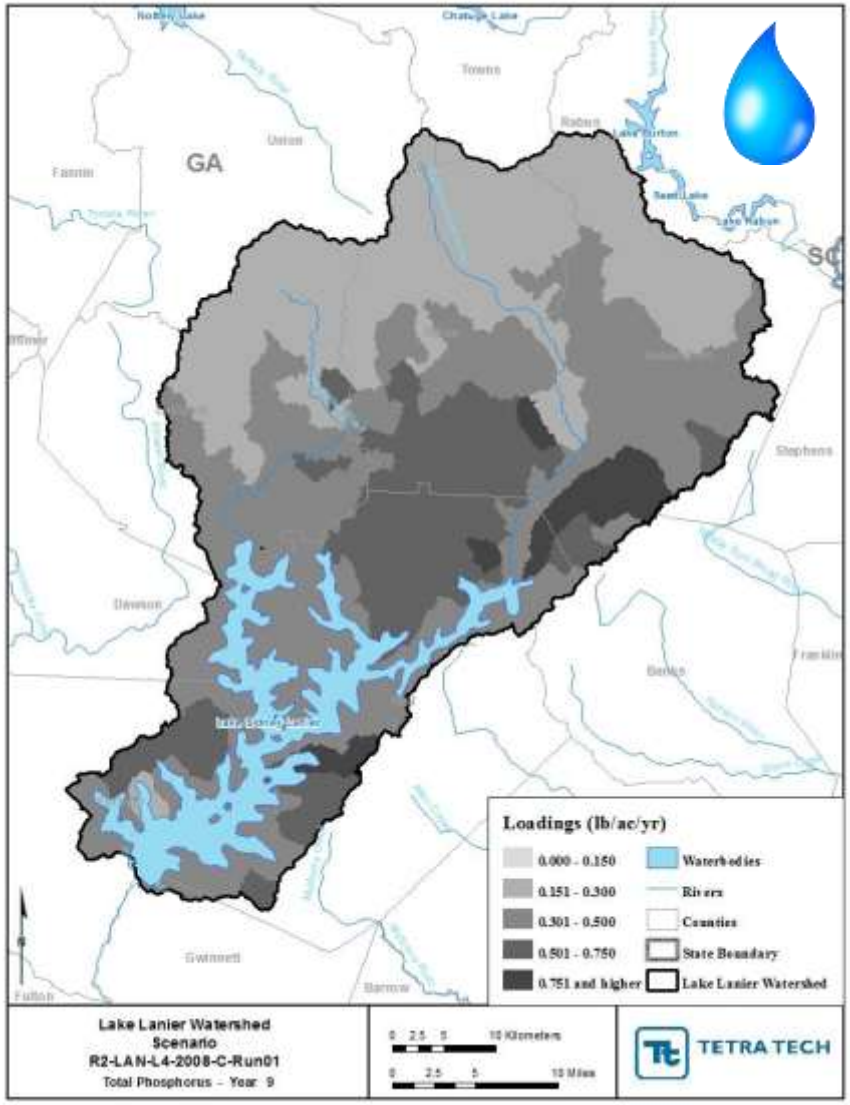


TMDL

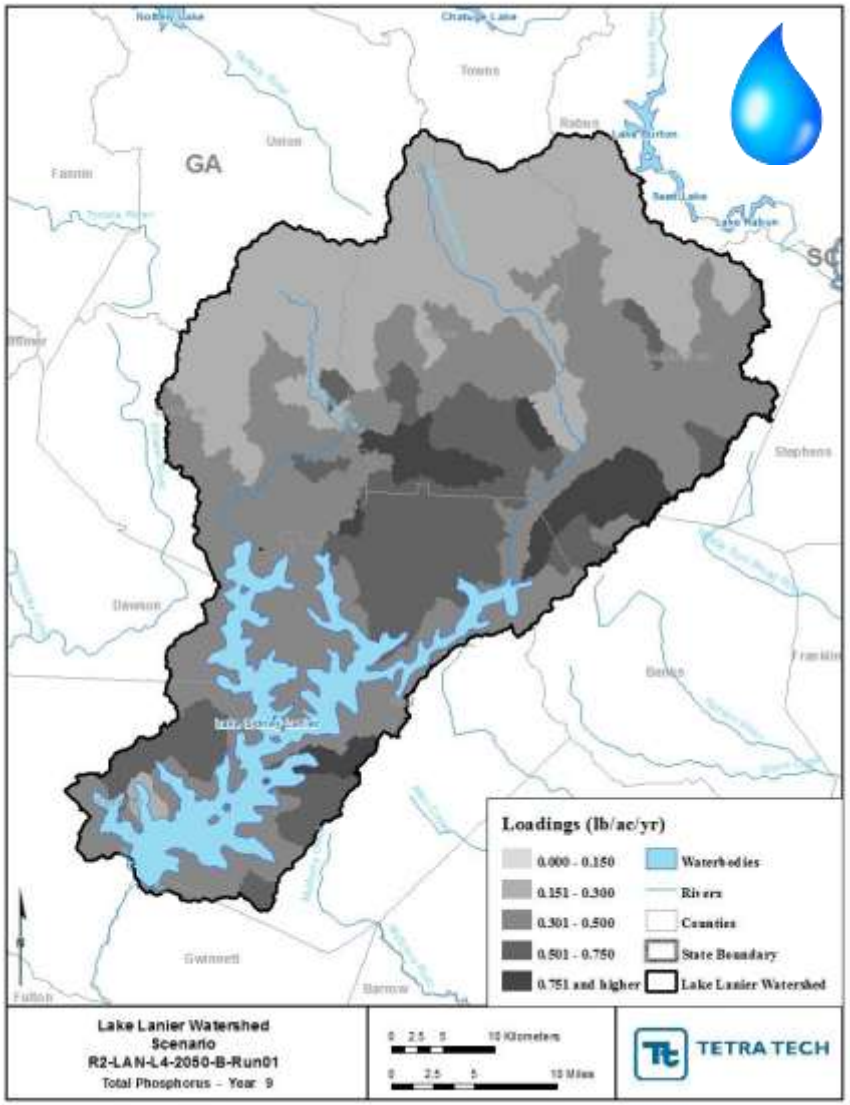


LANIER CHATTAHOOCHEE BASIN: TOTAL P "HEAT MAPS" – WET YEAR

TMDL

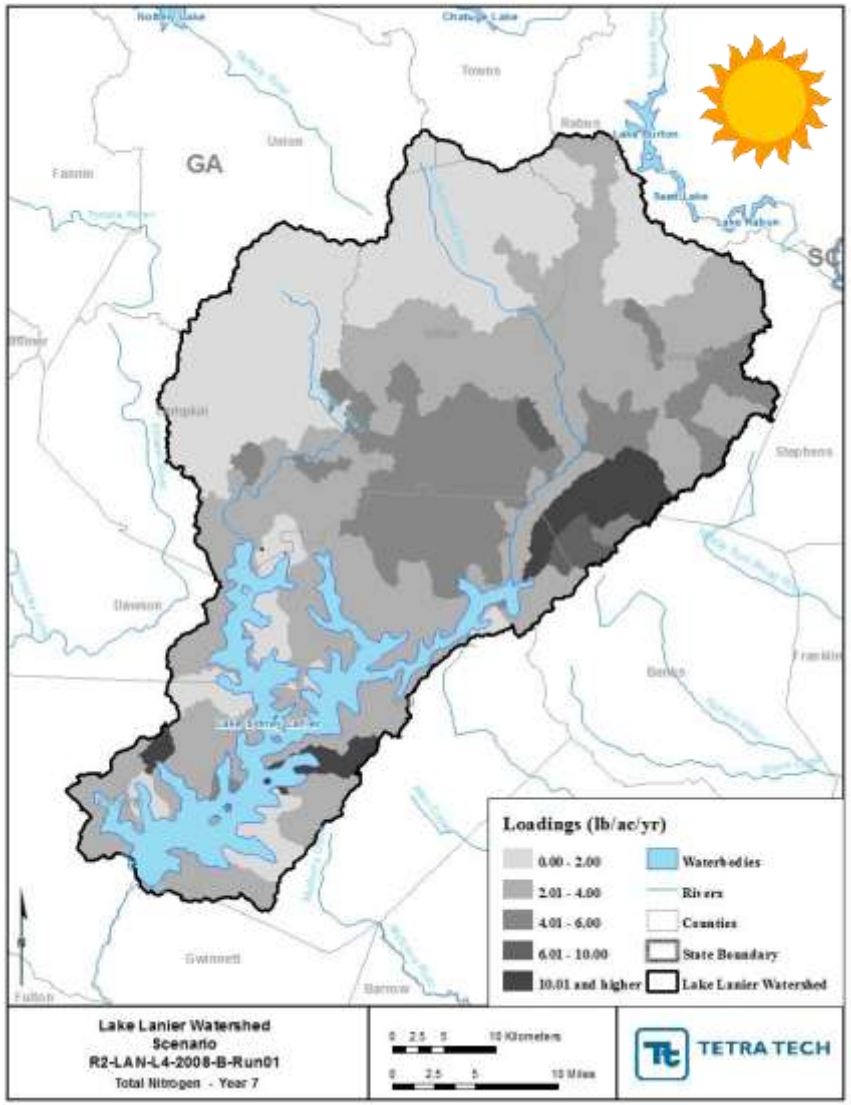


FUTURE CONDITIONS (2050)

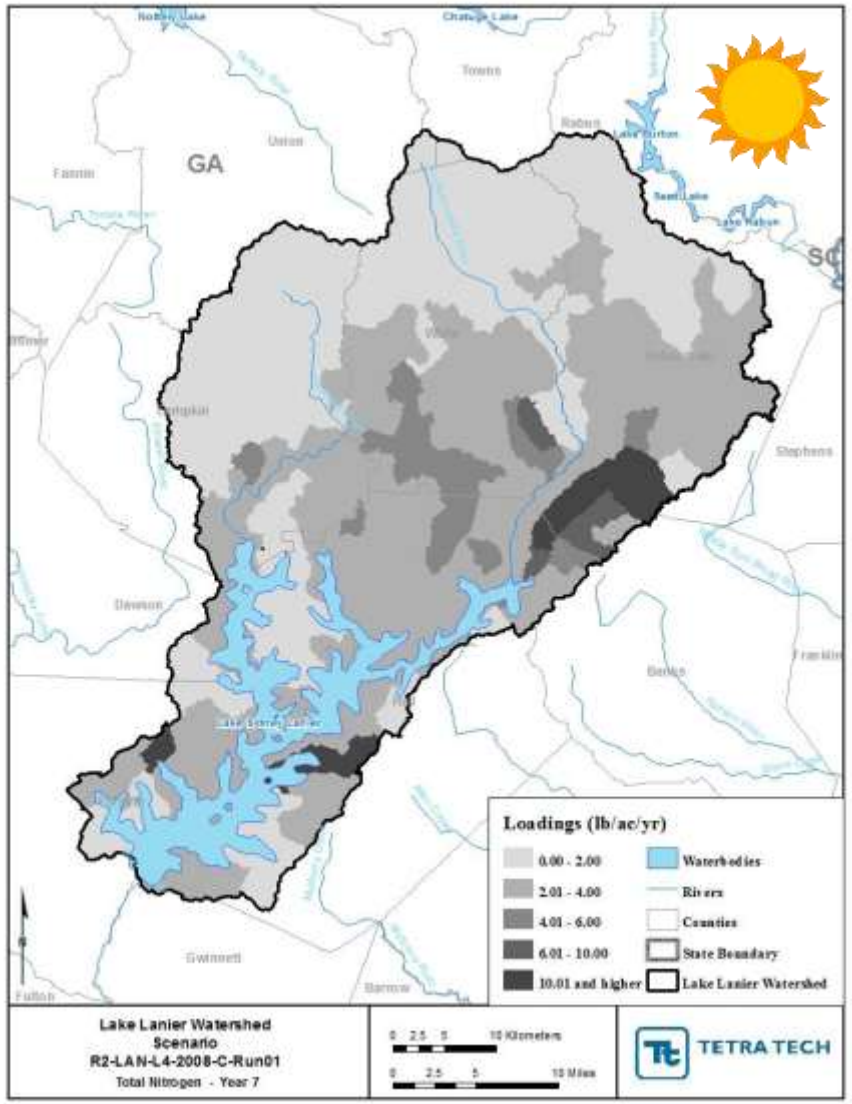


LANIER CHATTAHOOCHEE BASIN: TOTAL N "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS

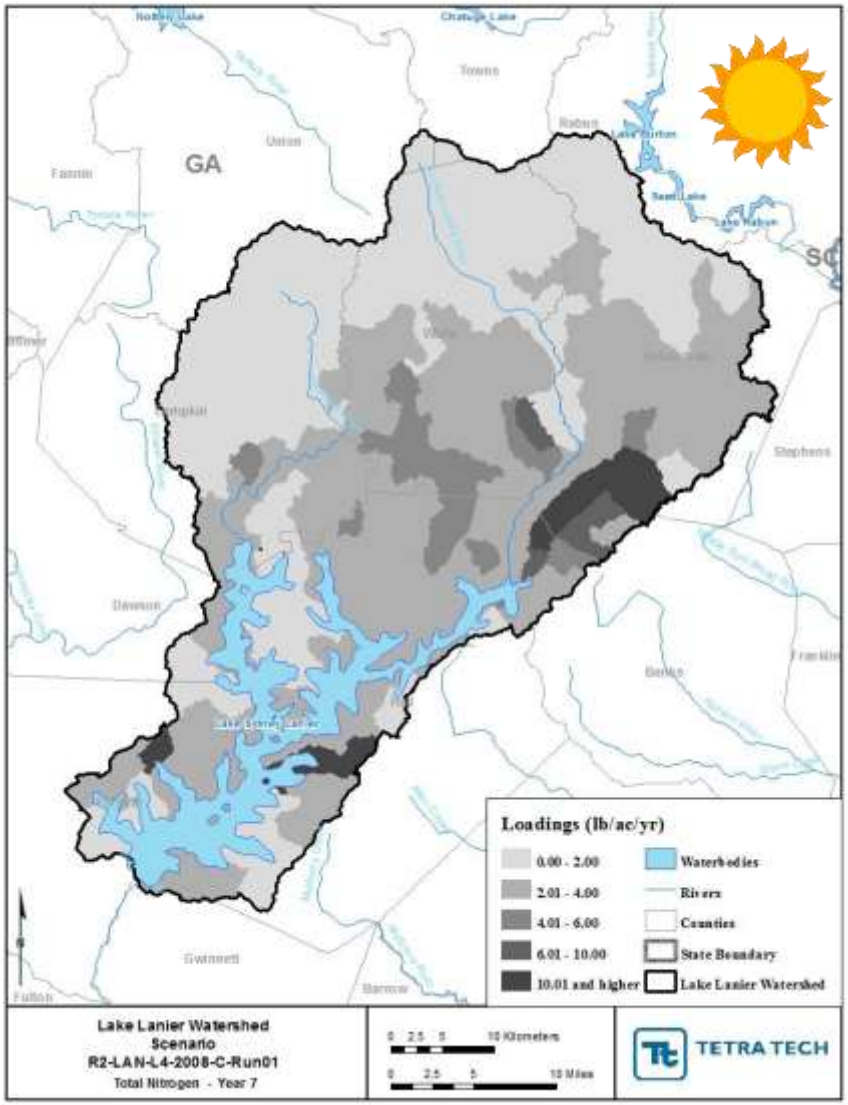


TMDL

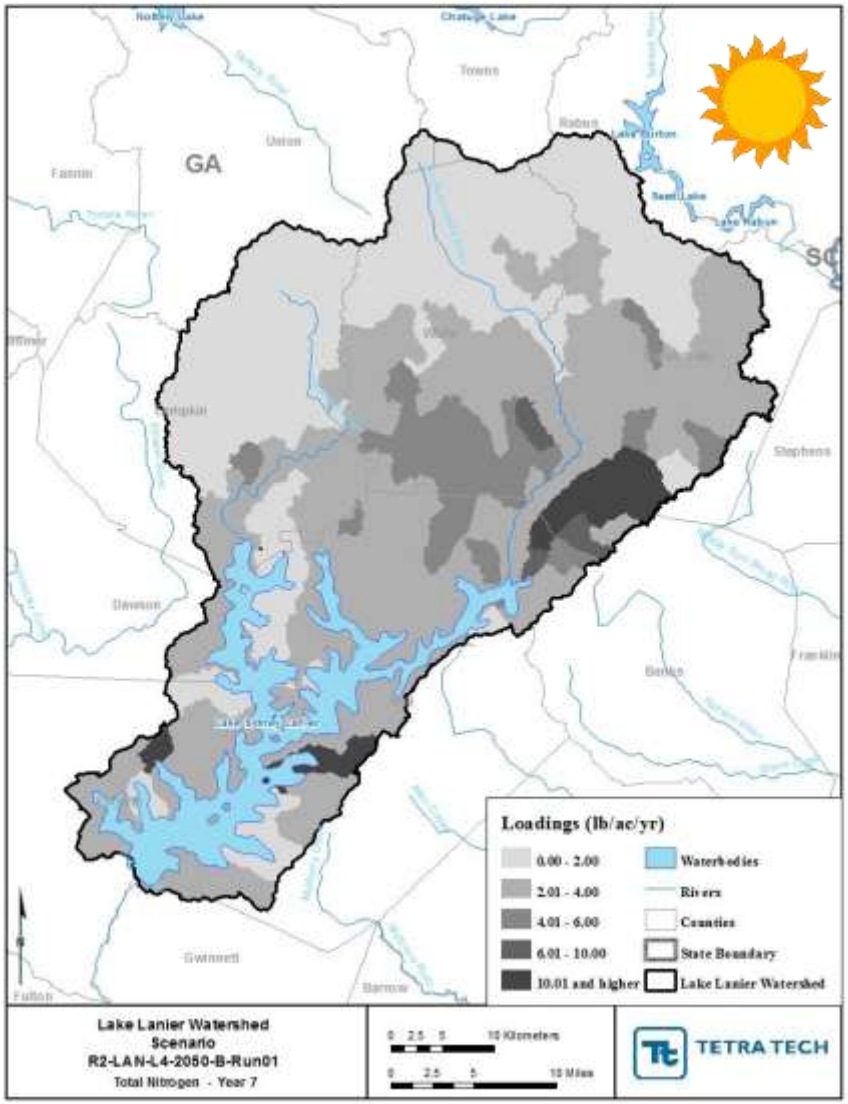


LANIER CHATTAHOOCHEE BASIN: TOTAL P "HEAT MAPS" – DRY YEAR

TMDL

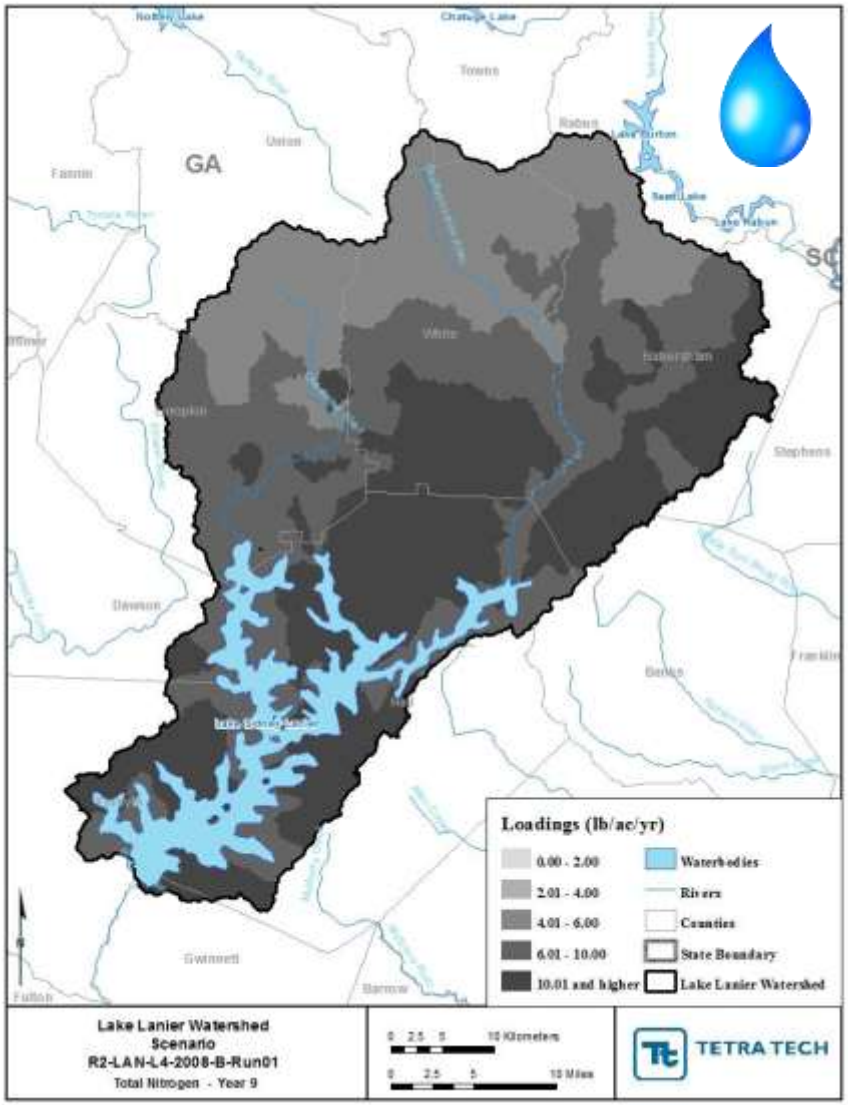


FUTURE CONDITIONS (2050)

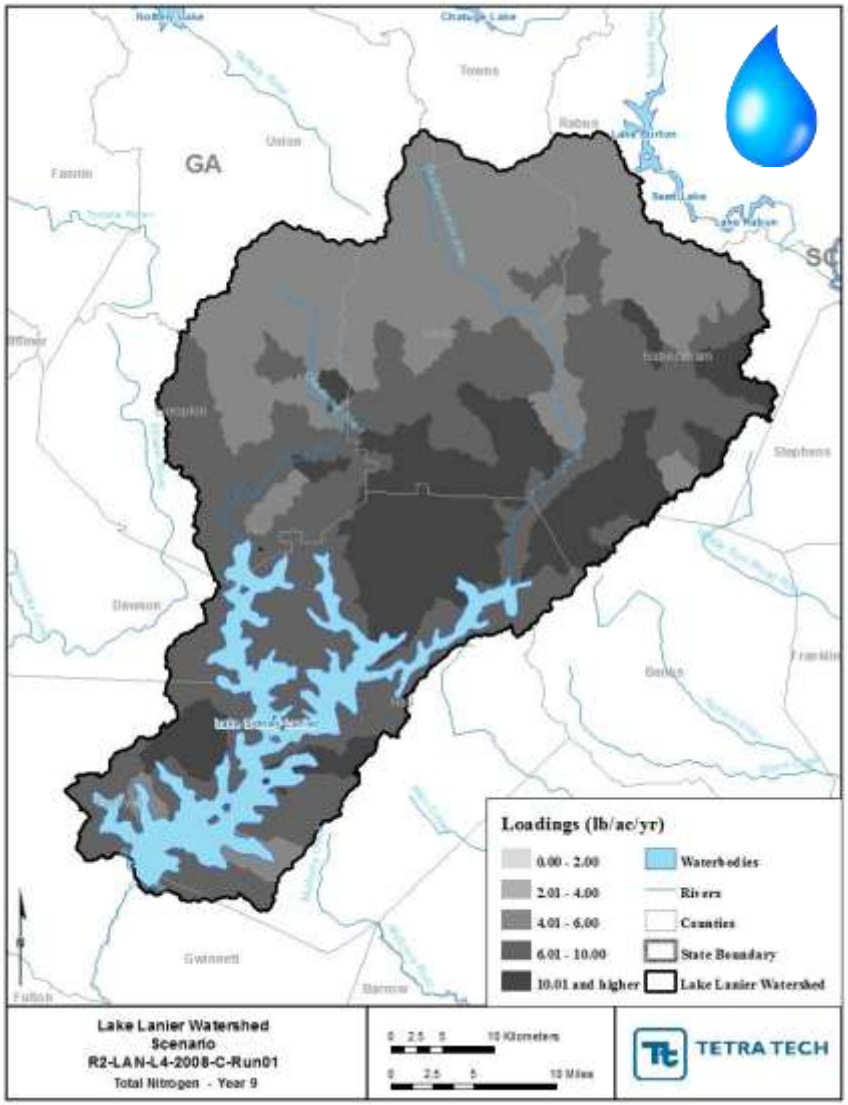


LANIER CHATTAHOOCHEE BASIN: TOTAL N "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

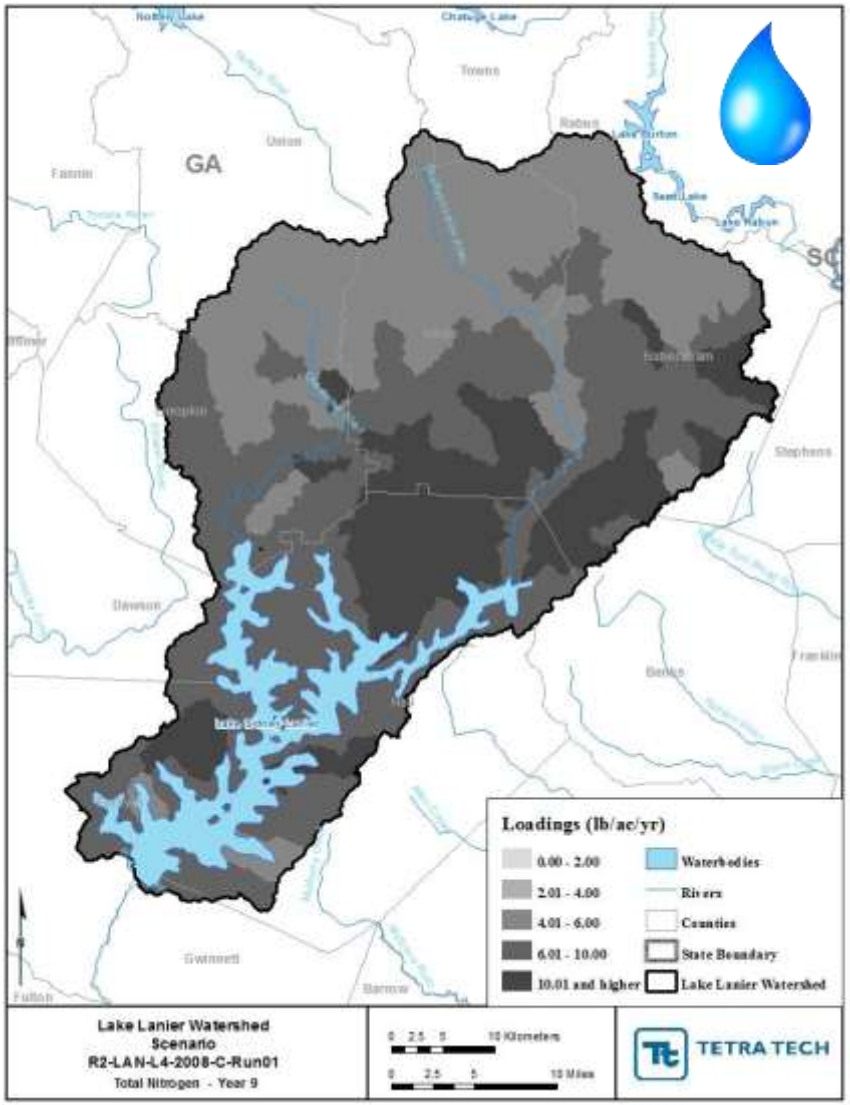


TMDL

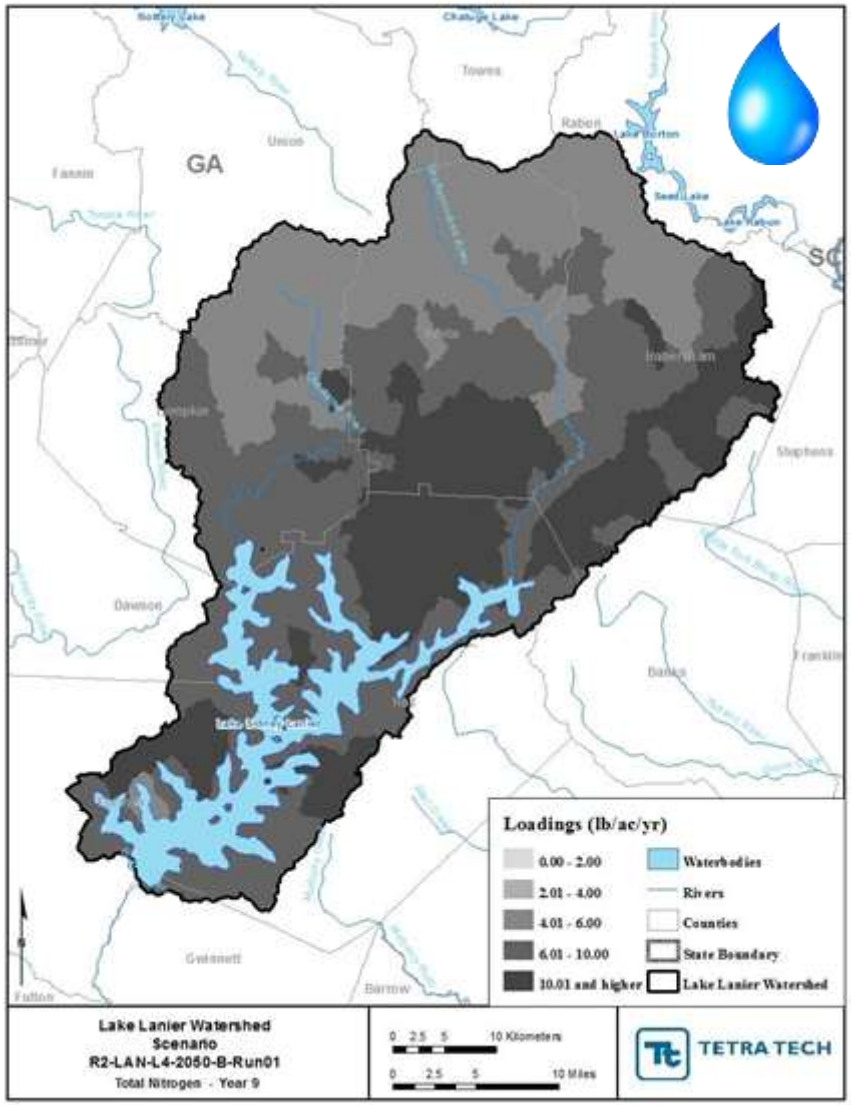


LANIER CHATTAHOOCHEE BASIN: TOTAL N "HEAT MAPS" – WET YEAR

TMDL

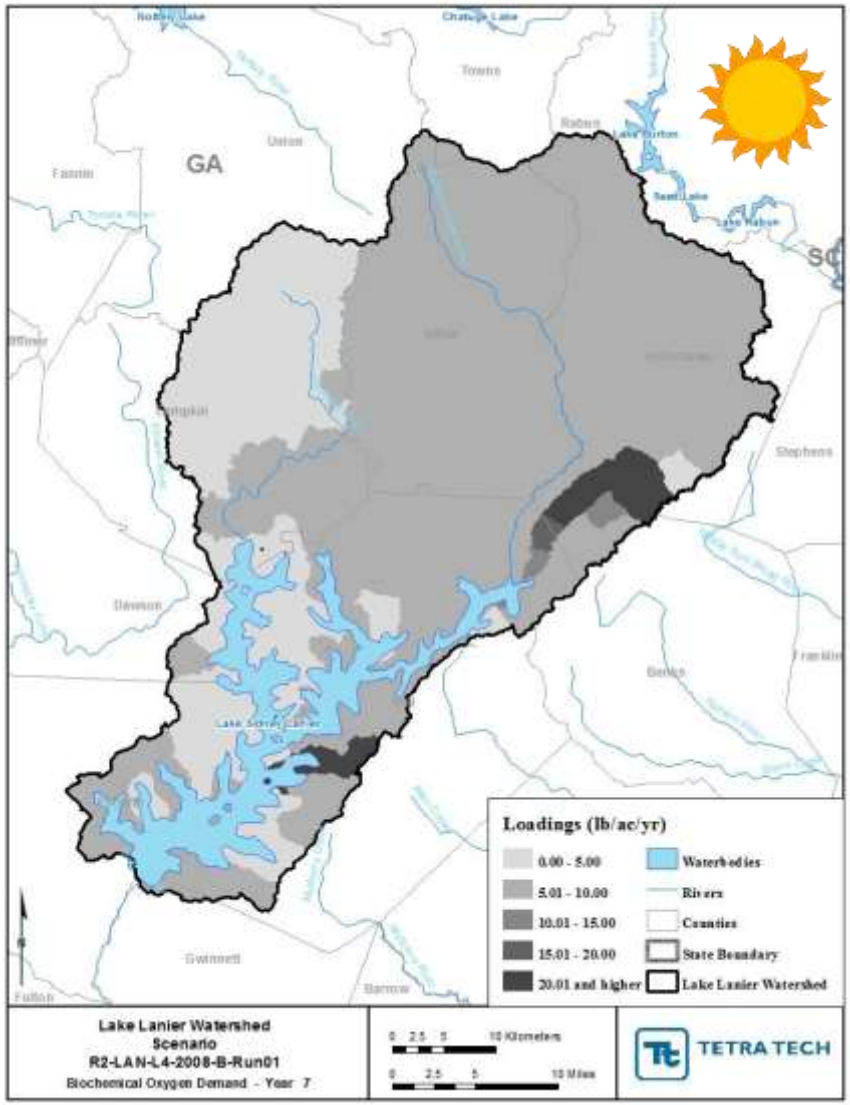


FUTURE CONDITIONS (2050)



LANIER CHATTAHOOCHEE BASIN: BOD "HEAT MAPS" – DRY YEAR

CURRENT CONDITIONS



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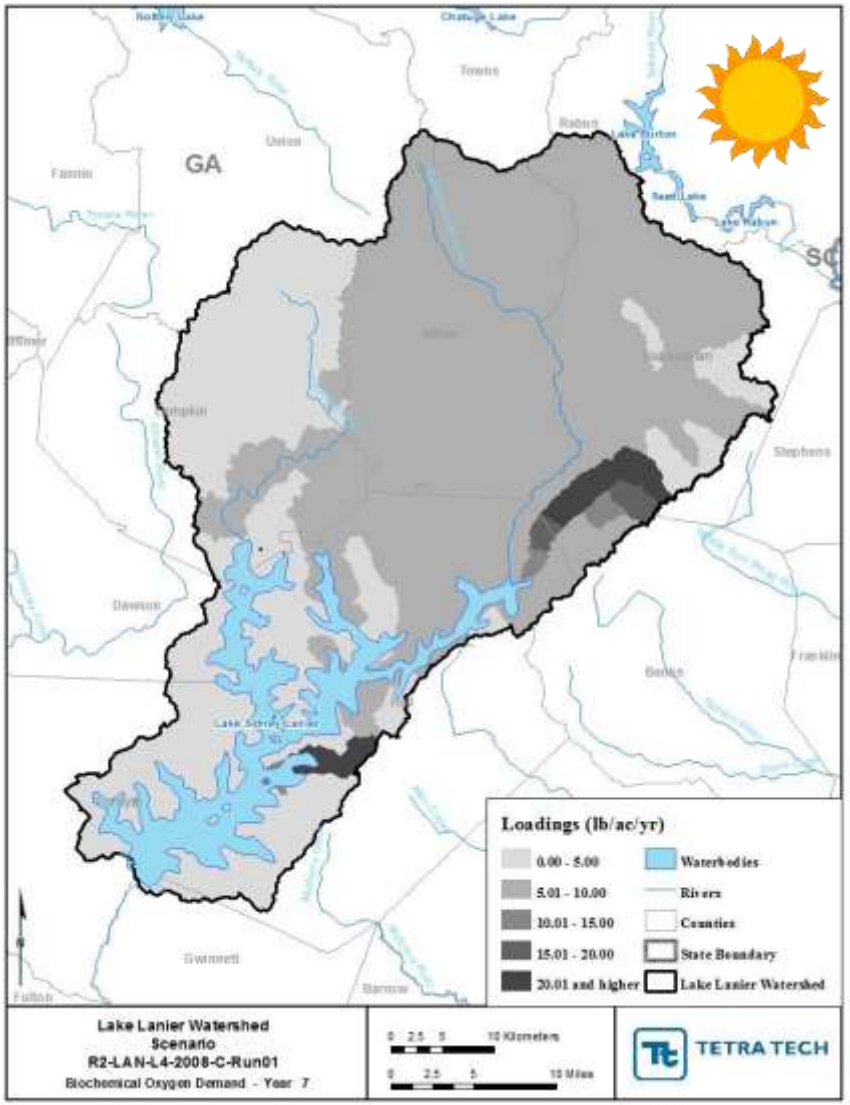
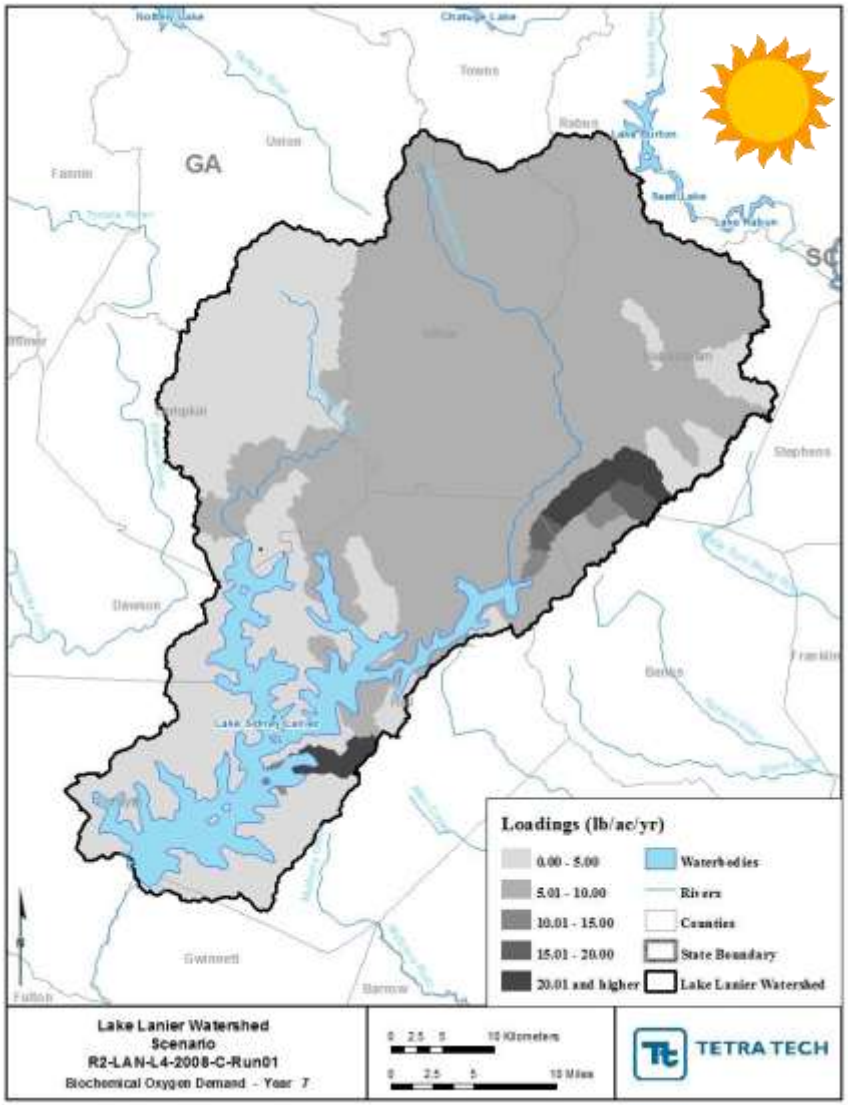
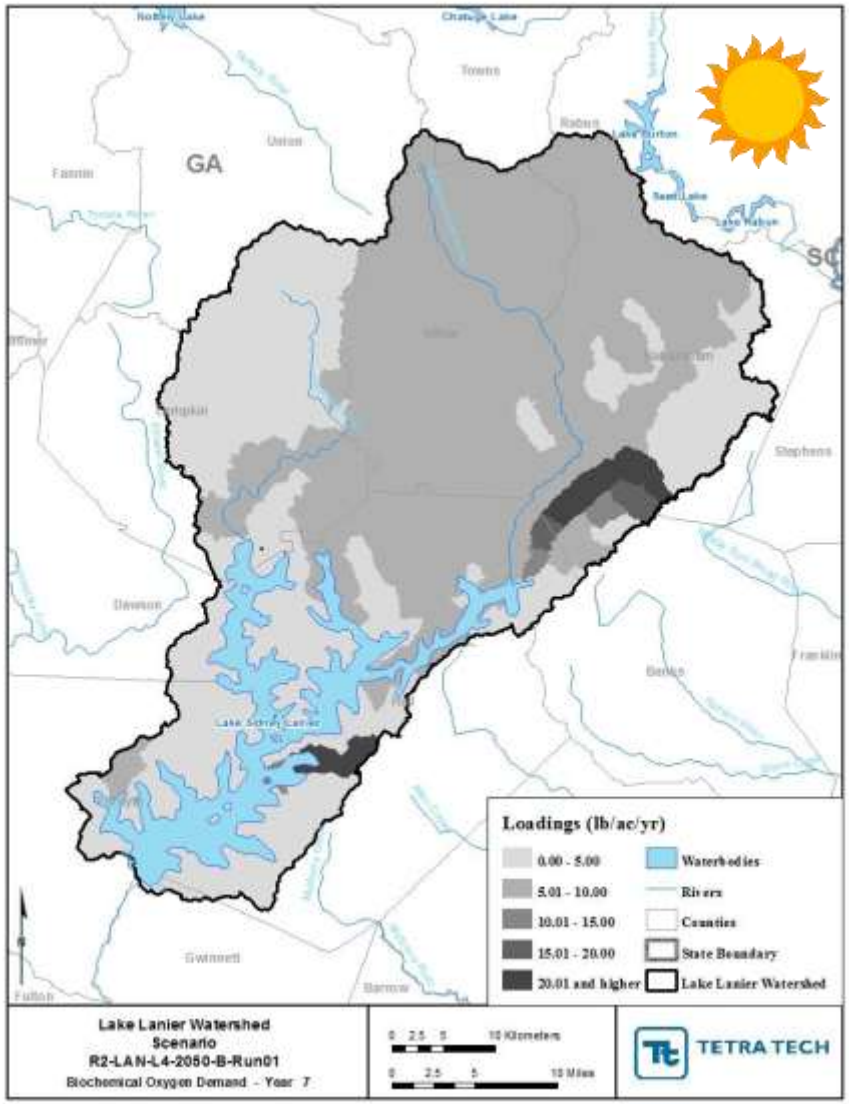


LANIER CHATTAHOOCHEE BASIN: BOD "HEAT MAPS" – DRY YEAR

TMDL

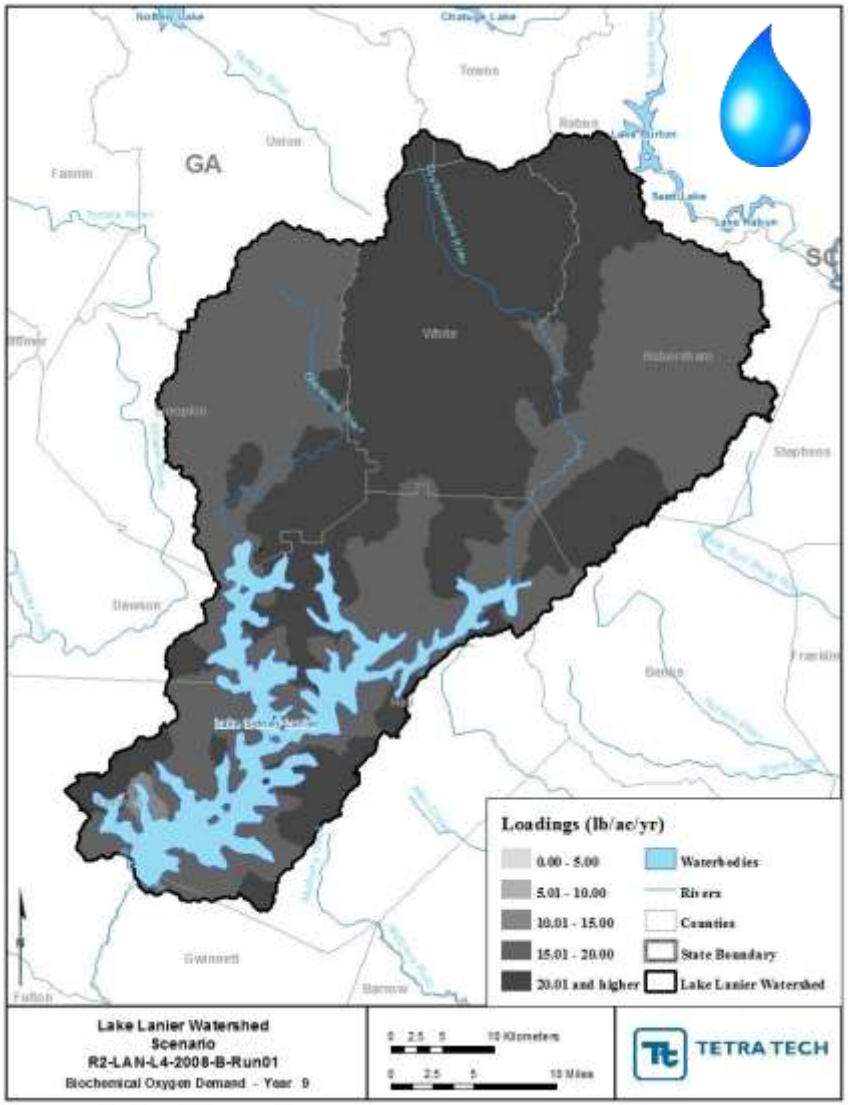


FUTURE CONDITIONS (2050)

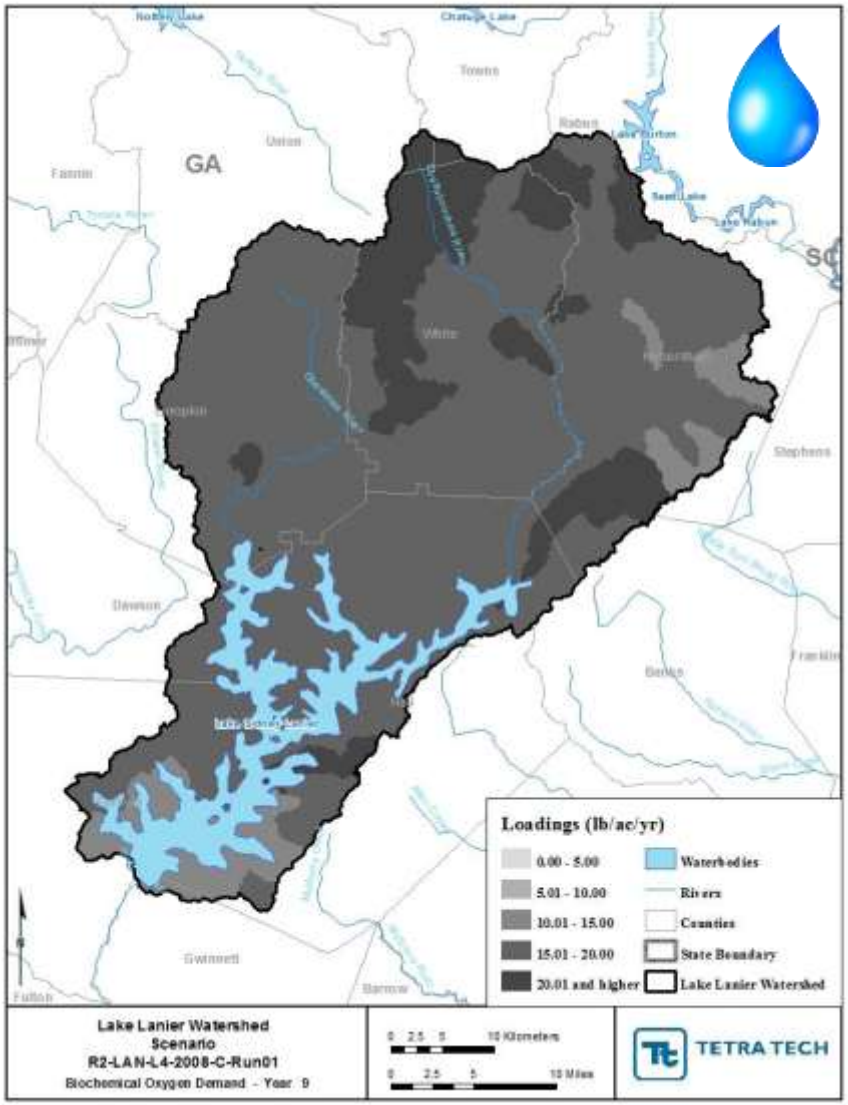


LANIER CHATTAHOOCHEE BASIN: BOD "HEAT MAPS" – WET YEAR

CURRENT CONDITIONS

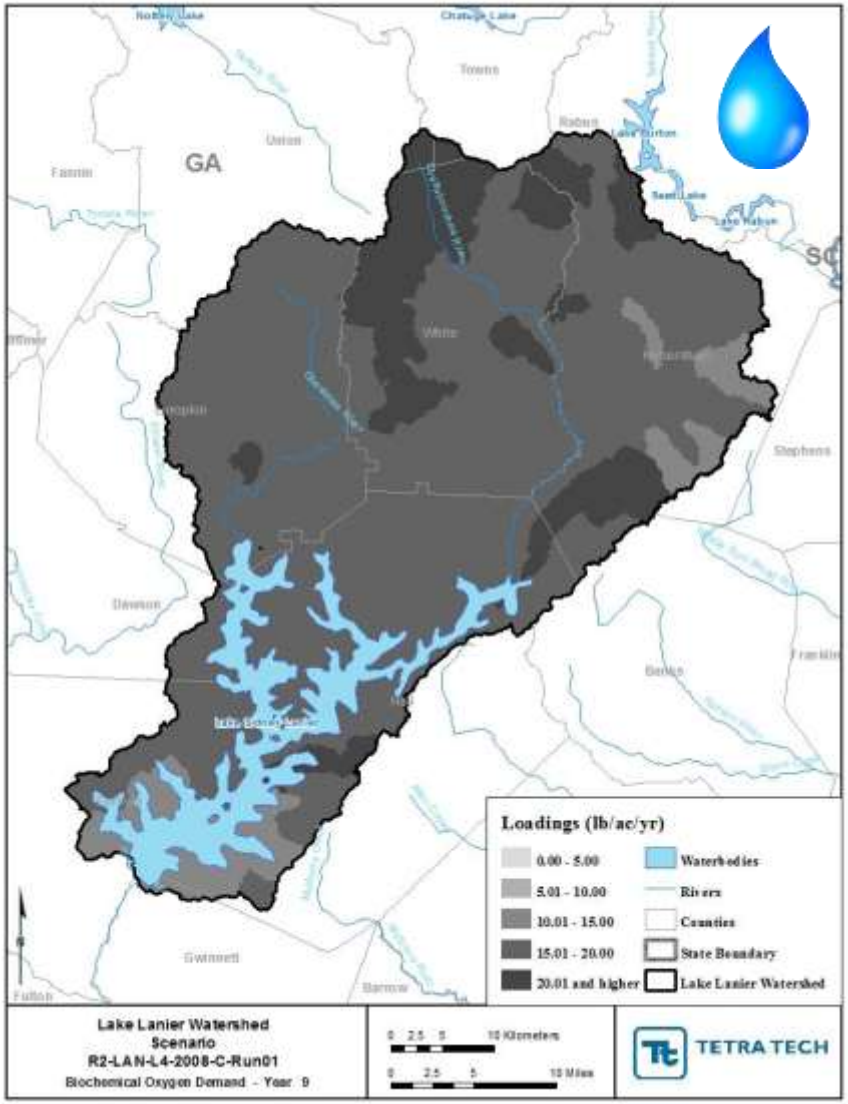


TMDL

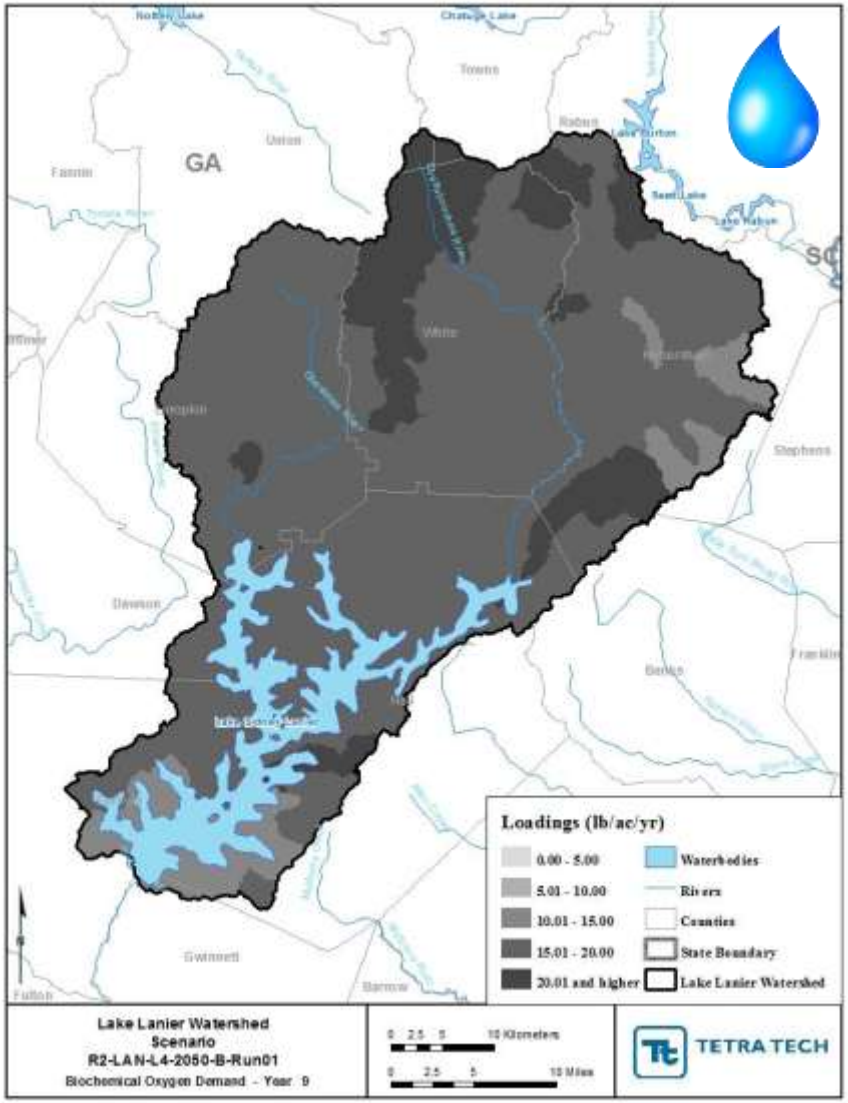


LANIER CHATTAHOOCHEE BASIN: TOTAL N "HEAT MAPS" – WET YEAR

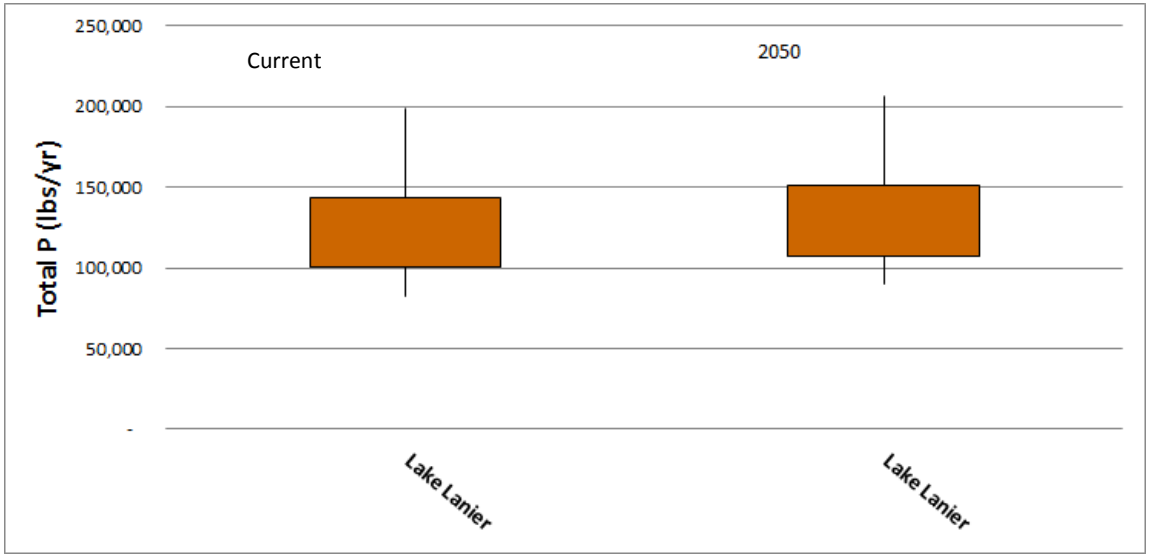
TMDL

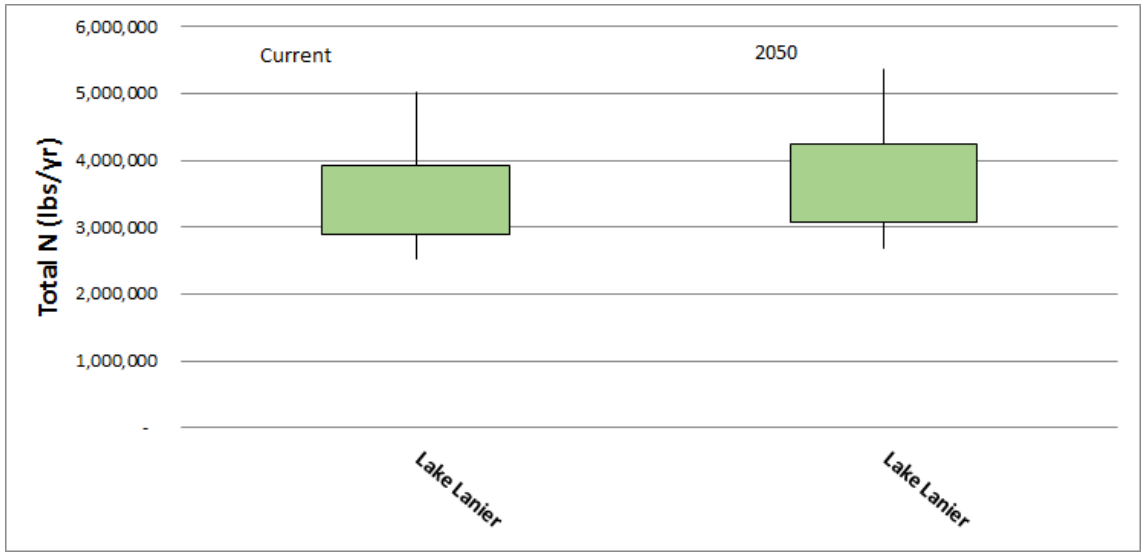


FUTURE CONDITIONS (2050)

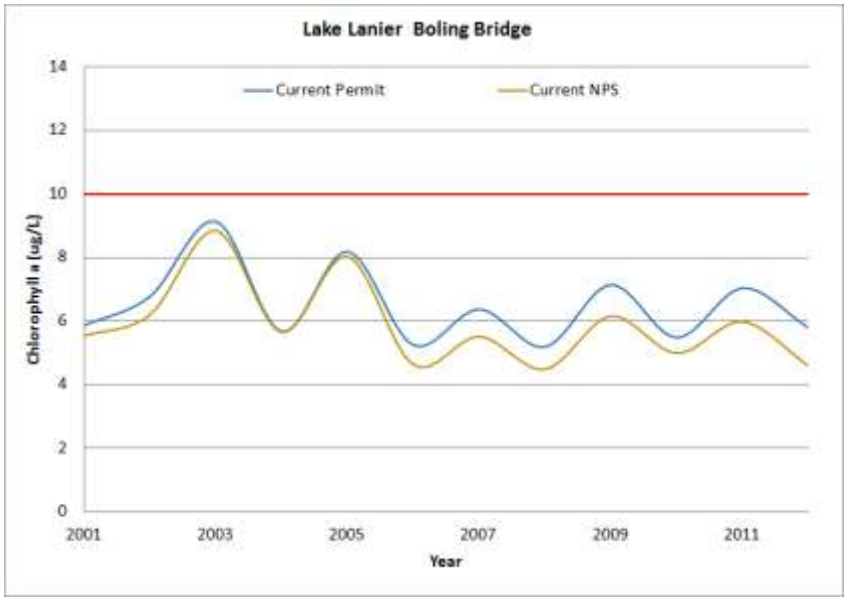


LANIER CHATTAHOOCHEE BASIN: NUTRIENT LOADS (lbs/yr) BEING DELIVERED TO LAKE LANIER

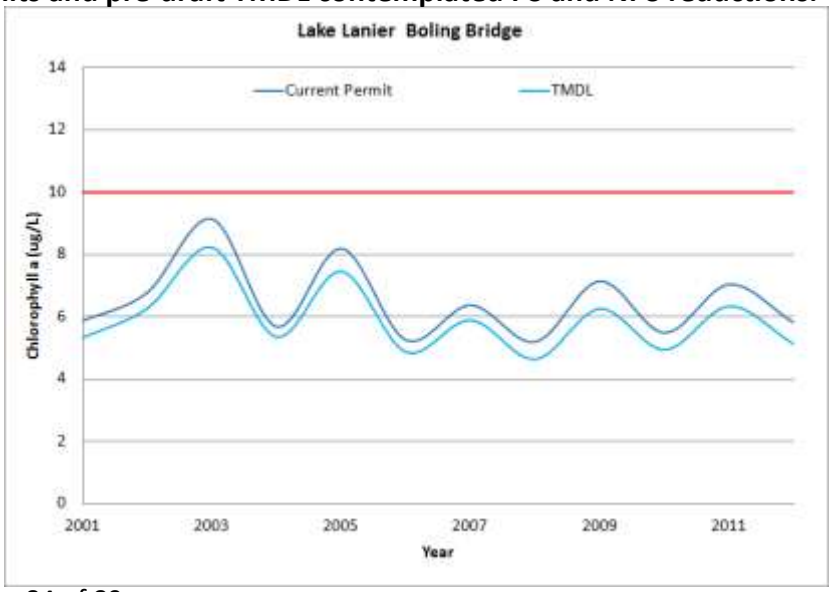




Preliminary model results for 2008 landuse with and without point sources (PS) at their current permit limits.

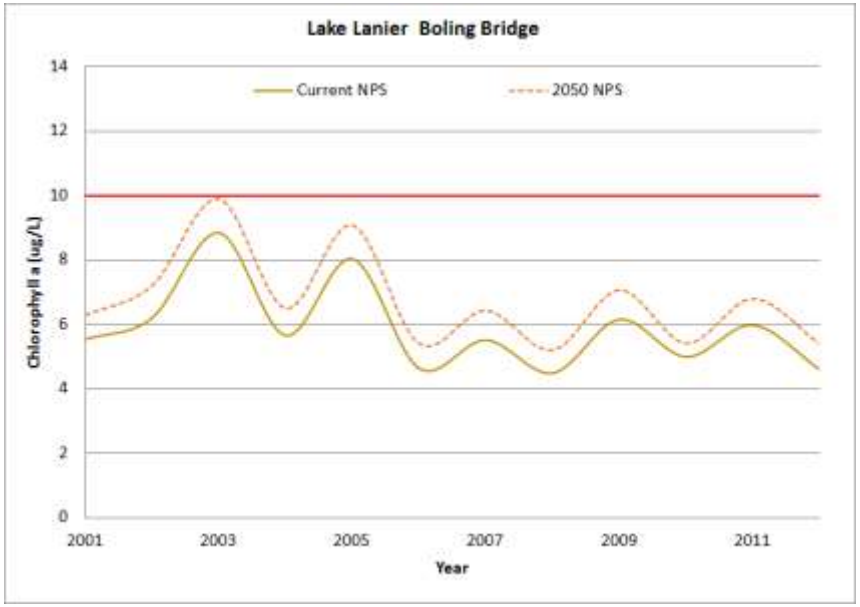


Preliminary model results for 2008 landuse with current permit limits and pre-draft TMDL contemplated PS and NPS reductions.

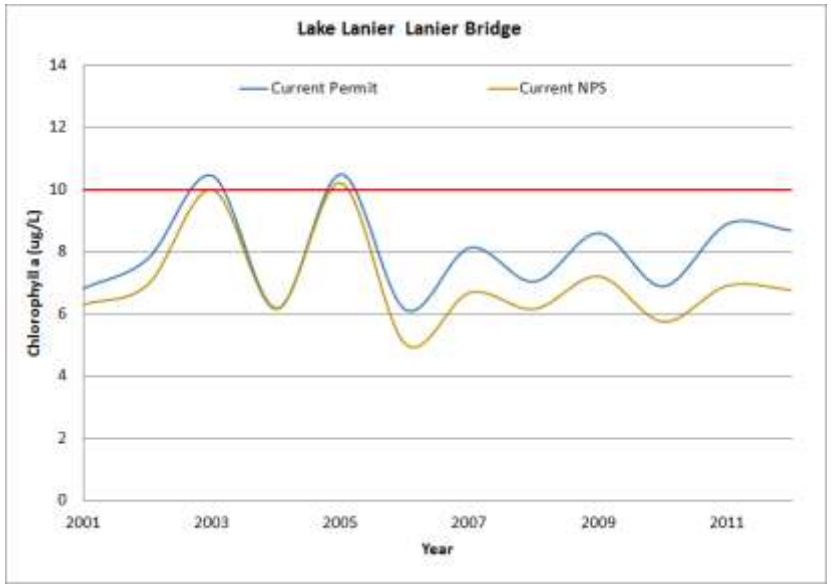


Lake Lanier Boling Bridge

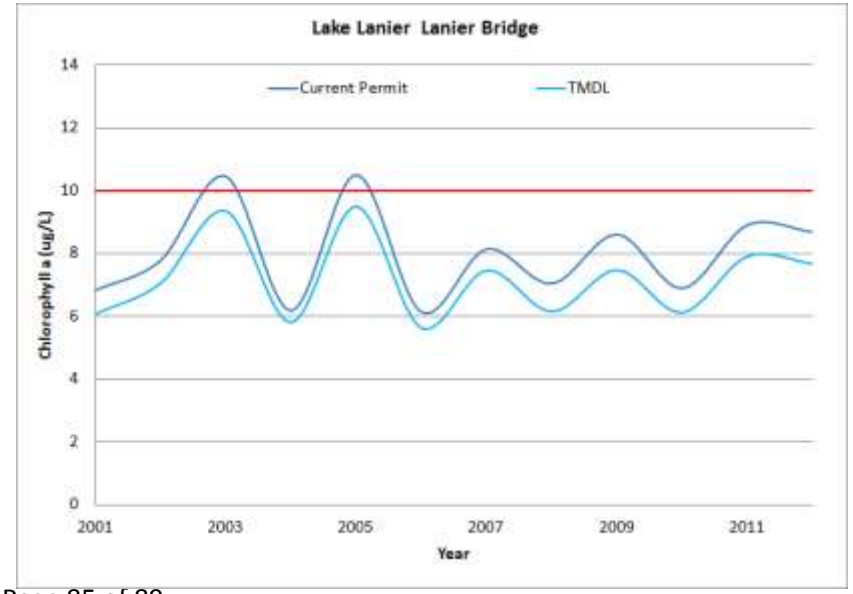
Preliminary Model Results for 2008 and 2050 landuse without any nonpoint source (NPS) reductions.



Preliminary model results for 2008 landuse with and without point sources (PS) at their current permit limits.

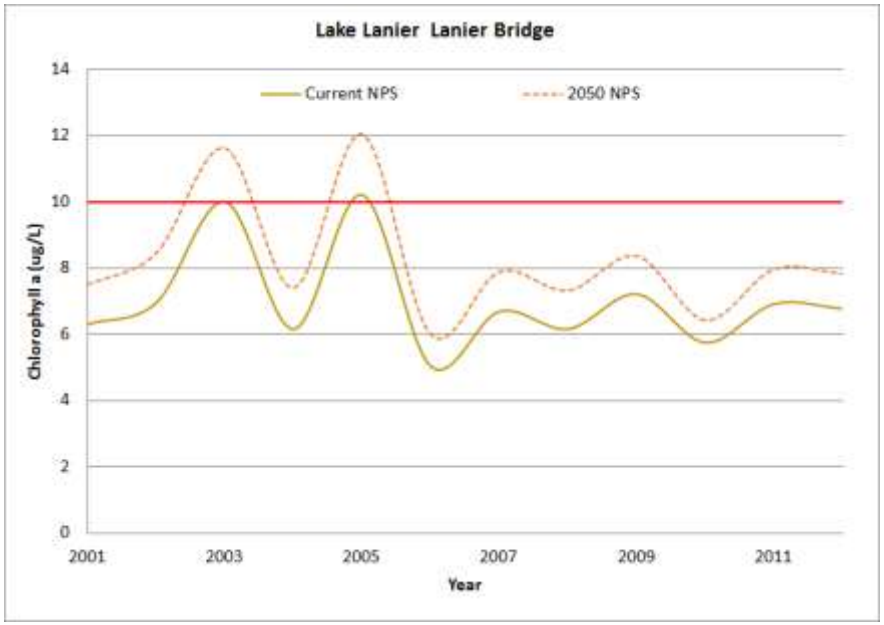


Preliminary model results for 2008 landuse with current permit limits and pre-draft TMDL contemplated PS and NPS reductions.



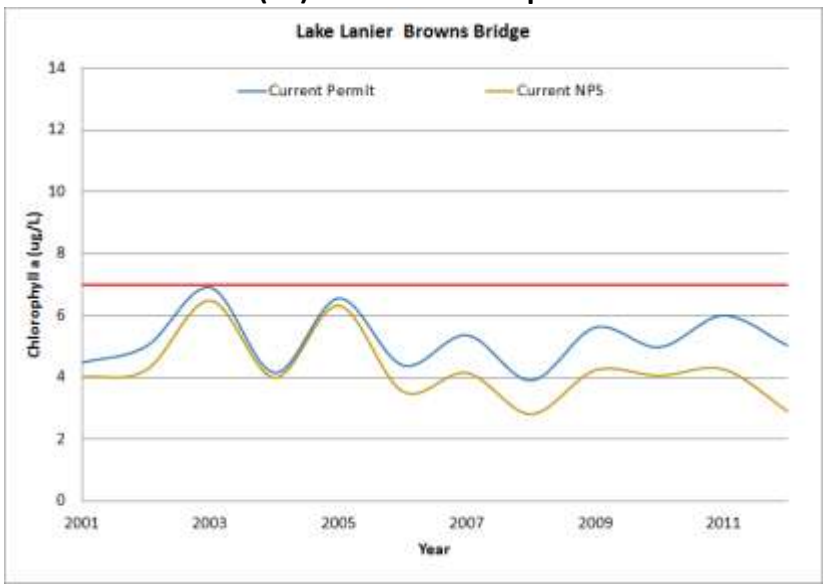
Lake Lanier - Lanier Bridge

Preliminary Model Results for 2008 and 2050 landuse without any nonpoint source (NPS) reductions.

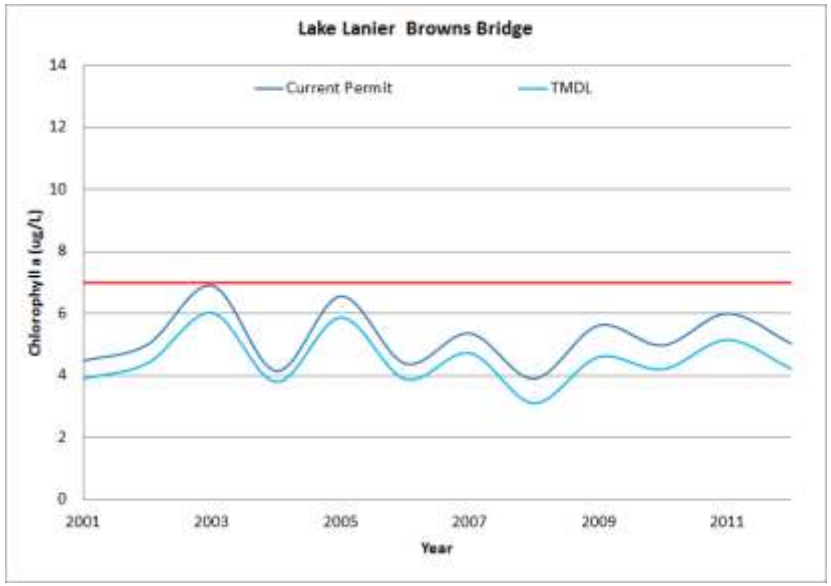


Results presented are DRAFT and are subject to change.

Preliminary model results for 2008 landuse with and without point sources (PS) at their current permit limits.

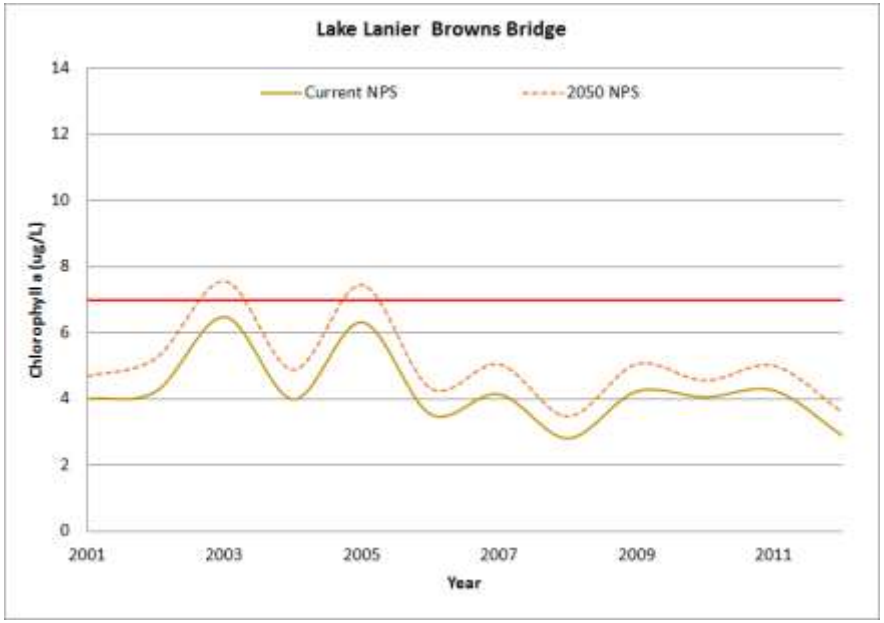


Preliminary model results for 2008 landuse with current permit limits and pre-draft TMDL contemplated PS and NPS reductions.

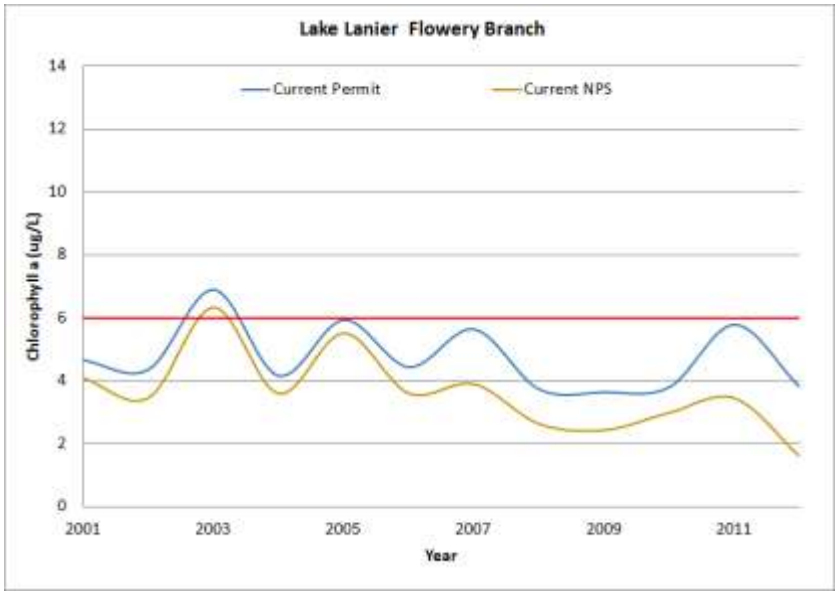


Lake Lanier - Browns Bridge

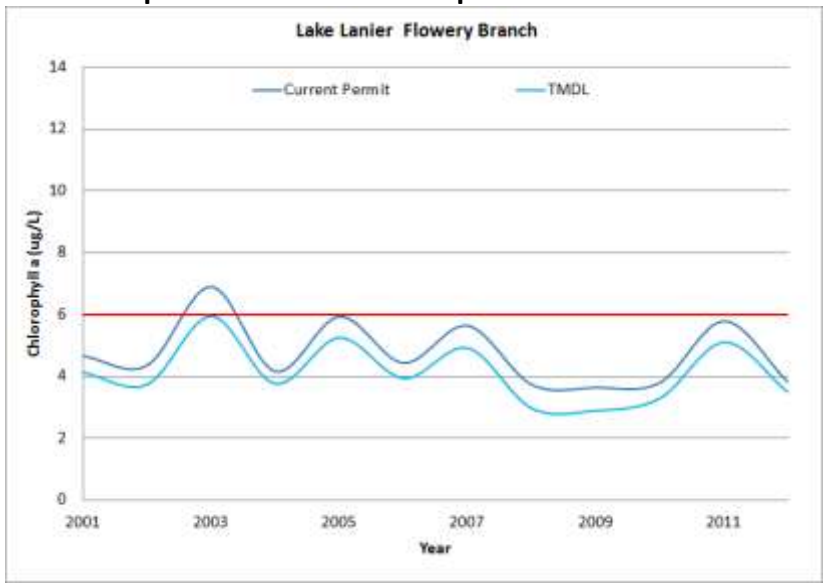
Preliminary Model Results for 2008 and 2050 landuse without any nonpoint source (NPS) reductions.



Preliminary model results for 2008 landuse with and without point sources (PS) at their current permit limits.

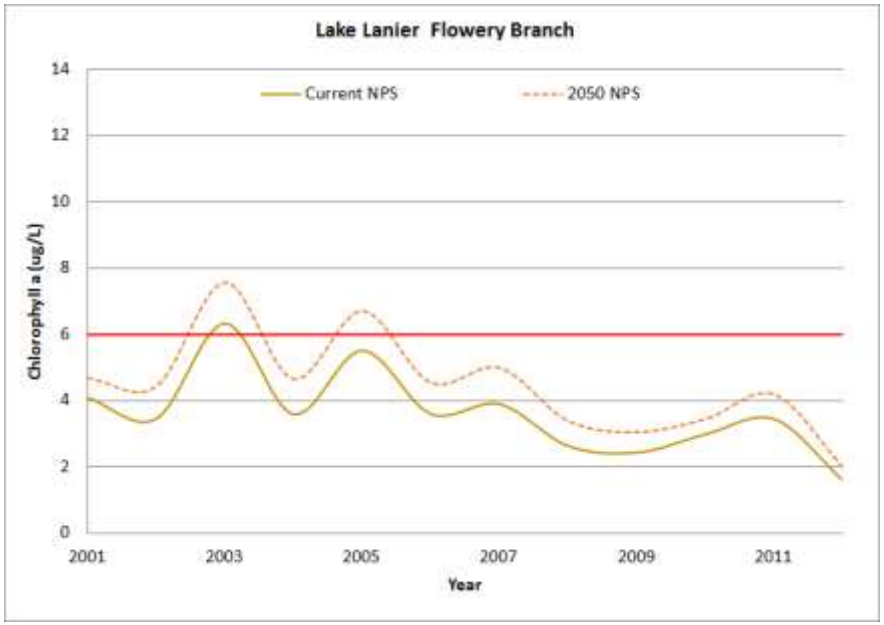


Preliminary model results for 2008 landuse with current permit limits and pre-draft TMDL contemplated PS and NPS reductions.



Lake Lanier Flowery Branch

Preliminary Model Results for 2008 and 2050 landuse without any nonpoint source (NPS) reductions.



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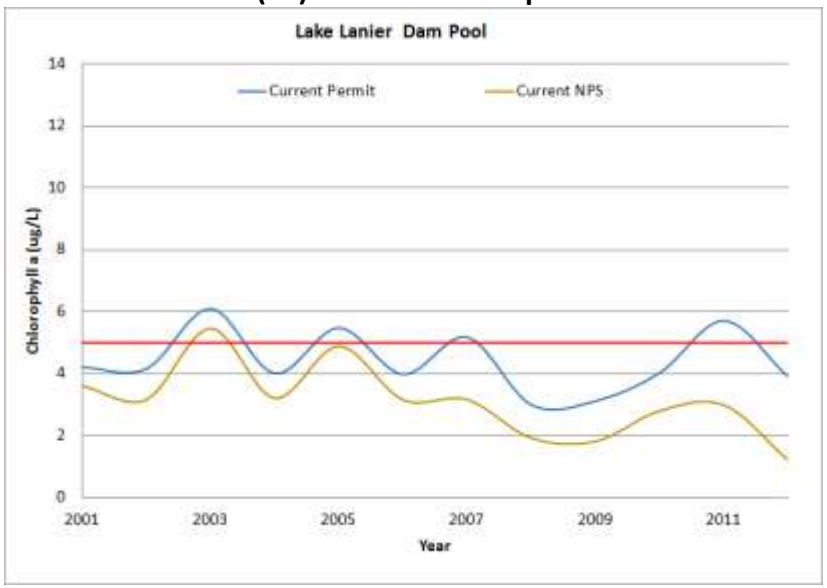
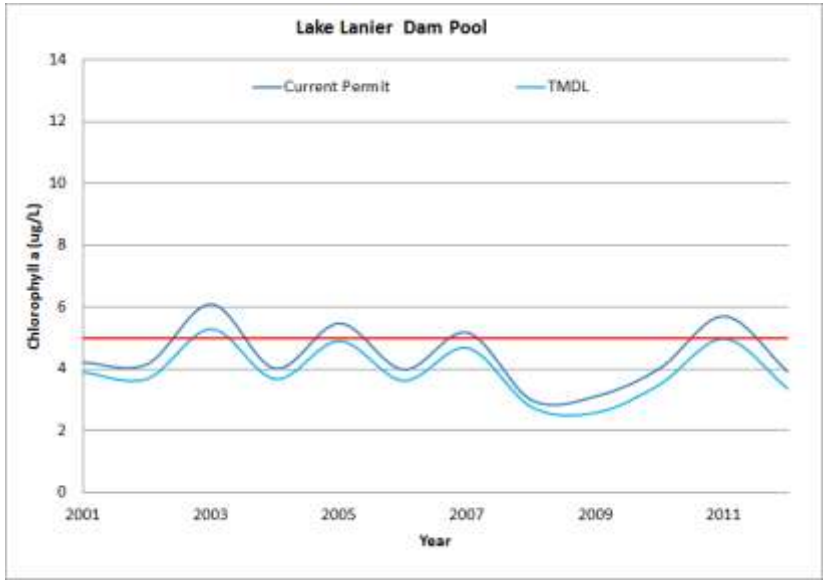
Preliminary model results for 2008 landuse with and without point sources (PS) at their current permit limits.

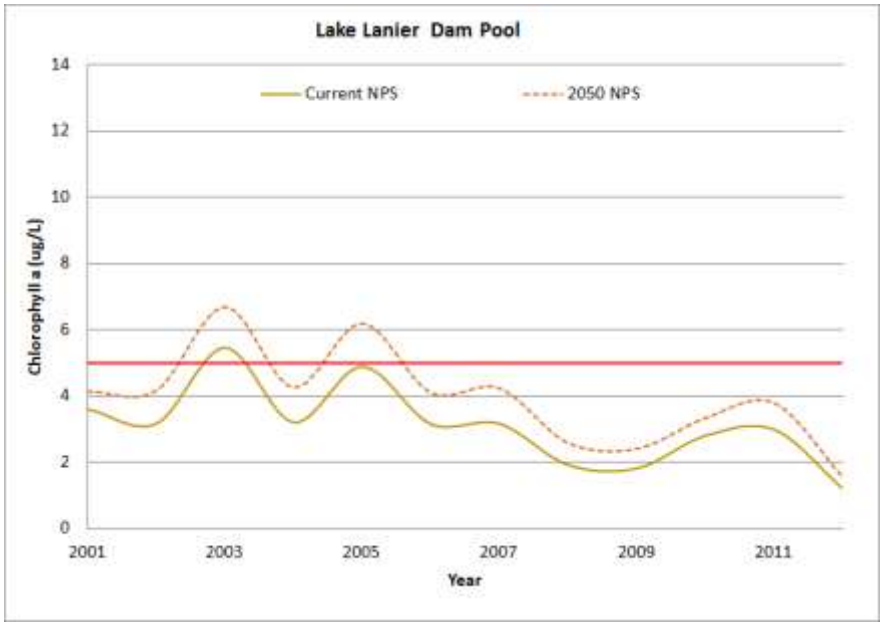


Preliminary model results for 2008 landuse with current permit limits and pre-draft TMDL contemplated PS and NPS reductions.



Lake Lanier Dam Pool

Preliminary Model Results for 2008 and 2050 landuse without any nonpoint source (NPS) reductions.



Results presented are DRAFT and are subject to change.

CURRENT AND FUTURE GROWING SEASON AVERAGE TOTAL N AND TOTAL P LEVELS

	Scenario	Lake Lanier
Total N (mg/L)	Current NPS	0.60*
	Current (PS+NPS) with pre-draft TMDL contemplated reductions	0.98
	2050 NPS	0.74*
	2050 (PS+NPS)	-
Total P (mg/L)	Current NPS	0.039*
	Current (PS+NPS) with pre-draft TMDL contemplated reductions	0.036
	2050 NPS	0.046*
	2050 (PS+NPS)	-

***Without any contemplated TMDL Reductions**

Lake Lanier has a not to exceed Total N criteria of 4 mg/L in the photic zone

- **Max Total N (under Current Permit conditions): 1.37 mg/L**