



Tumblin Creek Watershed



Fun Facts

- Tumblin Creek watershed spans across 3.8 square miles, coming above ground just north of NE 5th Ave. and flows an estimated 1.7 miles southward to Bivens Arm Lake, west of US 441.
- The land use of the Tumblin Creek watershed is 25% residential, 21% institutional, 19% transportation and 7% commercial.

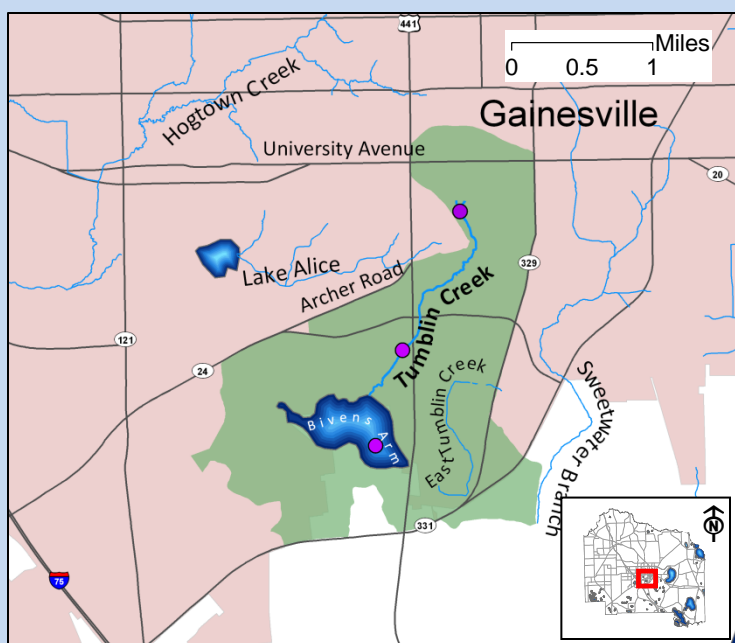


Figure 2. Map of Tumblin Creek watershed (green), Gainesville urban center (beige), and sampling locations (purple).

In-stream biology

Human disturbance, runoff pollution, lack of good riparian zones, and high storm flows have negatively impacted the macroinvertebrate populations in Tumblin Creek. Biological surveys conducted in 2000 and 2009 classified Tumblin Creek as 'impaired'. However, there was some improvement in the types and abundance of macroinvertebrates that were present in 2009. The biggest improvement was the disappearance of an invasive snail previously found in high abundance in Tumblin Creek.

Tumblin Creek can be viewed and enjoyed at the City of Gainesville's Tumblin Creek Park on SW 6th St and the Bivens Arm Nature Park on S. Main St. is also in the watershed.

Ways you can help!

- Dispose of oils and chemicals properly at the Hazardous Waste Collection Center.
- Properly maintain your septic system.
- Scoop, bag, and trash pet waste.
- Use fertilizers and pesticides sparingly, or not at all.
- Keep grass clippings out of storm drains, put it back on the lawn or bag it.
- Report illicit discharges or dumping to 246-6800.
- VOLUNTEER!

Water Quality

Flow: Average annual flow (2008-2011) represented as harmonic mean in Tumblin creek near US 441 is 0.12 cubic feet per second (cfs) monitored by Alachua County Environmental Protection Department. The average flow in Tumblin Creek is the lowest of all urban streams in Gainesville. Flow is less than 0.5 cfs at Tumblin near US441 approximately 11% of the time.

Nutrients: The proposed FDEP water quality nutrient standards will be effective in 2012. Tumblin Creek will be considered impaired for TP (total phosphorus) when these standards become effective. Major sources of phosphorus in the watershed include fertilizers in stormwater runoff, as well as naturally occurring phosphorus minerals in the Hawthorn Group formations that are eroded away in high velocity stormwater flows. Nitrogen concentrations in Tumblin Creek are well below FDEP proposed standards.

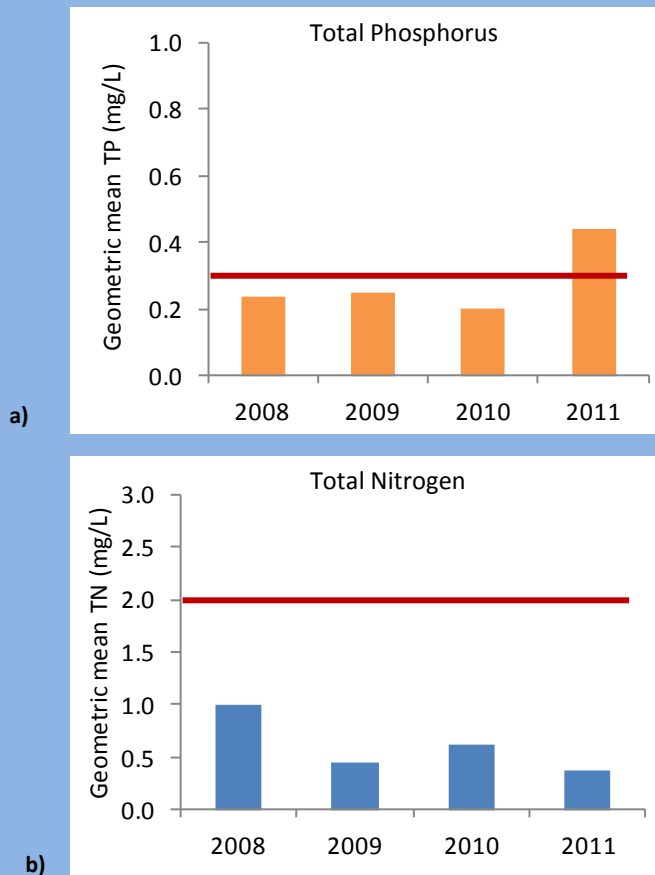


Figure 3. Annual Geometric mean of a) total phosphorus (TP) and b) total Nitrogen (TN) data collected by Alachua County Environmental Protection Department. FDEP nutrient standards for the North Central eco region are represented by the red line a) TP of 0.30mg/L and b) TN of 1.87 mg/L.

Bacteria: Tumblin Creek was found to be impaired by FDEP for fecal coliform, an indicator for the possible presence of pathogens. State standards are 800 cfu/100mL for a single sample, which is frequently exceeded in Tumblin Creek. Possible sources for these bacteria include both domestic and wild animal waste, leakage from sanitary sewer lines, faulty private sanitary sewer connections, and failing septic tanks.

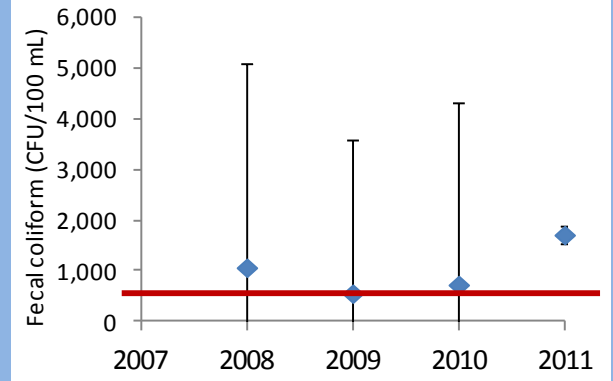


Figure 4. Geometric mean fecal coliform abundance in Tumblin Creek data collected by Alachua County Environmental Protection Department. (red line indicates 800 CFU/100mL, error bars indicate standard deviation).

Current Human Impacts

- Urban stormwater containing fertilizers and pesticides from commercial and residential properties impacts water quality in Tumblin Creek.
- Most of the non-piped segments of Tumblin Creek have high velocities during storm flow events which transport sediments and as they settle out habitat is smothered.
- Urban campers, failing septic systems, failing wastewater infrastructure, wildlife and pets all introduce fecal material (a major source of nitrogen, phosphorus, and coliform bacteria).



Figure 5. Tumblin Creek off US 441 looking west toward Bivens Arm.

To learn more:

- You can read the Tumblin Creek section of the Creeks and Bioreconnaissance Reports at www.AlachuaCountyWater.org.
- Visit the St. Johns River Water Management District website at www.SJRWMD.com
- Visit www.gainesvillecreeks.org