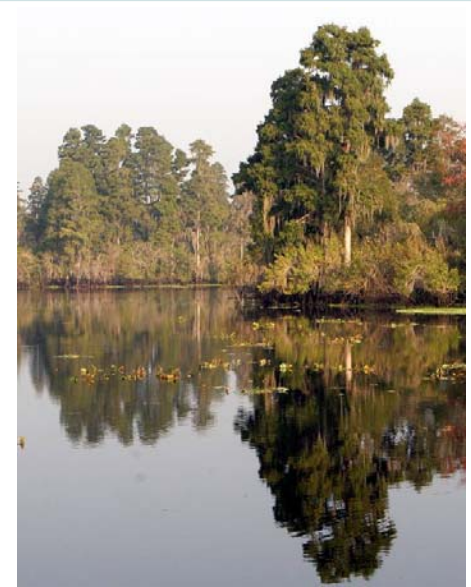




Alafia River pre-BMAP overview

Oct. 2012 Stakeholders Meeting



WELCOME

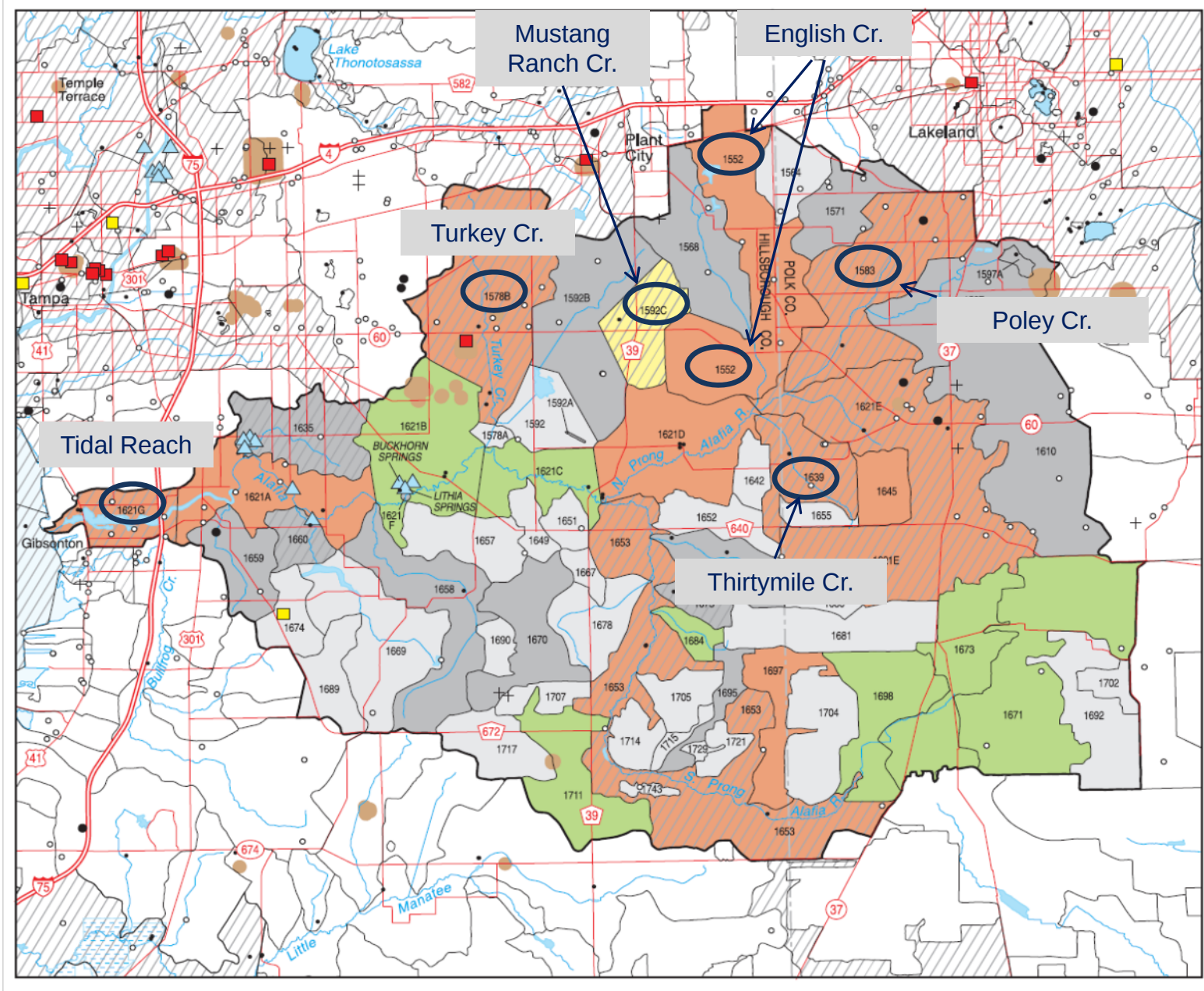


TMDL Water Quality Restoration Grant Opportunity – Application Deadline is November 1st

Three times a year, funding is awarded for the implementation of best management practices designed to reduce pollutant loads to impaired waters from urban stormwater discharges. This funding is administered by the Florida Department of Environmental Protection as the TMDL Water Quality Restoration Grant, which is set out by rule in Chapter 62-305, F.A.C. and authorized by Section 403.890(2), F.S.

If you would like to submit an application, the deadline for this project selection period is **November 1, 2012**. Any questions regarding the grant should be directed to Connie Becker at Connie.L.Becker@dep.state.fl.us or at 850-245-8418. Please visit our website for more information: http://www.dep.state.fl.us/water/watersheds/tmdl_grant.htm .

WBIDs
of
concern



WBID impairments

WBID No.	Name	Impairment
1621G	Alafia River above Hillsborough Bay (tidal segment)	DO (attributed to elevated nutrients/chlorophyll-a)
1578B	Turkey Creek	Fecal coliforms
1592C	Mustang Ranch Creek	*DO (nutrients/chlorophyll-a) Fecal coliforms
1552	English Creek	Fecal coliforms
1639	Thirtymile Creek	*DO (nutrients/chlorophyll-a)
1583	Poley Creek	Fecal coliforms

* May be de-listed by FDEP, based on recent chlorophyll-a data

TMDL components

WBID No.	Name	TMDL components
1621G	Alafia River above Hillsborough Bay (tidal segment)	TN concentration target (0.65 mg N/L)
1578B	Turkey Creek	Fecal coliform concentration Stormwater (WLA and LA) = 64% reduction Wastewater (WLA) = permit limits
1592C	Mustang Ranch Creek*	Nutrient concentration reductions TN = 50% (Stormwater WLA and LA) TP = 45% (Stormwater WLA and LA)
1552	English Creek	Fecal coliform concentration Stormwater (WLA and LA) = 40% reduction)
1639	Thirtymile Creek*	TN concentration targets WLA = 3.0 mg N/L (monthly average) LA = 1.6 mg N/L (annual average)
1583	Poley Creek	Fecal coliform concentration Stormwater (WLA and LA) = 67% reduction

* May be de-listed by FDEP, based on recent chlorophyll-a data

Alafia WBIDs IWR Run 46

WBID	DO	Nutrients	FC
1621G DONut	IM	IM	NI
1578B FC	NI	NI	IM
1592C DONut, FC	IM	NI (Delist '07 to '10 data)	IM
1552 FC	NI	NI	IM
1639 DONut	IM	NI (Delist '06,'07,'08,'09 data)	No data
1583 FC	NI	NI	IM

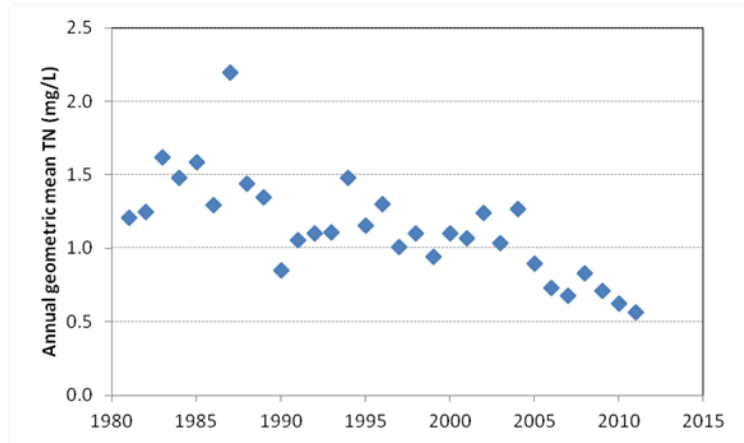
IM = impaired

NI = not impaired

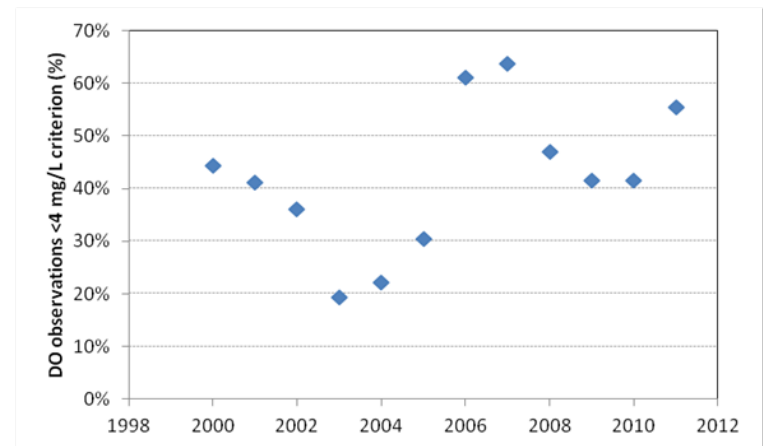
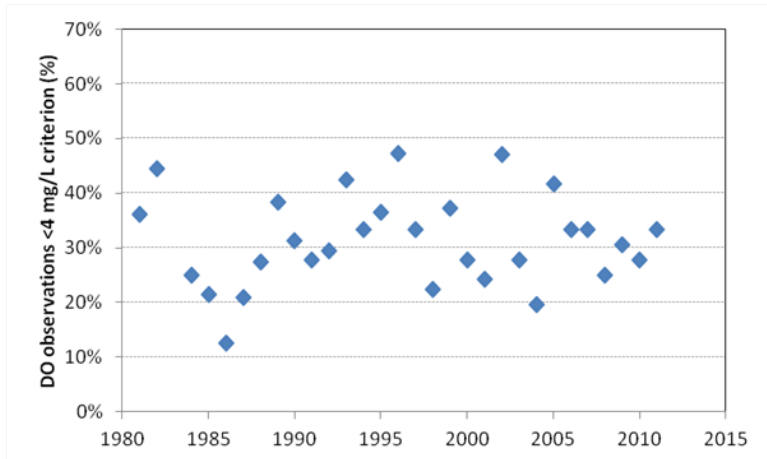
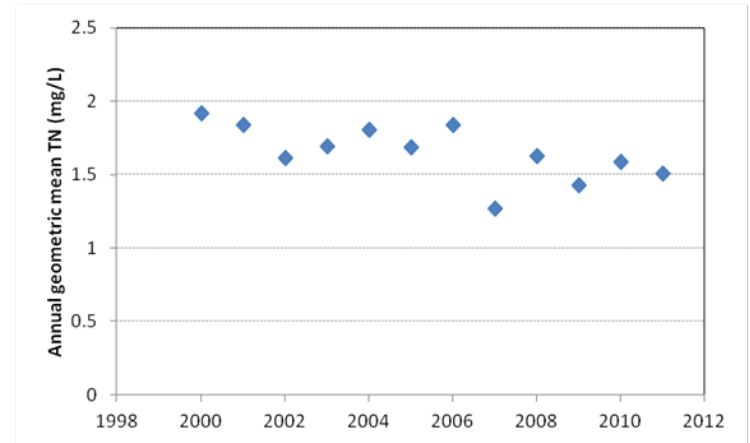
WBIDs with DO impairments

WBID 1621G (tidal segment)

EPC Sta. 74
(US 41)



EPC Sta. 153
(US 301)



Factors significantly correlated ($p < 0.05$) with monthly near-bottom DO observations

EPC Sta. 74
(US 41)

mean mid-depth salinity = 20.2 PSU
range = 0.1 to 33 PSU

Factor	Correlation (Kendall tau)
Water temperature	-0.66
Chl-a	-0.37
Water color	-0.36
TP	-0.33
TN	-0.23
Conductivity/Salinity	0.14

EPC Sta. 153
(US 301)

mean mid-depth salinity = 8.5 PSU
Range = 0.1 to 24 PSU

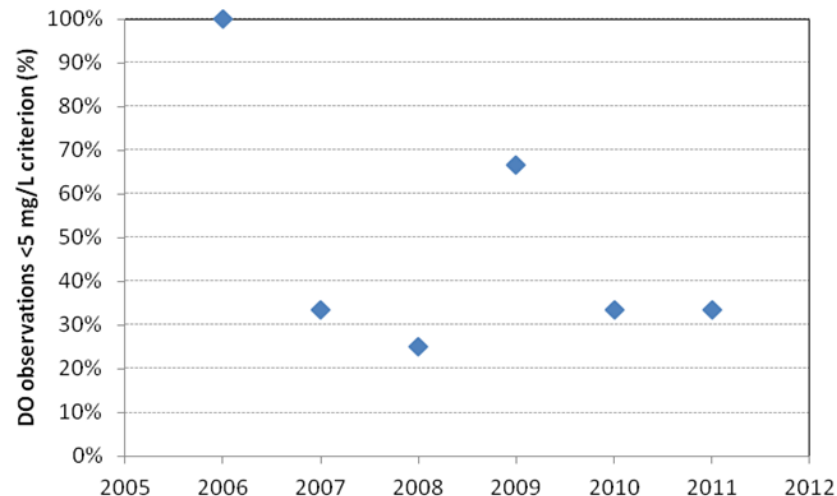
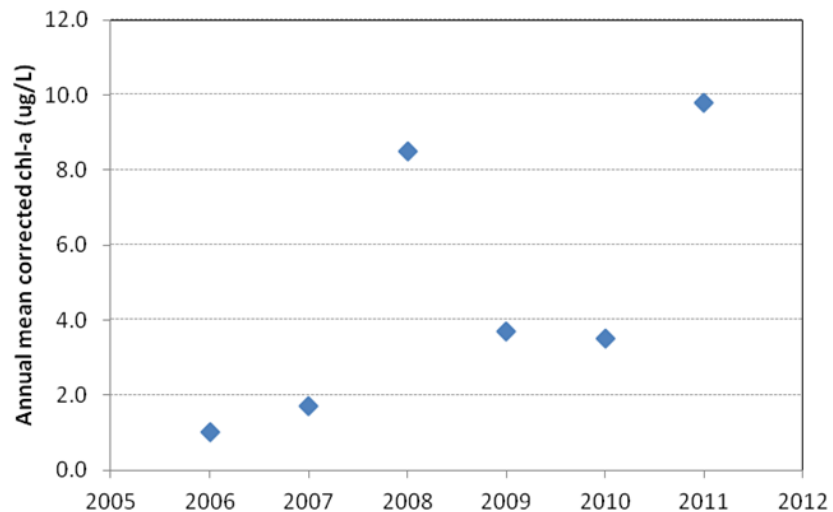
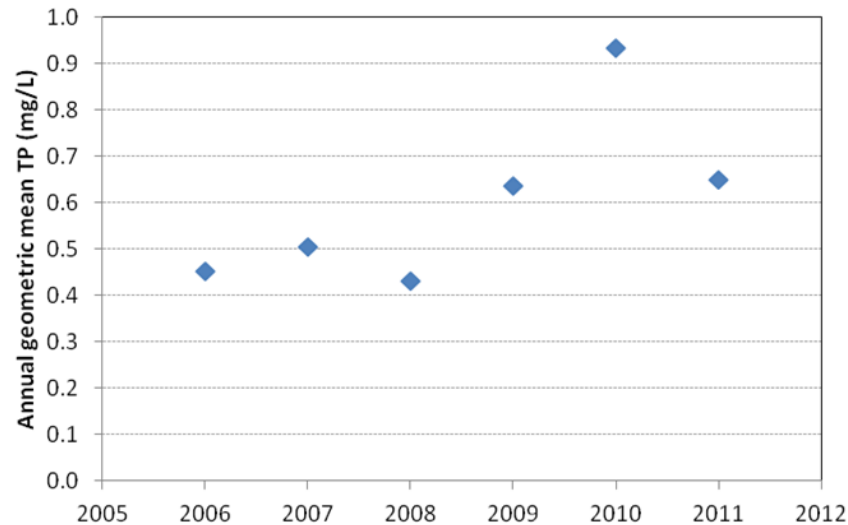
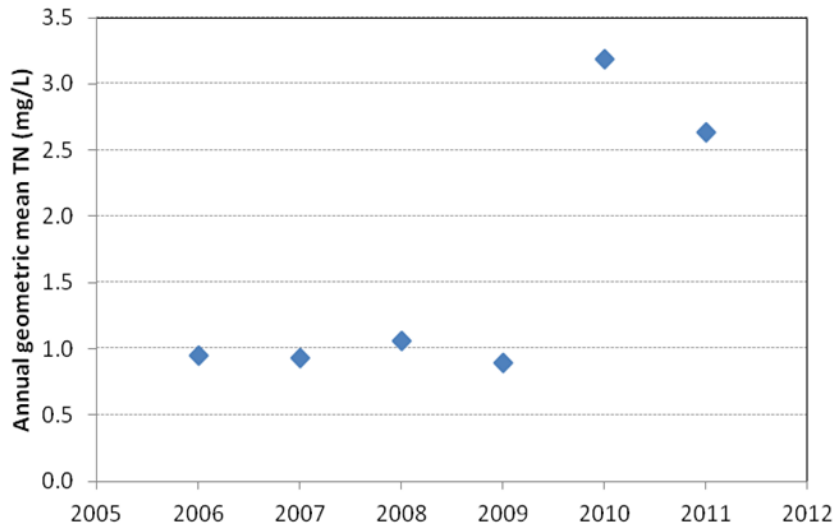
Factor	Correlation (Kendall tau)
Water temperature	-0.44
Conductivity/Salinity	-0.35

Potential BMAP issues

- Large reductions in TN concentration have occurred in this WBID over the past 3 decades, due to nitrogen management efforts in the Tampa Bay watershed
- In 2010 and 2011, annual geometric mean TN concentrations at the downstream EPC station were lower than the 0.65 mg/L TMDL value
- The community-based “hold-the-line” N management program is expected to continue
- Reductions in TN concentrations have not led to reductions in the annual percentage of samples that fail to meet the 4.0 mg/L DO criterion
- Future BMAP work could potentially focus on factors other than TN that affect DO dynamics in the WBID (e.g., water temperature and physical factors that affect circulation, flushing, and reaeration rates)

WBID 1592C – Mustang Ranch Creek

(EPCHC station 542, SR 60)

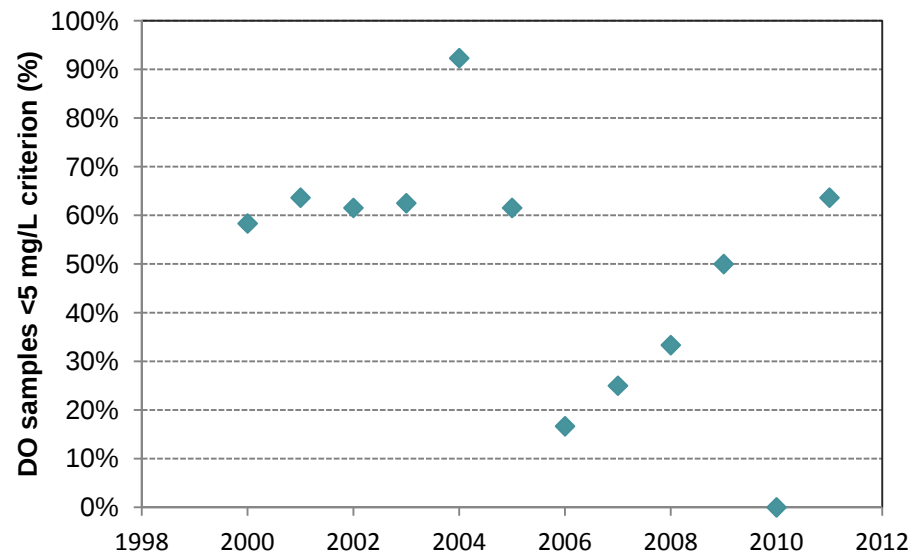
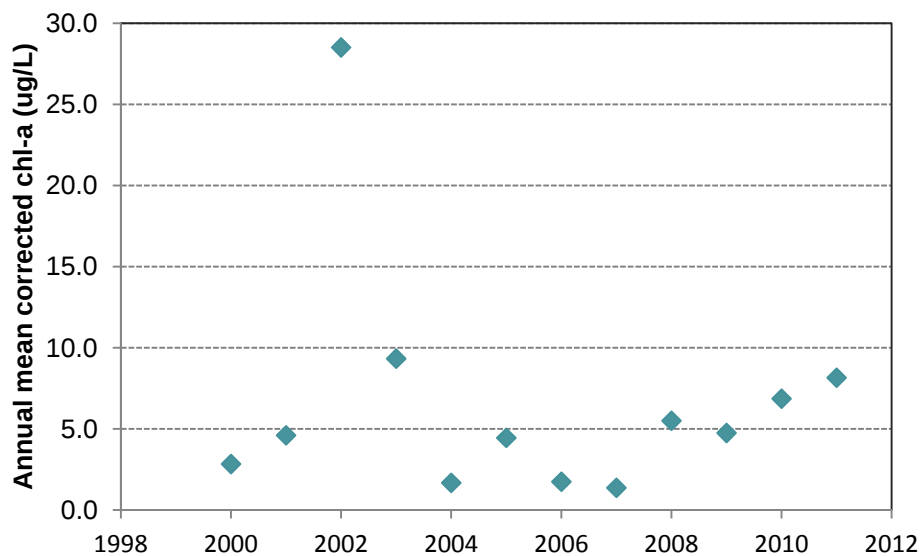
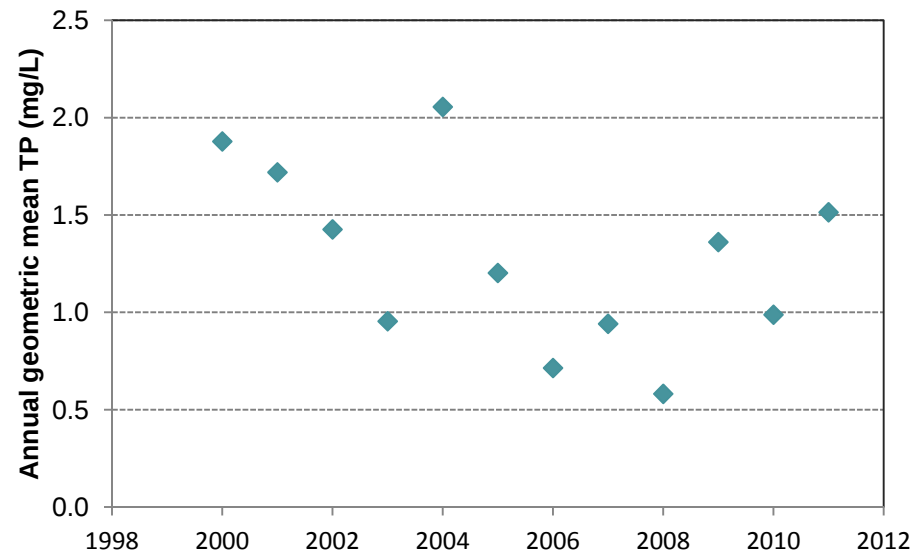
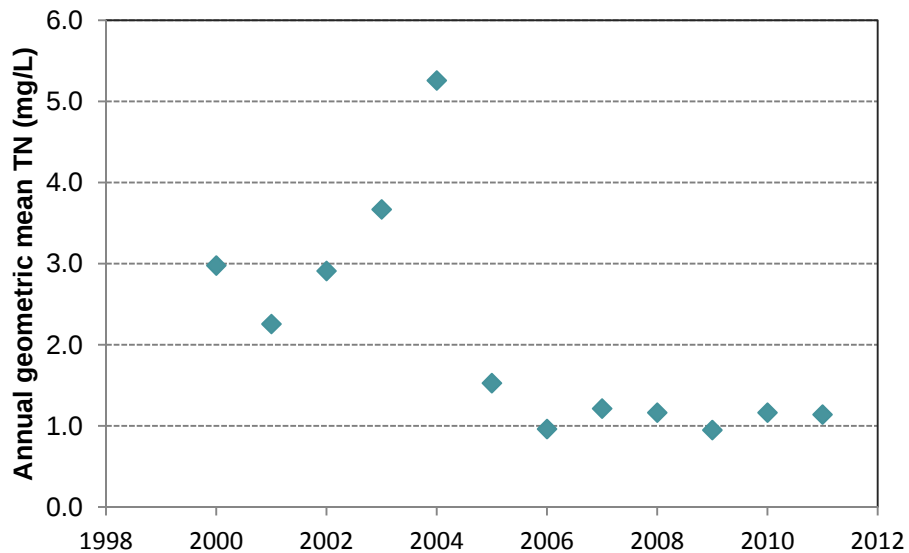


Potential BMAP issues

- WBID may be de-listed due to low annual mean chlorophyll-a concentrations ($<10 \mu\text{g/L}$) and passing score on May 2010 SCI evaluation
- WBID discharges to the Medard Reservoir, which is not currently listed as impaired
- No NPDES wastewater discharges present
- Predominant anthropogenic land uses are agricultural (58%) and low-density residential (13%)
- If WBID is not de-listed, stormwater BMPs for these land uses could be funded and implemented cooperatively through the BMAP process
- The TMDL report notes that correlations between nutrients and DO are low
- BMAP could also include increased WQ monitoring (e.g., from quarterly to monthly), to provide additional information on nutrient–DO relationships

WBID 1639 – Thirtymile Creek

(SWFWMD station 17975, at Nichols Road)



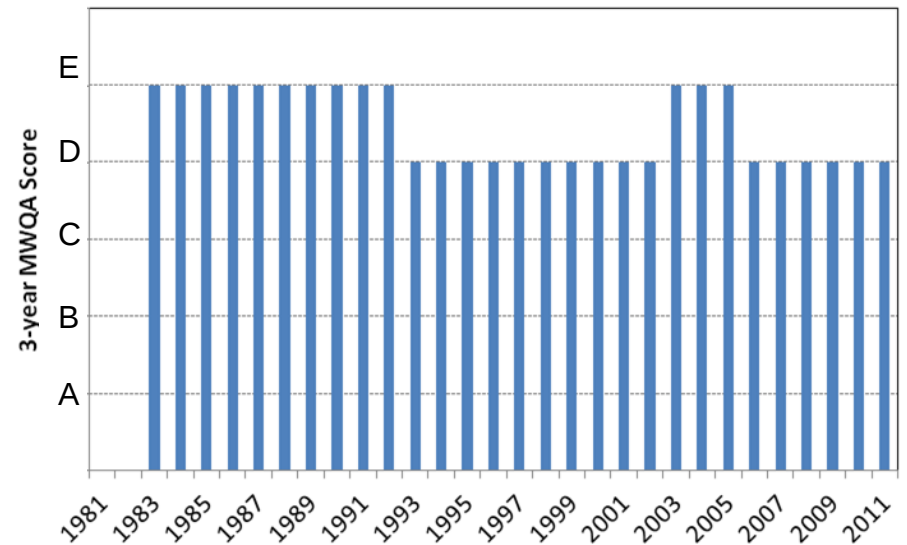
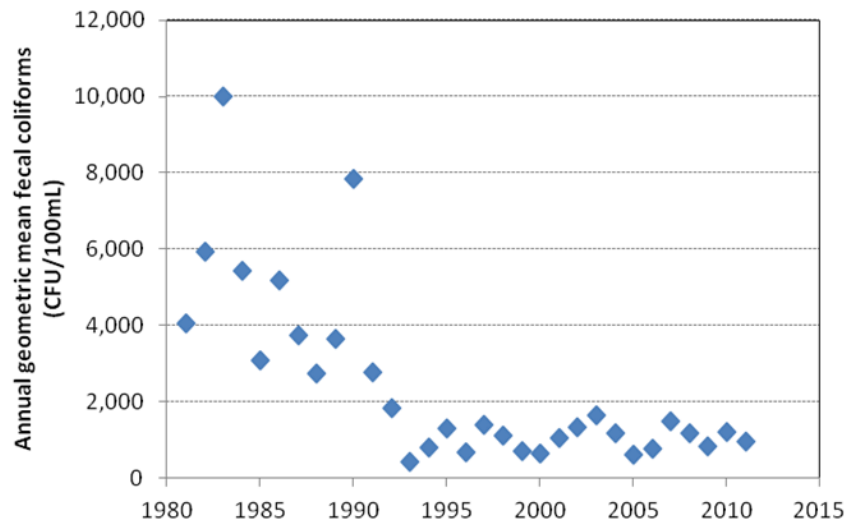
Potential BMAP issues

- WBID may be de-listed due to low annual mean chlorophyll-a concentrations (generally <10 µg/L) and passing score on 2008 SCI evaluation
- The TMDL focused on reducing TN concentrations at NPDES-permitted phosphate facility outfalls to <3.0 mg/L
- At the SWFWMD WQ monitoring station the TMDL TN target (3.0 mg/L) has been met since 2005, as has the proposed TN NNC threshold (1.65 mg/L)
- TP concentrations at the stream monitoring station have not met the proposed NNC threshold (0.49 mg/L) in any year
- If the WBID is not de-listed, BMAP may wish to focus on TP sources and loads

WBIDs with fecal coliform impairments

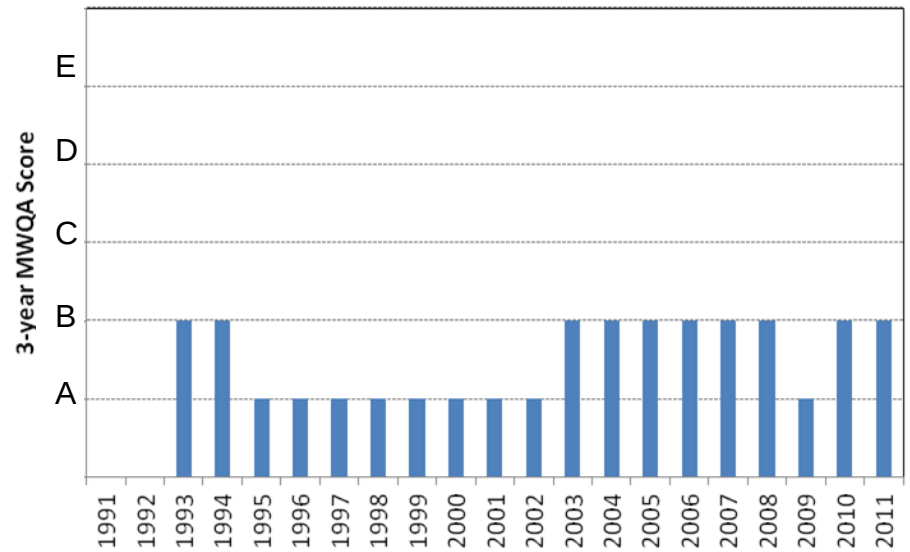
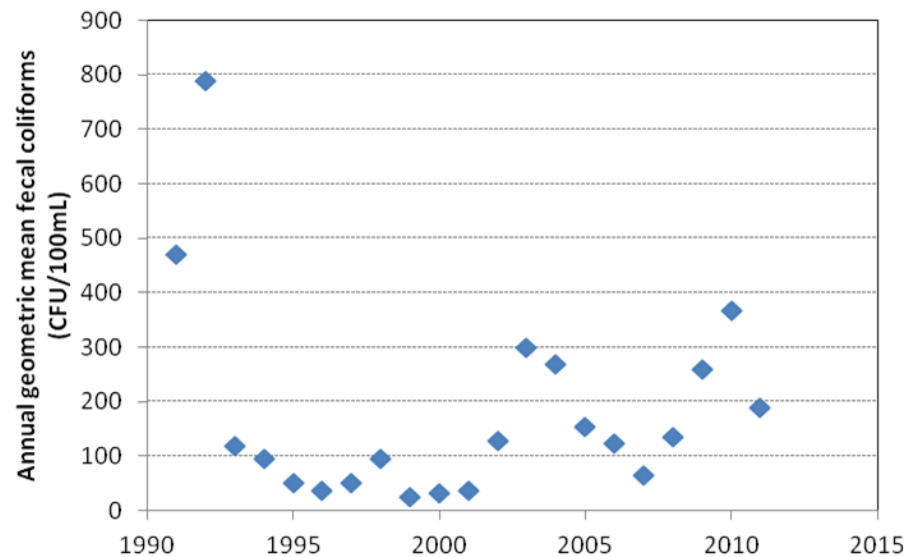
Turkey Creek (WBID 1578B)

EPC station 111 (Turkey Creek at SR 60)



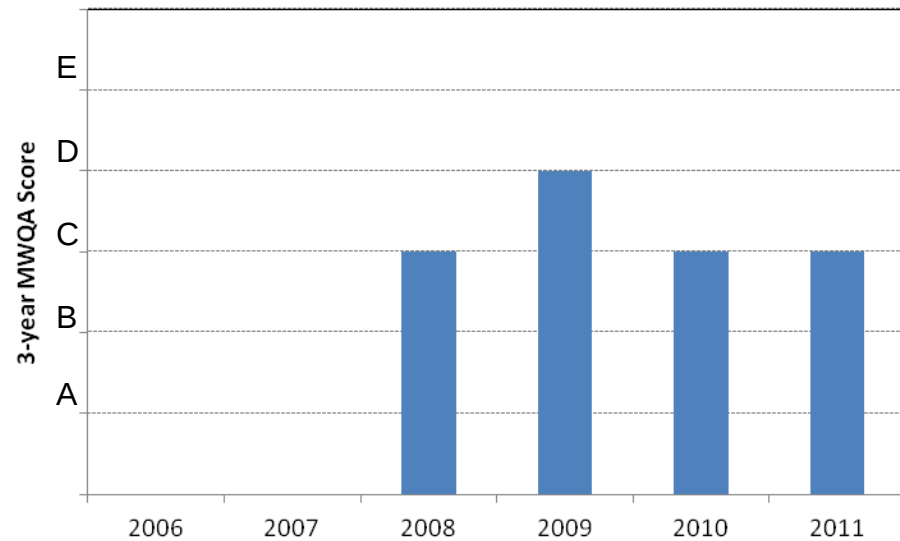
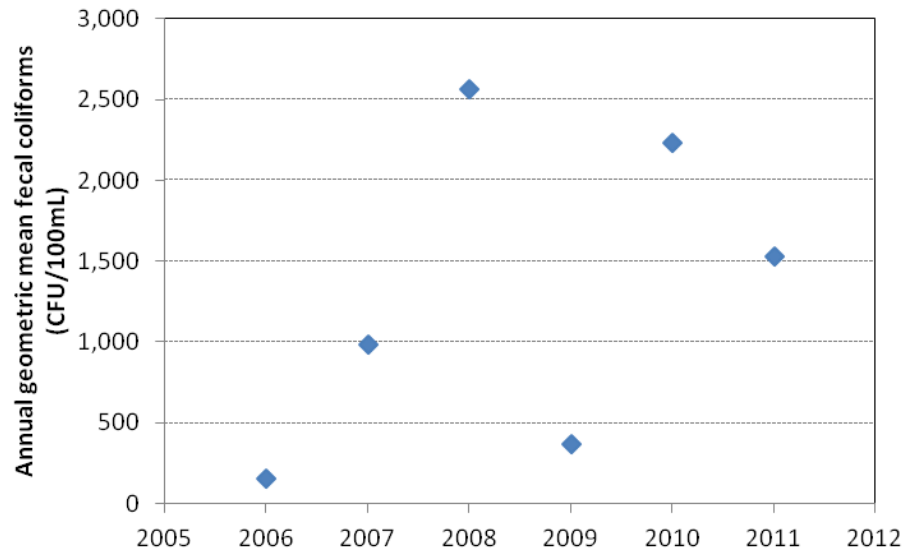
Turkey Creek (WBID 1578B)

EPC station 151 (Turkey Creek at Durant Road)



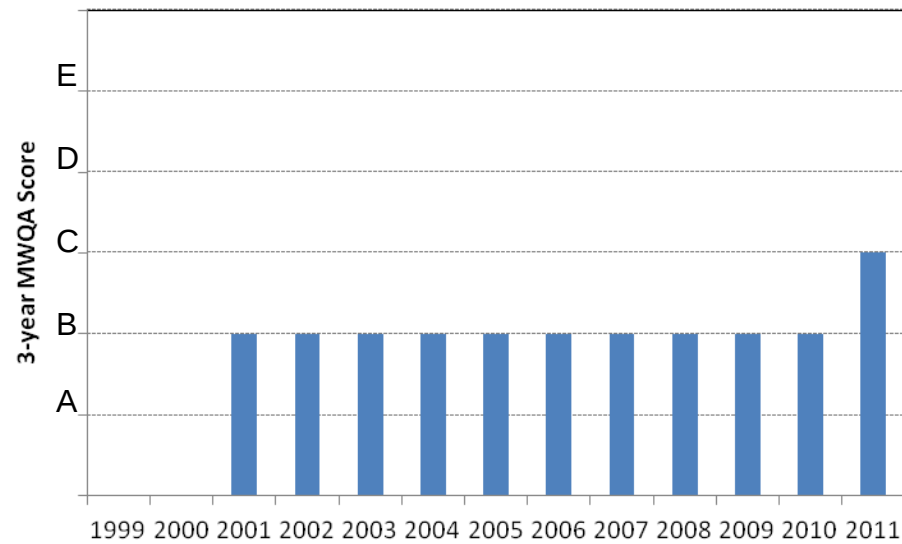
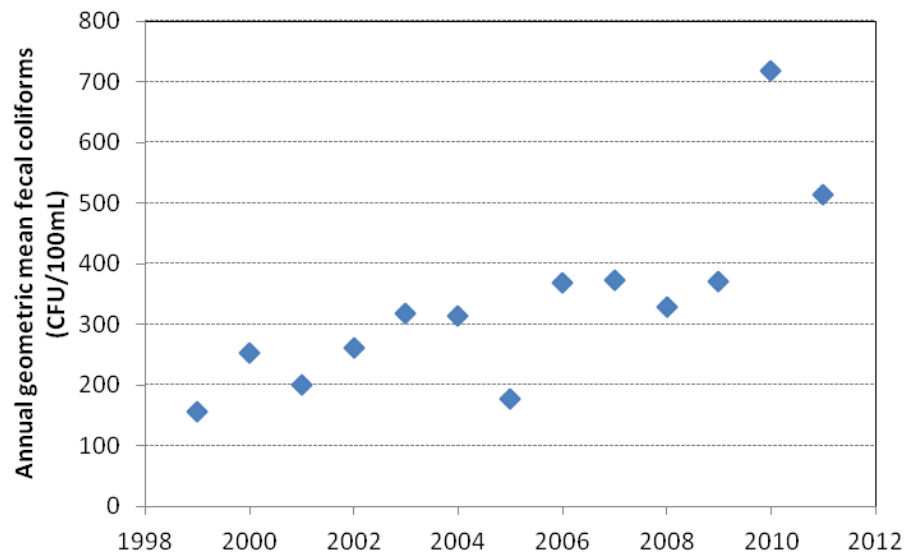
WBID 1592C (Mustang Ranch Creek)

EPC station 542 (SR 60)



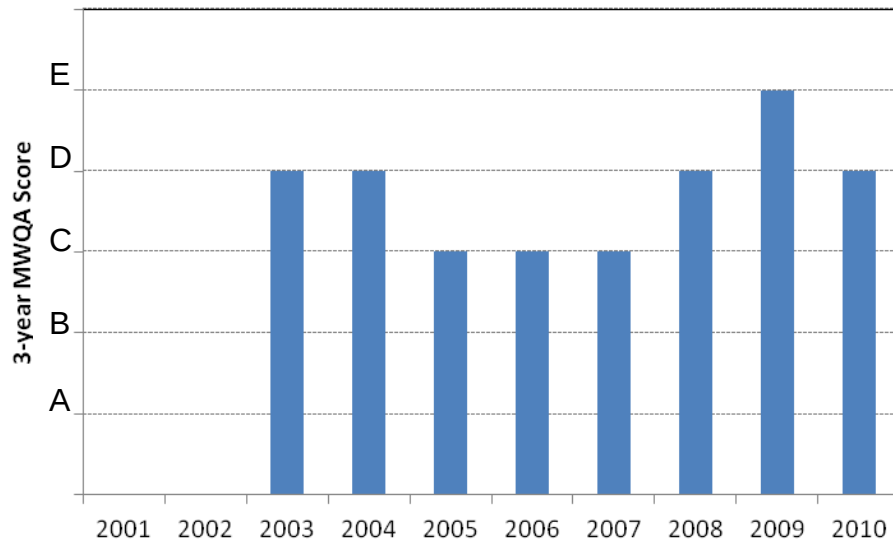
WBID 1552 (English Creek)

EPC station 154 (SR 60)

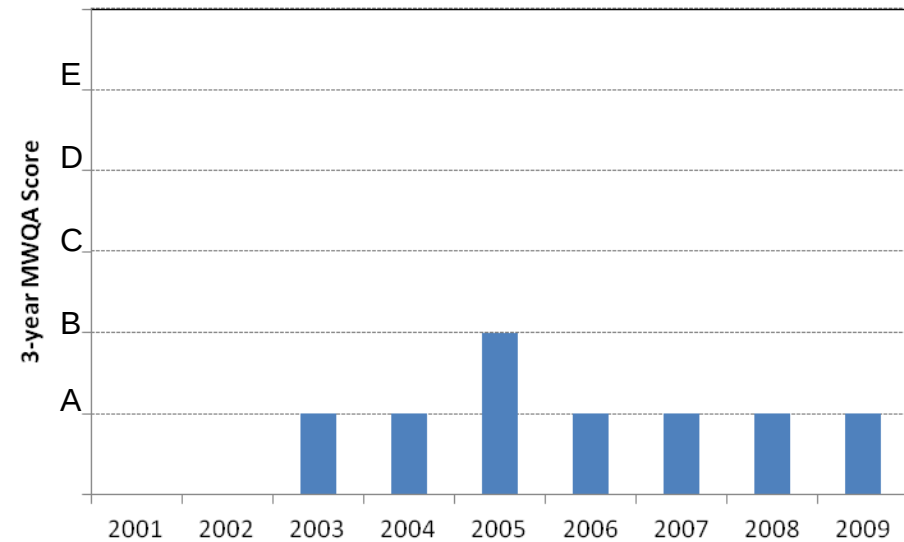


WBID 1583 (Poley Creek)

Polk County station POLCRN1
(Pipkin Road)



Polk County station POLCRS2
(SR 60)



Walk the Waterbody update

Path Forward

- This doesn't mean DO NOTHING
- Continue to update existing NMC RA Plan projects
 - Database website = <http://apdb.tbepotech.org/>
 - Include Lat/longs or GIS information
 - Deadline = Oct. 19 for inclusion in TBEP RA update
- Add Fecal Projects - Source characterization
- Incorporate new activities in watershed (not just these WBIDs)
- Evaluate LOE for sufficiency
- FDEP will finish BMAP and send out for review