North Bosque River TMDL and I-Plan

A Brief Overview

October 2021


Impaired Segment
Stream Segment
Project Watershed
N
Granbury
HOOD
Cleburne
ERATH
Glen Rose
JOHNSON
Stephenville
SOMERVELL
1255
1226
Walnut Springs
Dublin
HILL
Hico
Iredell
North Bosque River
Meridian
COMANCHE
BOSQUE
Clifton
Cranfills Gap
HAMILTON
Hamilton
Valley Mills
Waco
CORYELL
MCLENNAN
Gatesville
0 5 10 15 20
Miles

Impairment and Report History

- 1992 – Listed as impaired on state's 303(d) List
- 1996 – Bosque River Advisory Committee formed
- 1998 – TMDL development initiated for excessive algae associated with high nutrients
- 2001 – TMDLs for phosphorus adopted (February)
- 2001 – TMDLs approved by EPA (December)
- 2002 – I-Plan approved by TCEQ (December)
- 2003 – I-Plan approved by TSSWCB (January)

Public Participation

- Public participation in the watershed was robust.
- TMDLs considered extensive data and several studies from the 1990s.

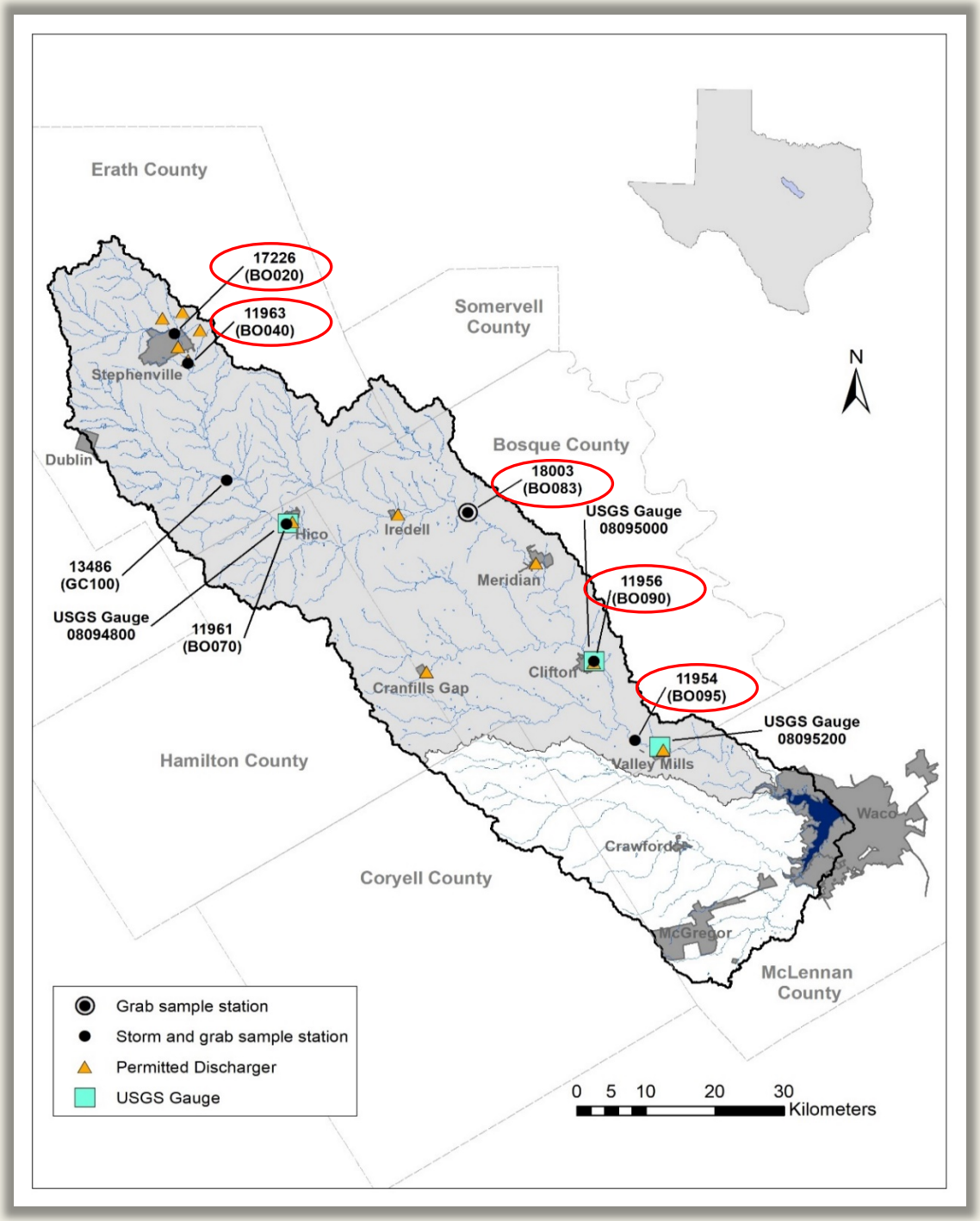
North Bosque River TMDL

- Mandates an approximate 50% reduction in soluble reactive phosphorus (SRP), measured as orthophosphate phosphorus (PO_4-P).
- Establishes five index sites for monitoring and evaluation of goal attainment.
- Targets concentrations PO_4-P at about 0.03 mg/L as the river flows into Lake Waco.

(Target concentrations vary with index site from 0.448 mg/L below Stephenville (17226) to 0.028 mg/L at Valley Mills (11954.)

North Bosque River Monitoring Stations

Index Stations circled in Red



North Bosque River TMDL Reduction Goals

Table 6. Average Annual-Average Soluble Phosphorus Concentrations

	Above Stephenville (17226)	Below Stephenville (11963)	Above Meridian (18003)	Clifton (11956)	Valley Mills (11954)
From "Existing" modeled scenario	203.3	1,143.2	117.0	52.2	41.3
From "TMDL-e" modeled scenario	114.2	448.1	54.5	30.3	27.5
Percent Reduction	43.83%	60.8%	53.425	41.95%	33.14%

The decimal places shown are products of the estimation process and should not be considered significant.

Pollutant Sources

Two major sources of SRP:

- Wastewater Treatment Facilities
- Dairy Waste Application Fields

North Bosque River I-Plan

- Identified four feasible measures to be implemented through six management strategies
- Defined specific water quality measures of success

Questions?