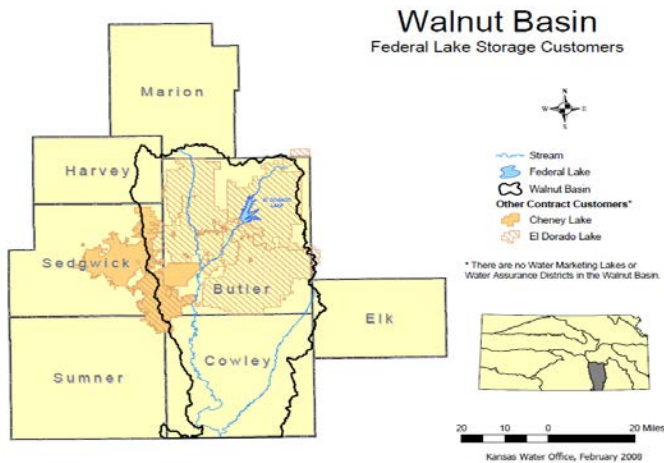


# Upper Walnut/El Dorado Lake WRAPS 9 Element Plan Overview

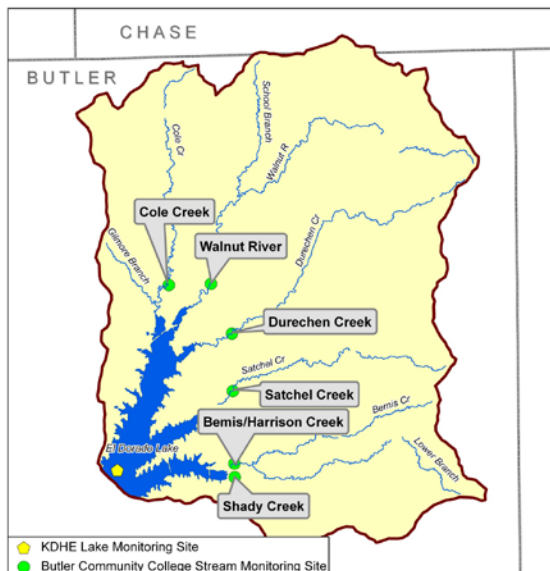
The overall goal of the Upper Walnut/El Dorado Lake WRAPS 9 Element Plan is to provide a blueprint of protection and restoration strategies and activities to protect and restore surface waters in the El Dorado Lake WRAPS Project Area.



TMDLs within Upper Walnut/El Dorado Lake WRAPS Project Area	
TMDL Pollutant	Priority
Siltation	High
Eutrophication	High

The primary pollutant concern of this watershed's lake is siltation and eutrophication which impacts aquatic life support, drinking water and recreation. Note Butler County Conservation District (BCCD) and Butler County Community College (BCCC) have been monitoring Durechen and Cole Creeks and the Walnut River since 1995. Bacteria, nutrients and sediment are the focus in streams.

## El Dorado Lake WRAPS Water Monitoring Network



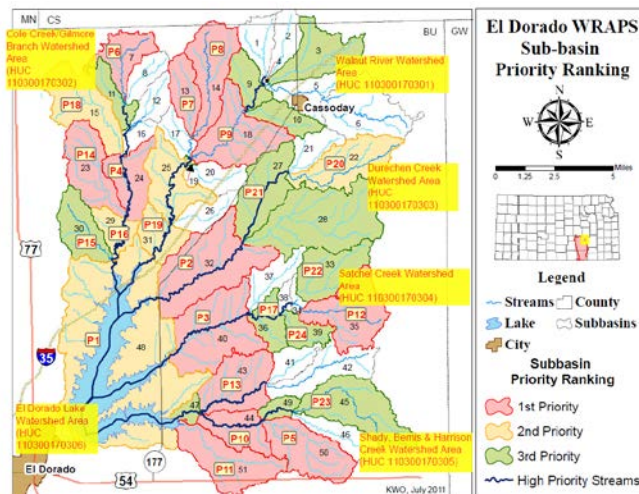
The purpose of this publication is to illustrate general watershed conditions in the state of Kansas. This map product is provided without representation or implied or expressed warranty of accuracy and is intended for watershed planning purposes only. The originating agency is not responsible for publication or use of this product for any other purpose. This product may be corrected or updated as necessary without prior notification.



## Other Assessments and Service Providers:

- Ecosystem Restoration & Protection Feasibility Assessment- US Army Corps of Engineers
  - SWAT Model.
  - Assessment of water quality and aquatic life support impacts from sedimentation.
  - Dredging/reservoir management for sediment.
- Stream bank & riparian assessment-Wildhorse Riverworks
- KS River Friendly Farm Assessment- KS Rural Center

**Prioritization:** 1<sup>st</sup>- Sub-basins in pink; 2<sup>nd</sup>- Sub-basins in yellow; 3<sup>rd</sup> Sub-basins in green.



## Best Management Practices and Load Reduction Goals

Best Management Practices (BMPs) to address bacteria, nutrients, and sediment in the watershed were chosen by the SLT based on local acceptance/adoption rate and amount of load reduction gained per dollar spent.

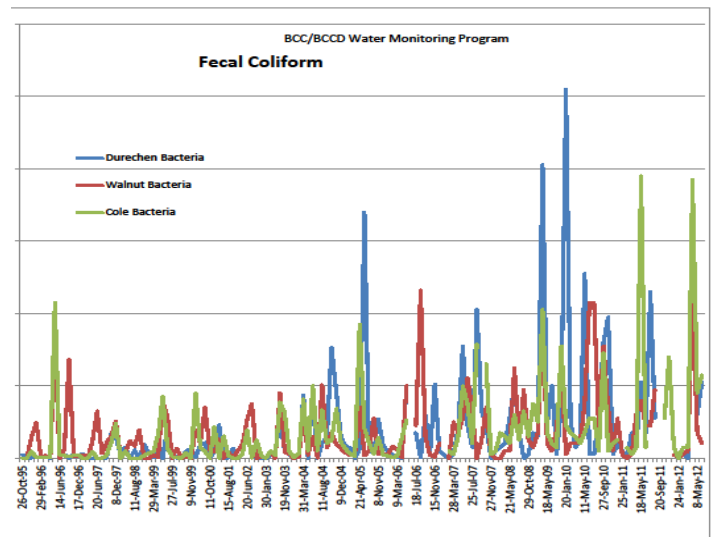
### Bacteria /Phosphorus Reducing BMPs for the El Dorado Lake Watershed:

- Vegetative filter strips
- Relocate feeding pens
- Alternative (Off-Stream) watering systems
- Relocate pasture feeding sites
- Grazing management plans
- Strategically fence ponds or stream sites

### Sediment Reducing BMPs

- No-till farming
- Terraces
- Grassed Waterways
- Buffers and field borders
- Permanent Vegetation
- Grade stabilization structures
- Stream bank stabilization/weirs/planting

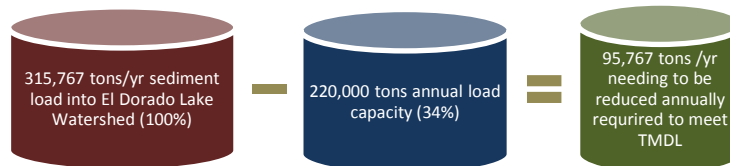
\*Fecal coliform bacteria has been identified by the Butler Community College /Butler County Conservation District Water Monitoring Program as a pollutant in the tributaries above El Dorado Lake. Although no TMDL or pollutant reduction has been established for fecal coliform bacteria specifically, best management practices used for eutrophication will also reduce fecal coliform bacteria counts.



### Current Targeted HUC 12 Watersheds:

- Durechen Creek
- Walnut River/School Branch
- Cole Creek/Gilmore Branch

The current estimated sediment load from nonpoint sources in El Dorado Lake is 315,767 tons per year according to the Kansas Department of Health and Environment Watershed Planning Section (TMDL). **The total annual load reduction allocated to El Dorado Lake needed to meet the sediment TMDL is 95,767 tons of sediment.** This is the amount of sediment that needs to be removed from the watershed and is the target of the BMP installations that will be placed in the watershed. These BMPs have been determined as feasible and approved by the SLT.



The current estimated nutrient load from nonpoint sources in El Dorado Lake is 82,688 pounds per year according to Kansas Department of Health and Environment Watershed Planning Section (TMDL). **The total annual load reduction allocated to El Dorado Lake needed to meet the nutrient TMDL is 60,994 lbs/yr of phosphorus.** This is the amount of phosphorus that needs to be removed from the watershed and is the target of the BMP installations that will be placed in the watershed. These BMPs have been determined as feasible and approved by the SLT.

