South Fork Palouse River Water Quality Improvement Projects

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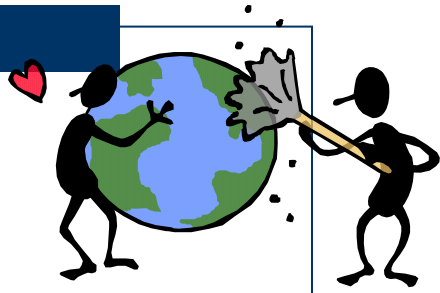
Today's Agenda

- Introductions
- Refresher on TMDLs
- Review of water quality issues and current studies
- Advisory group formation

What is a Water Quality Improvement Project or TMDL?

- It's a PLAN for better water



- It's a PUBLIC PROCESS

- It's a DOCUMENT

- It's an AMOUNT OF A POLLUTANT

What is a TMDL?

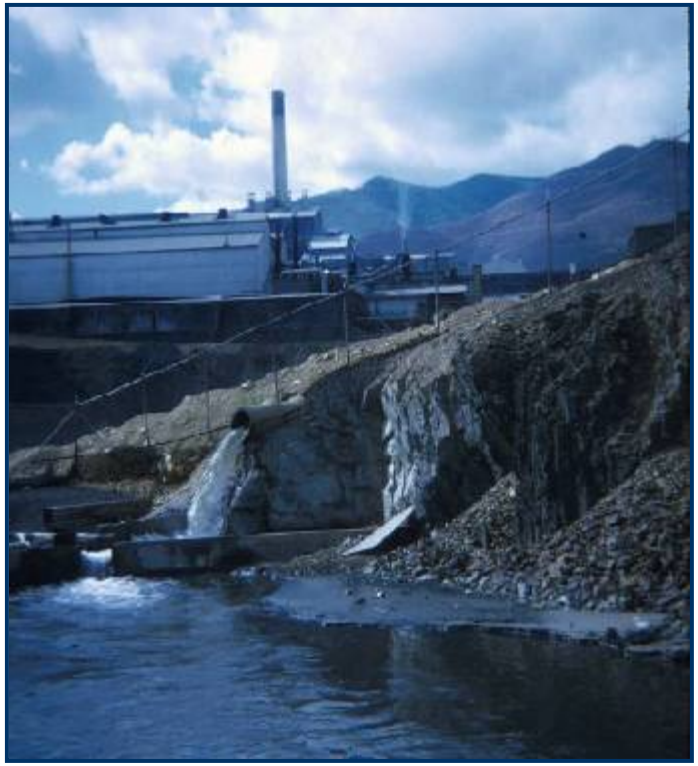
TMDL = Total **M**aximum **D**aily **L**oad

“the amount of a pollutant that a waterbody can receive and still meet water quality standards”

Allocations

Waste Load Allocations (WLA) - are allocations for point sources of pollution

- **End of pipe discharge**
- **Usually from a facility wastewater treatment plant or a factory**
- **Also stormwater**

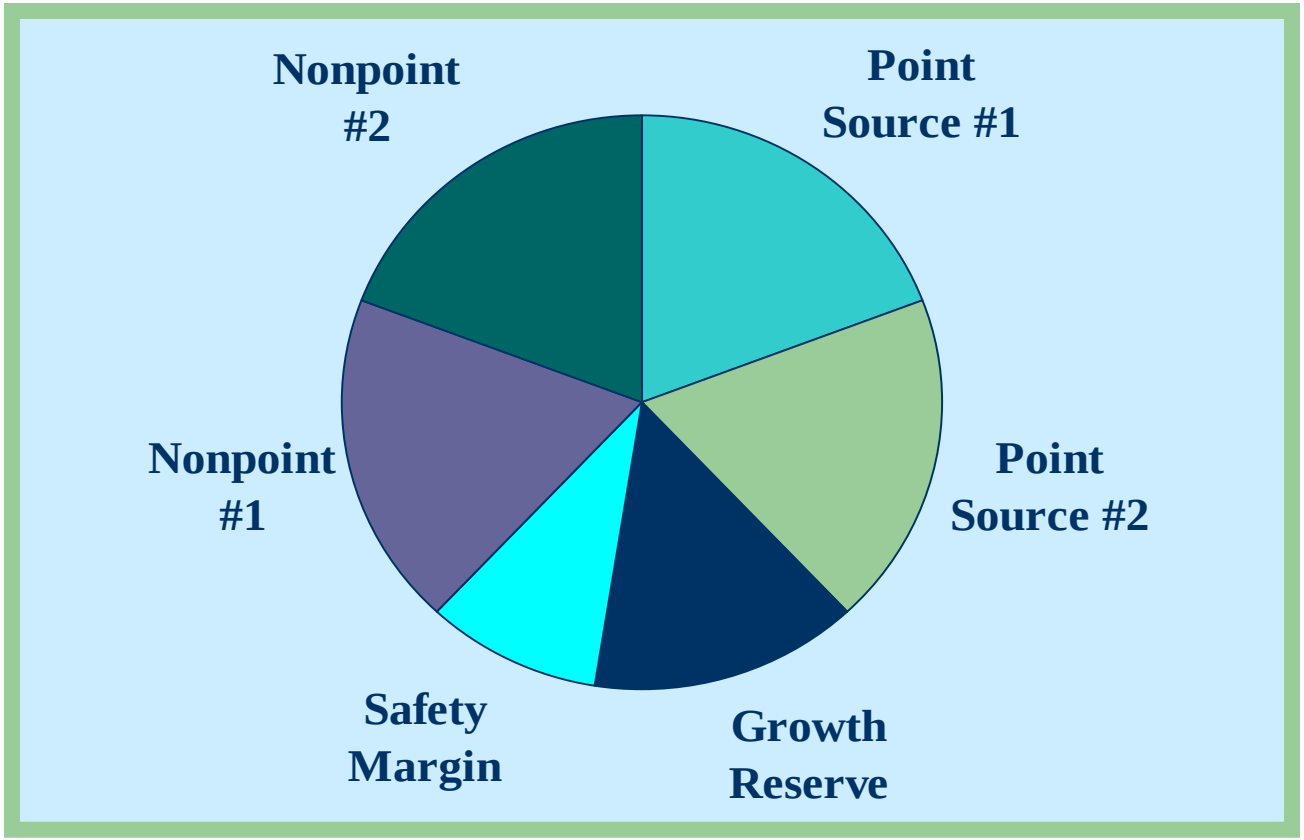


Allocations - continued-

- **Load Allocations (LA) - allocations from nonpoint sources of pollution**
  - **From diverse sources**
  - **Exact source not easily determined**
  - **Usually set geographically**
  - **Examples include:**

- **Runoff from streets**
- **Fertilizer from lawns and crops**
- **Runoff from pastures**
- **Faulty septic tanks**

The TMDL divides the maximum amount into allocations for each source or geographic area



Why do TMDLs?

1) To restore water quality
2) It's the law
3) Lawsuit compliance

The Law

- The Clean Water Act (CWA) requires states to set water quality standards for surface waters to protect public and environmental health.

- These standards protect water for beneficial uses such as:

  - Drinking Water
  - Recreation
  - Fishing
  - Aquatic Habitat
  - Irrigation
  - Livestock

The Clean Water Act

- Streams and lakes not providing these beneficial uses are placed on a list of impaired waterbodies
  - The 303(d) list

- Waterbodies on the 303(d) list must have a TMDL developed for them to correct the impairment

Lawsuit Compliance

- **1990's:** several citizen lawsuits around the US claimed that EPA was not implementing section 303(d) of the Clean Water Act in a timely manner.
- **1998:** In January 1998, Ecology, EPA, and two environmental advocate groups agreed to a clean up schedule directing how Washington state will improve the health of nearly 700 water segments by the year 2013.
- This agreement was outlined in a Memorandum of Agreement (MOA).

Ecology works with

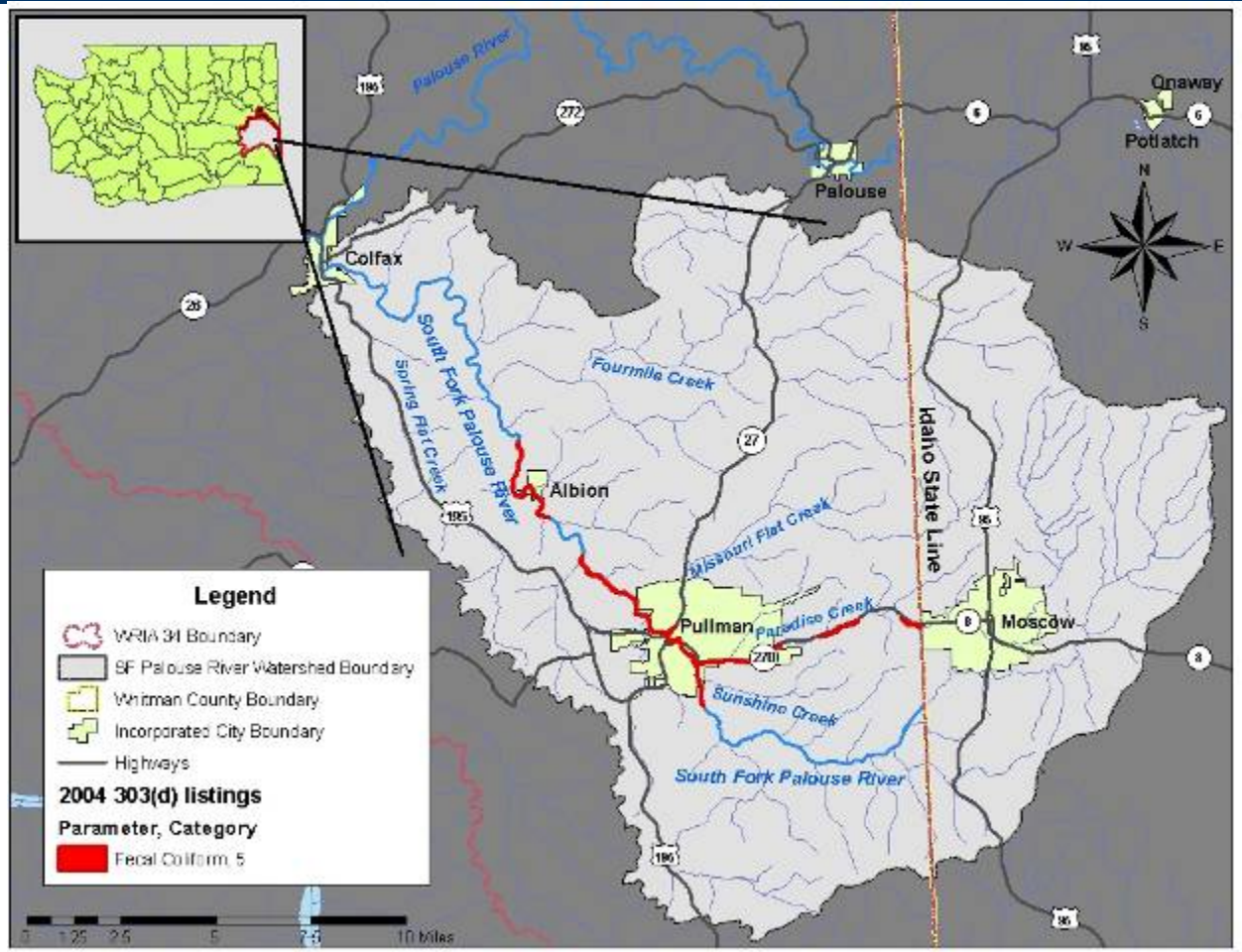
- Tribes
- Watershed Planning Units
- Local governments
- Conservation districts
- Local interest groups
- Individual citizens
- Businesses
- Landowners

to develop plans to reduce the pollution.

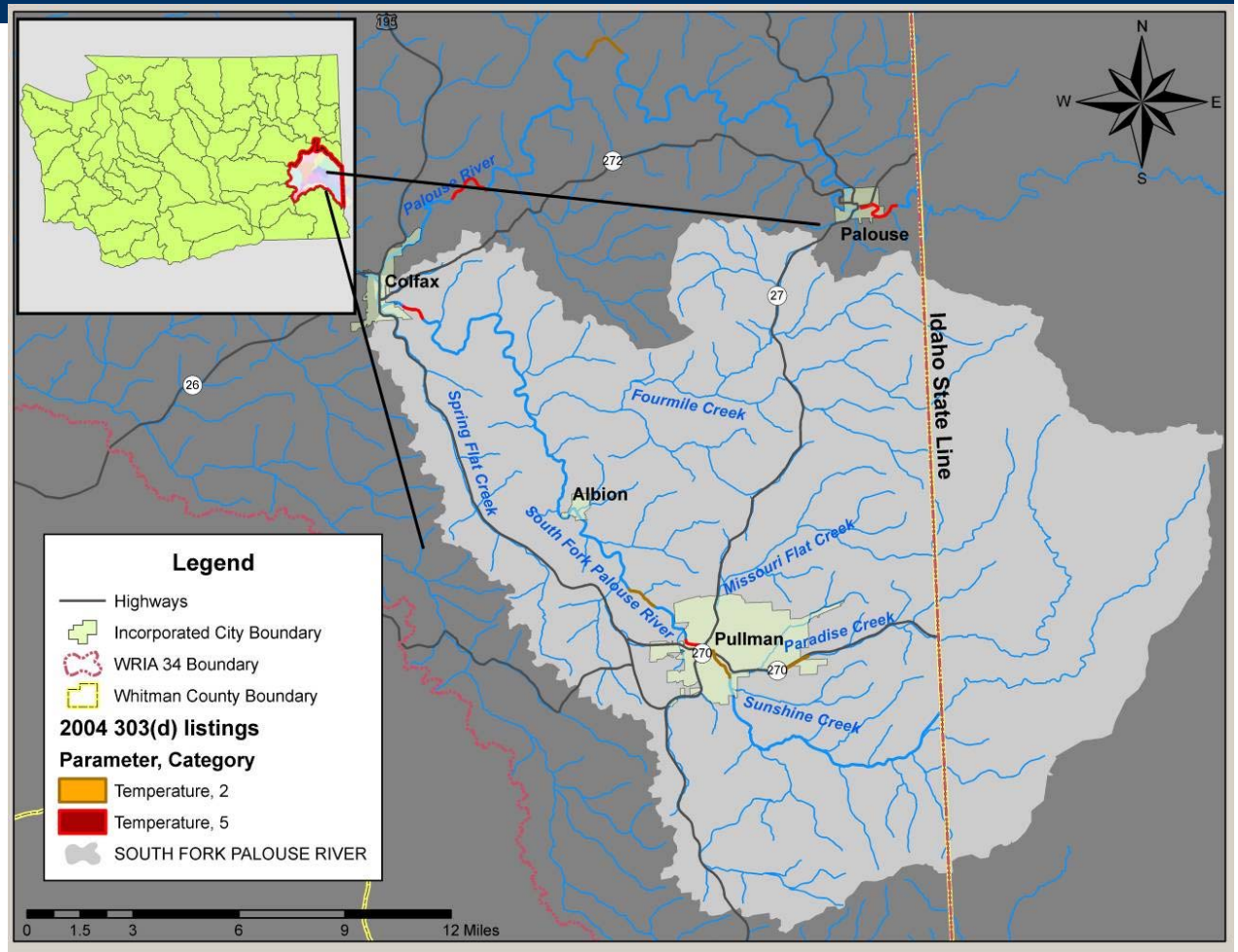
The State of the South Fork Palouse River

- South Fork Palouse Impairments
  - Fecal coliform bacteria
  - Dissolved oxygen
  - pH
  - Temperature
- Paradise Creek Impairments
  - Fecal coliform bacteria
  - Ammonia
- Missouri Flat Creek Impairments
  - Fecal coliform bacteria

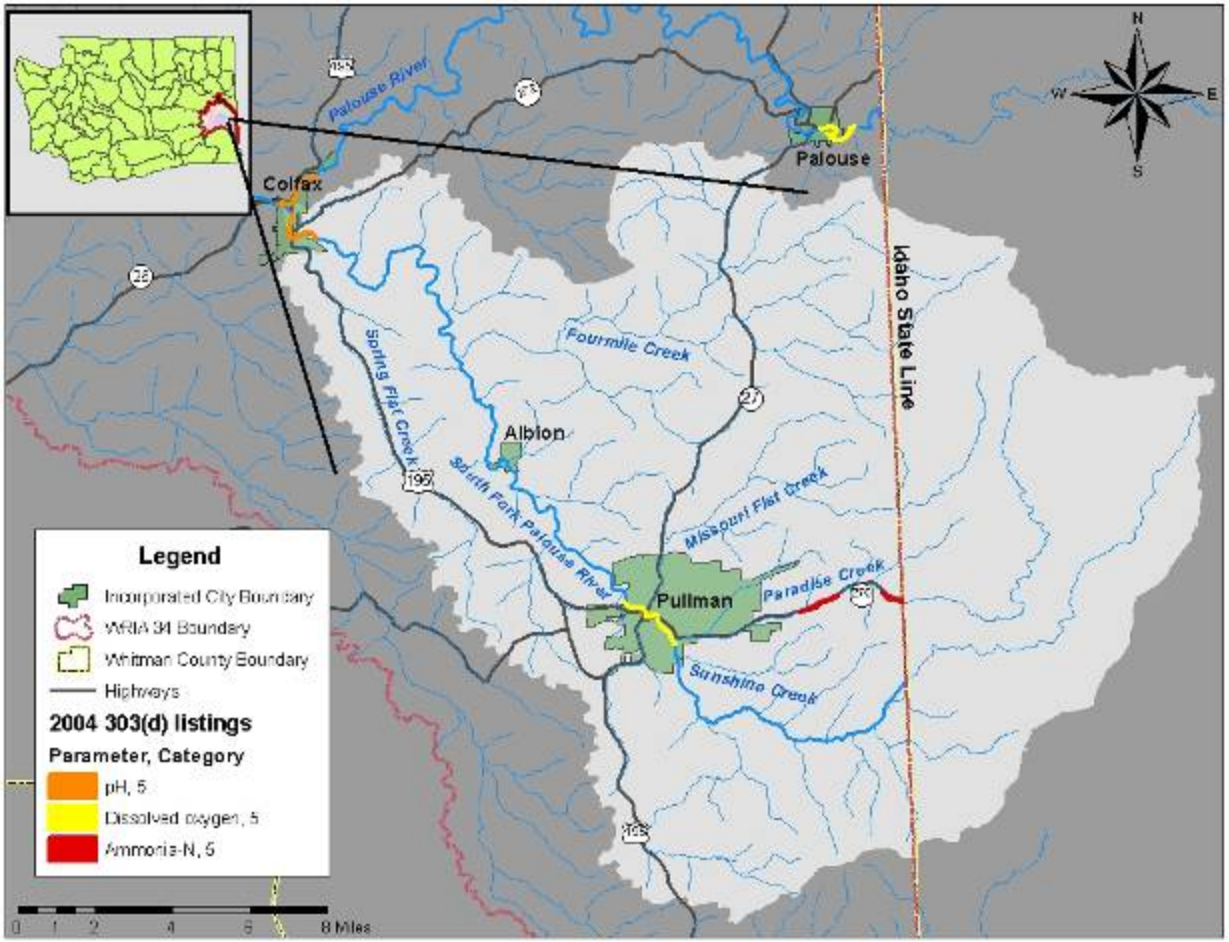
S.F. Palouse River Basin 303(d)list Fecal Coliform Bacteria Listings



South Fork Palouse River Basin 303(d)list Temperature Listings



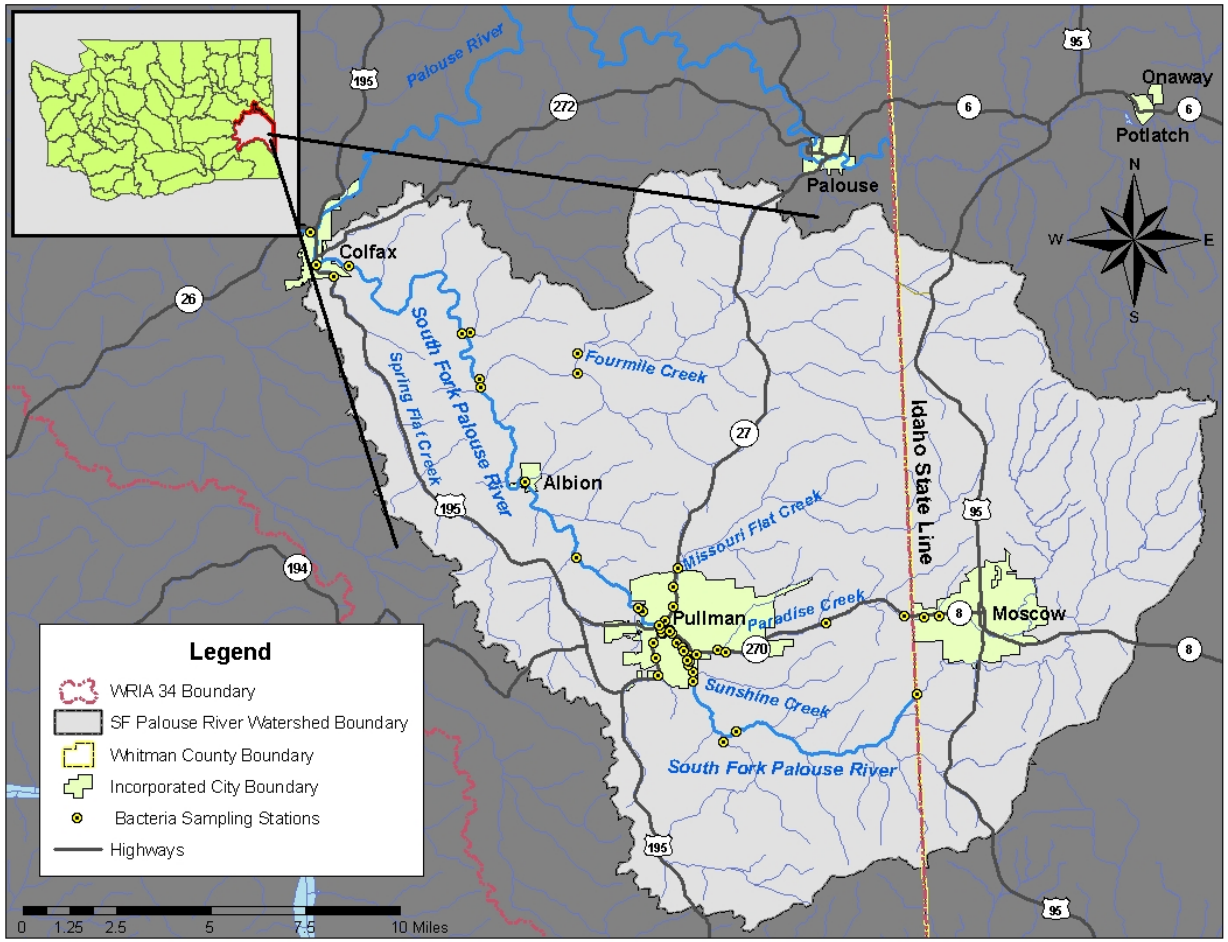
S.F. Palouse River Basin 303(d)list Dissolved Oxygen and pH Listings



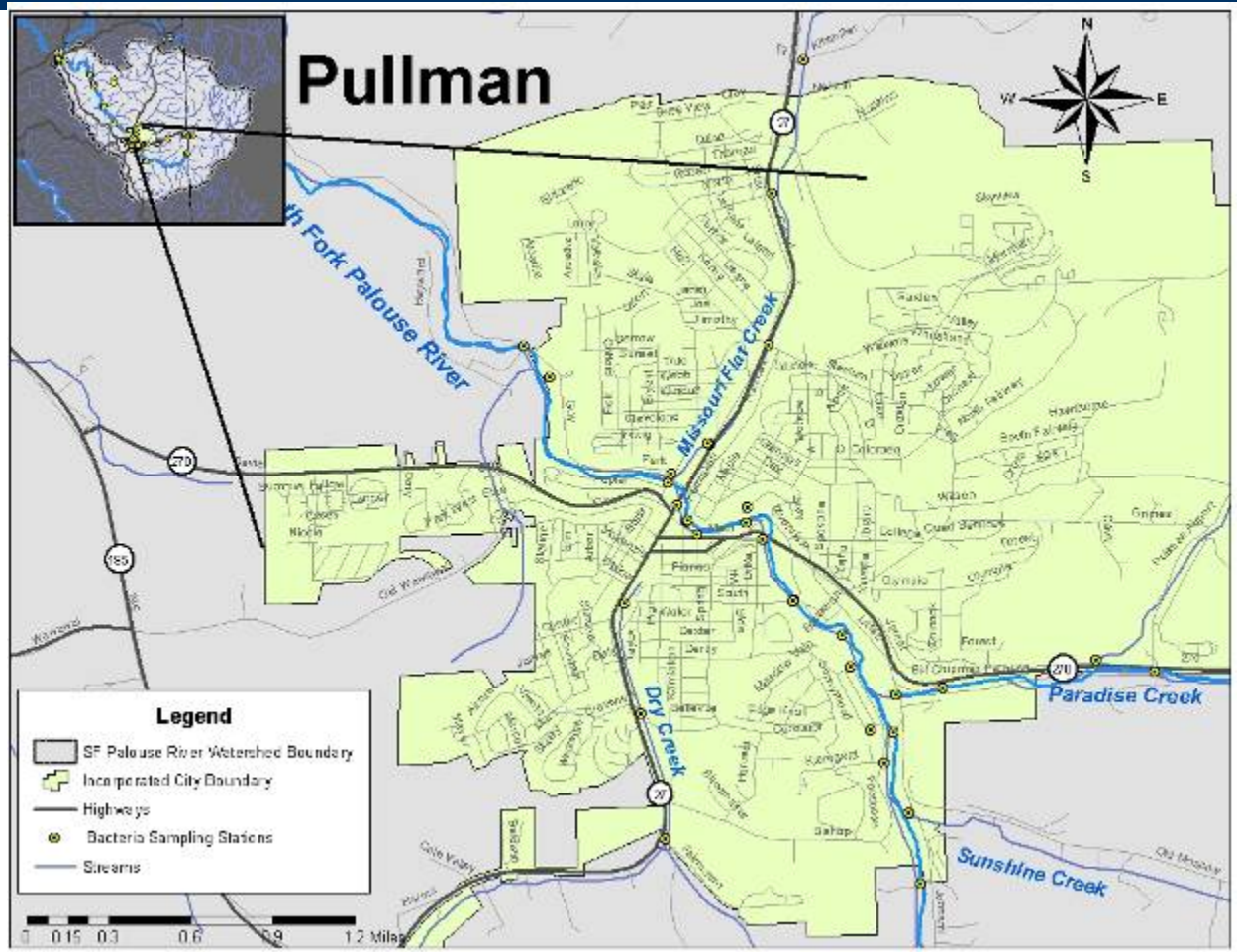
Ecology's TMDL Studies

- Bacteria study – May 2006 to May 2007
- Temperature study – June 2006 to Oct 2006
- Dissolved oxygen & pH study – Summer 2006

Bacteria TMDL sampling sites



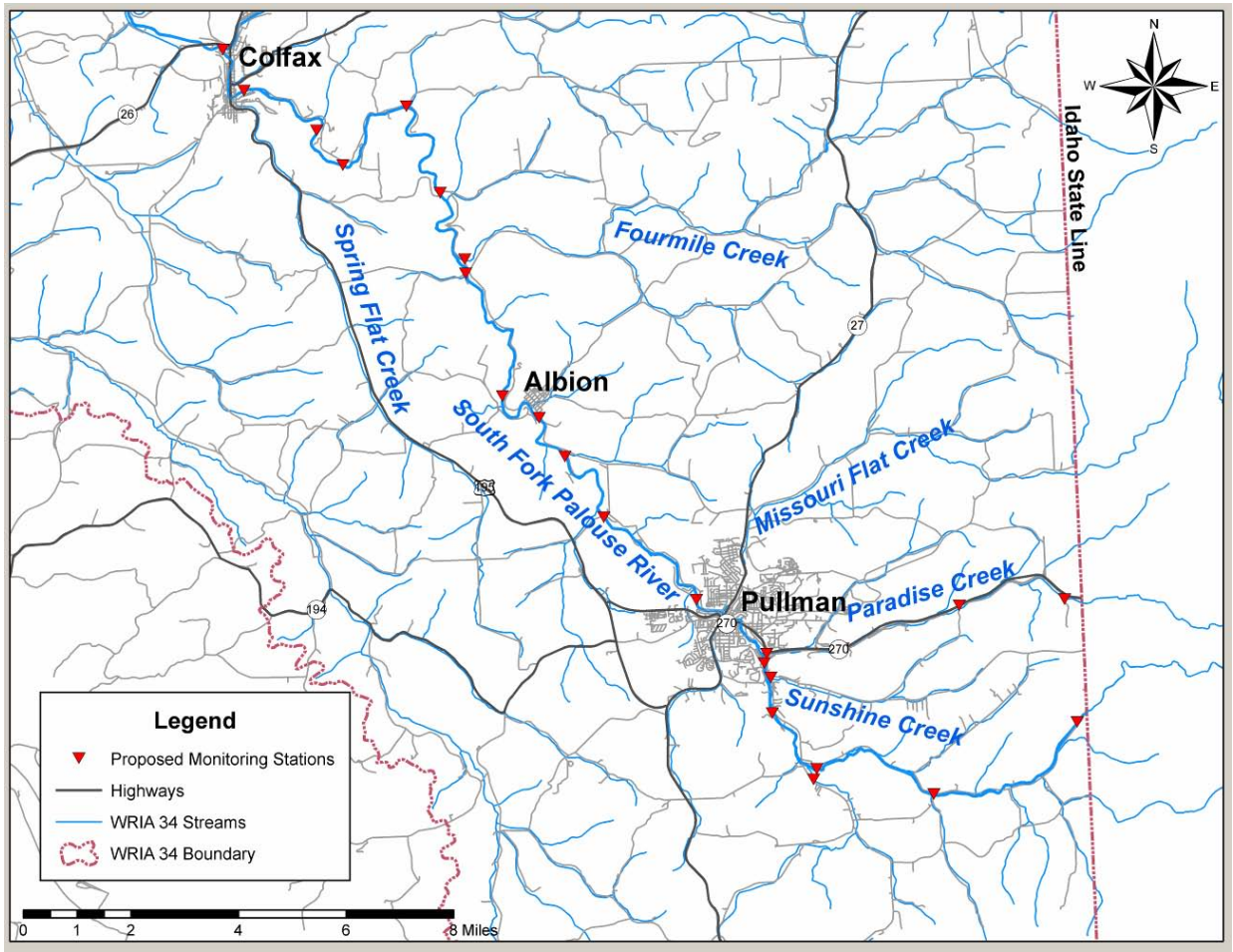
Bacteria TMDL sampling sites



Fecal Coliform Bacteria TMDL Study Goals

- Identify and characterize fecal coliform bacteria concentrations and loads under various seasonal or hydrological conditions, including stormwater contributions.
- Identify relative contributions of fecal coliform loading to the SFPR so clean-up activities can focus on the largest sources.
- Establish fecal coliform load allocations (for nonpoint sources) and wasteload allocations (for point sources) to meet water quality standards.

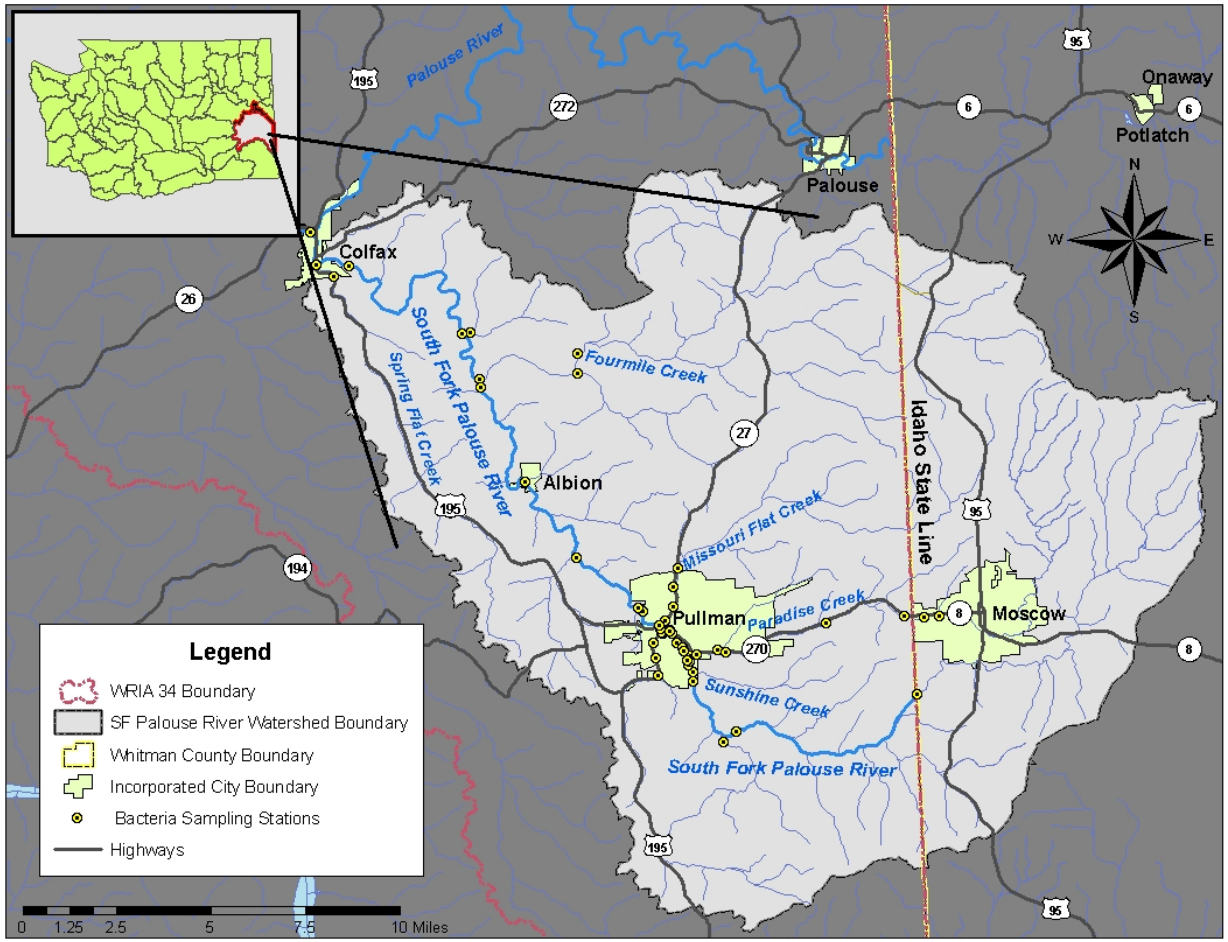
Temperature Stations



Temperature TMDL Study Goals

- Characterize stream temperatures and processes (including the influence of tributaries, point sources, and groundwater).
- Develop a predictive temperature model. Evaluate the system potential temperature (approximated natural temperature conditions) for the South Fork Palouse River.
- Use calibrated temperature model to run different scenarios to assist water quality management decisions.

Dissolved Oxygen and pH TMDL sampling sites



Dissolved Oxygen and pH TMDL Study Goals

- Characterize processes governing dissolved oxygen and pH in Paradise Creek and the South Fork Palouse River including the influence of tributaries, point sources, and groundwater.
- Develop a model to simulate productivity in Paradise Creek and the South Fork Palouse River.
- Use calibrated productivity model to evaluate future water quality management decisions.

What's next?

- Form an advisory group
- Review results and analysis of the bacteria study
- Develop implementation strategy
- Submit completed TMDL to EPA for approval
- Begin same steps for the temperature study…

Advisory Groups

People representing a range of interests in the watershed, brought together to help Ecology develop a Water Quality Improvement Plan (or TMDL).

- Make recommendations about options and solutions
- Share water quality information with your interest group and community
- Review, edit and comment on draft documents
- Provide advice on outreach and education strategies

Advisory Group Formation

- What interest groups need to be included?
- What ground rules do we want?
- How do we want to run our meetings?
- What should we call our group?
- What is our schedule?

Example ground rules

- Listen with an open mind; suspend judgment
- Listen to the person speaking; no sidebar discussions
- Be creative
- Maintain respect for the group and its individuals
- Support the primary purpose of the group
- ....