

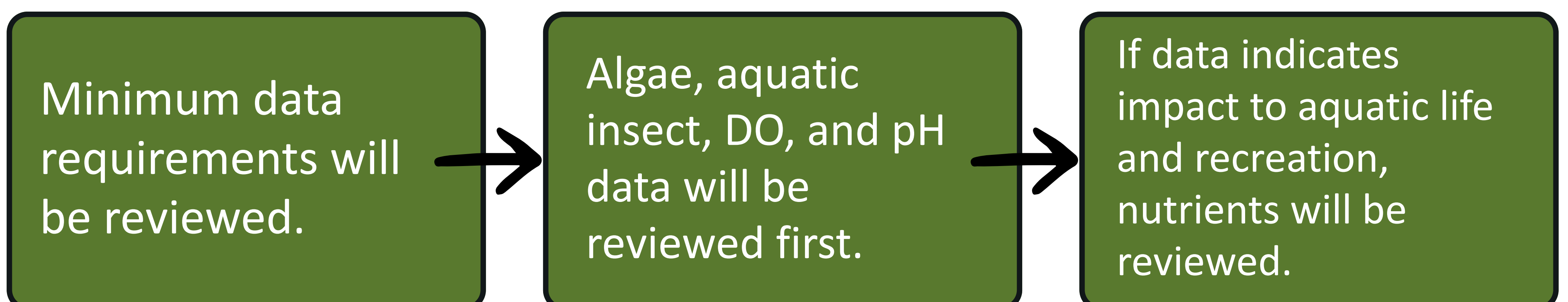
EUTROPHICATION ASSESSMENT METHOD PROCESS

Eutrophication results from an overabundance of nitrogen and phosphorus (nutrients) attributed to human influenced sources, producing undesirable algal growth.

Eutrophication causes water quality problems such as excess algae growth, low dissolved oxygen (DO), changes in pH, and degraded aquatic communities.



The proposed **assessment process** focuses primarily on a stream or river's algae and aquatic insect conditions, with nutrient concentrations considered as supporting information.



The proposed **assessment process** accounts for local conditions by looking at site-specific data and results in an accurate site assessment.



DO logger



Aquatic insects



Filamentous algae growth

DEQ'S

HISTORY & FUTURE

IN THE BIG HOLE

DEQ has been addressing water quality concerns since the late 1980s.

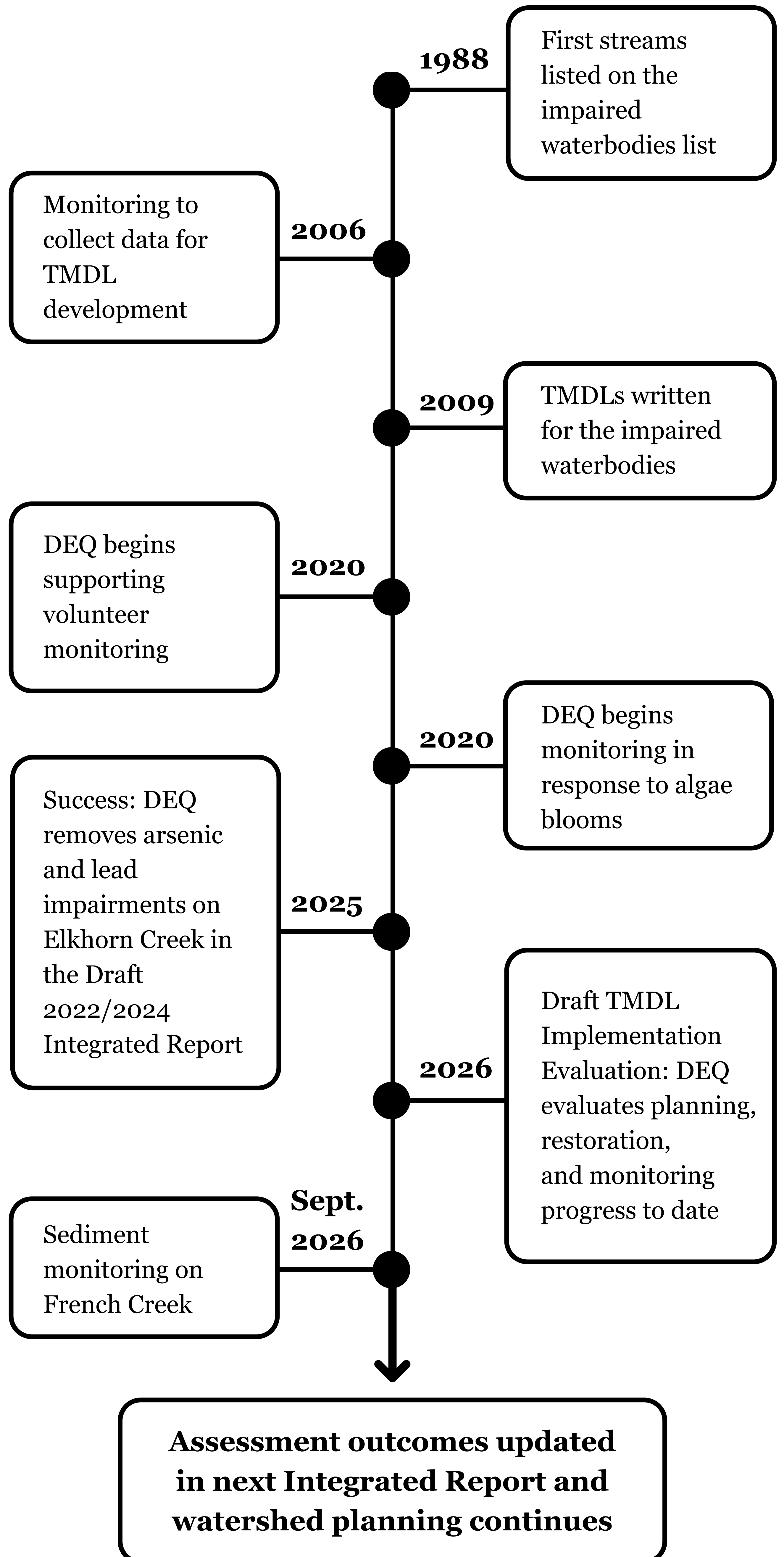
DEQ has provided over \$1,350,590 in funding for restoration projects working with local watershed groups.

DEQ is currently working in the watershed.

- Supporting restoration projects
- Funding volunteer water quality monitoring projects
- Monitoring undesirable algae blooms
- Evaluating TMDL implementation
- Conducting water quality assessment work

DEQ will continue working in the watershed.

- Future monitoring by DEQ and local watershed groups
- French Creek sediment monitoring
- Potential TMDL development
- Potential restoration and volunteer monitoring funding



BIG HOLE RIVER DATA SUMMARY

1

DEQ started receiving reports of large algal blooms in 2020.

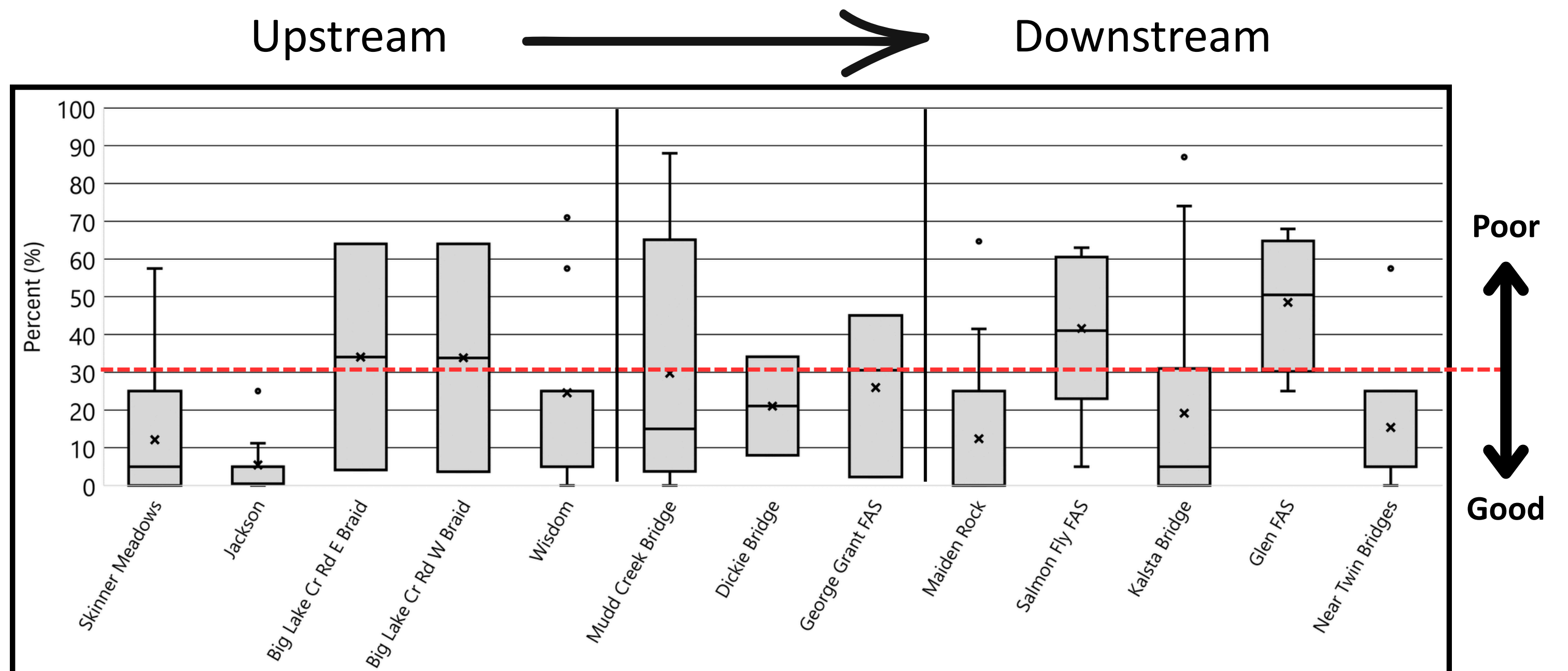
2

DEQ and Save Wild Trout have been monitoring algae, dissolved oxygen, aquatic insects, and nutrients since 2019.

Percent Cover by Filamentous Algae

Results show multiple poor percent cover observations.

Threshold = 30% -----

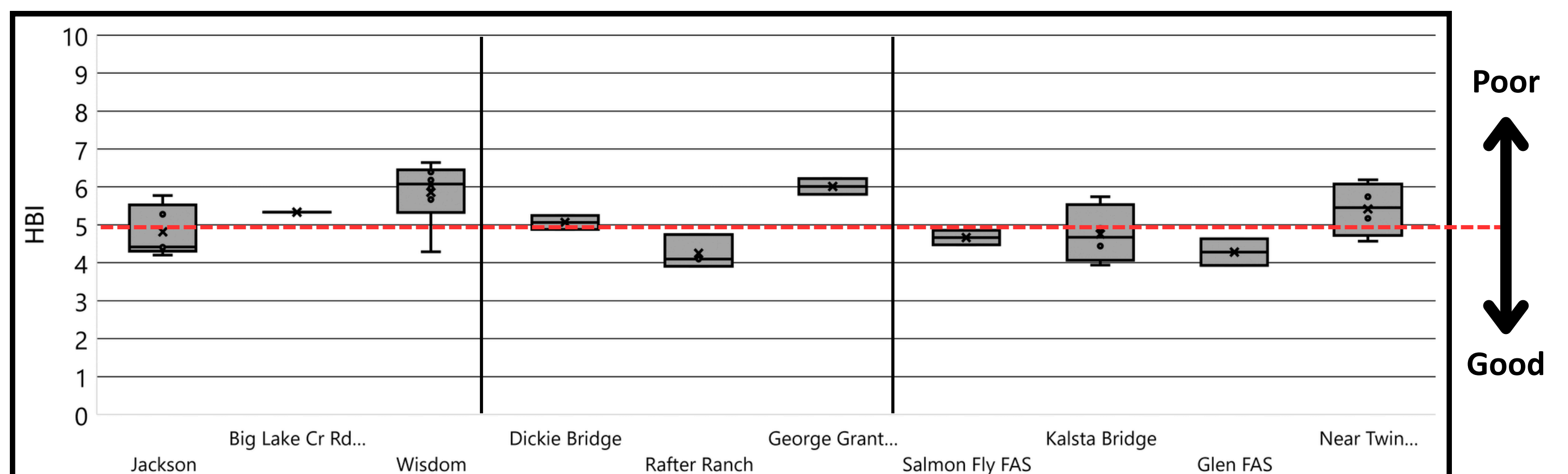


Hilsenhoff Biotic Index

Aquatic insects metric

Results show degraded aquatic insect communities.

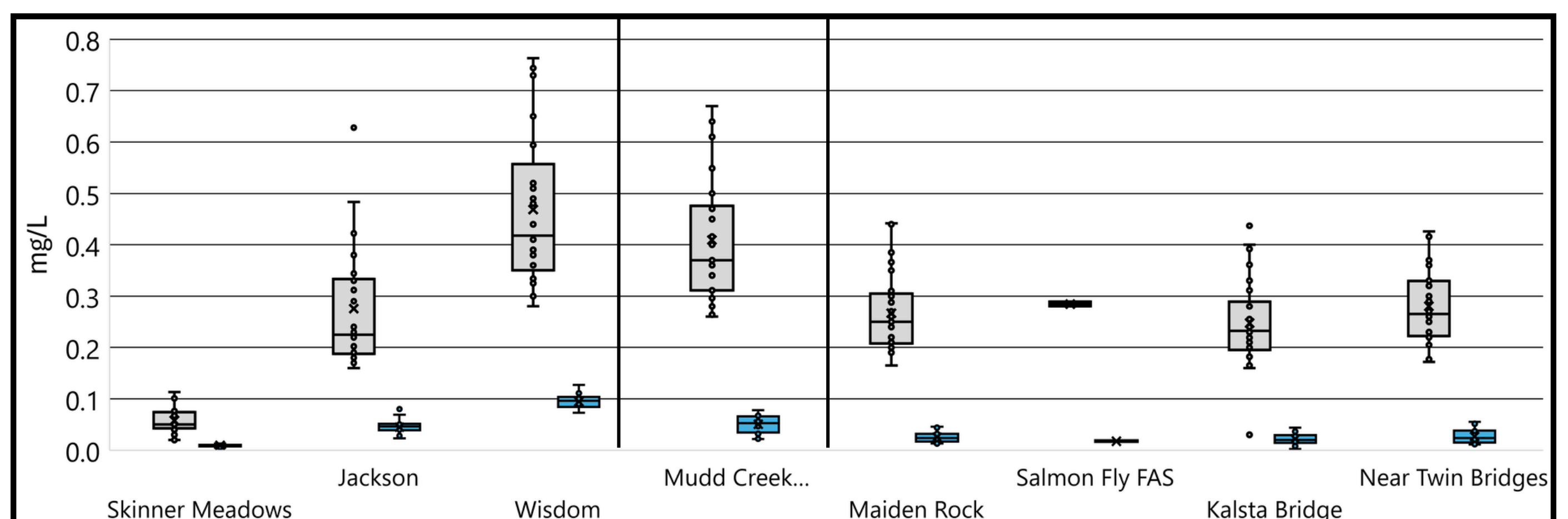
Threshold = 5 -----



Total Nitrogen and Total Phosphorus

■ = Total Nitrogen

■ = Total Phosphorus



3

DEQ determined eutrophication and dissolved oxygen are impacting aquatic life and recreational uses in the Big Hole River.

The stressors related to eutrophication in the Big Hole River include:

- Excess algal growth
- Degraded aquatic insect communities
- Low dissolved oxygen
- High pH
- Elevated nutrient concentrations

Previous water quality assessments identified other stressors, including:

- High water temperature
- Excess sediment
- Elevated metals
- Low flows

Provide feedback on the draft assessment method

DEQ will hold 60-day comment periods on draft assessment methods. An assessment method is guidance used to determine if the water quality goals are being met.

Provide feedback and additional data related to the assessment decision

DEQ will hold a separate 60-day public comment period for the draft Integrated Report, which contains the impaired waters list.

Get involved with water quality

Improvements in water quality can support healthy fisheries, enjoyable recreation, and unobstructed irrigation infrastructure.



To sign up for the Integrated Report interested parties list, scan using the camera on your mobile device!

<https://tinyurl.com/mtdeqir>