

Module 1: The Clean Water Act

Section 2 Activity

Assessing Your Understanding of Water Quality Assessments

ANSWER KEY

Instructions: Work with a partner to investigate any water quality findings that may be included in Kentucky's 305b/303d Integrated Report on Water Quality Report for the following areas. You should use the online Kentucky's Water Health Portal to locate the stream and its tributaries and identify the following:

- 1) Assessed stream segments or impoundments
- 2) Assessment categories – Warmwater/Coldwater Aquatic Habitat (WAH/CAH), Primary Contact Recreation (PCR), Secondary Contact Recreation (SCR), Drinking Water Supply (DWS), Fish Consumption (FC), Outstanding State Resource Water (OSRW)
- 3) Levels of support – Fully Supports, Partially Supports, Non-Supporting or Not Accessed
- 4) If impaired (303d-listed) stream segments are found, identify the associated causes and sources of the impairment

Materials Needed:

- 1) Computer with internet access to Water Health Portal
(<http://watermaps.ky.gov/WaterHealthPortal>)
- 2) Kentucky Water Health Portal User Guide (printed)
- 3) 303d impairment cause and source codes (printed)
- 4) Most recent 305b/303d Integrated Report and/or 305(b) Spreadsheet

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Kentucky River Basin Example: Silver Creek, Madison County

HINTS: Search for Silver Creek by using “Find Stream or Lake.” Zoom in to click on colored segments for assessment info. Work your way up the stream from its mouth. Pan upstream along the waterway to make sure that you find any segment that may have been assessed separately (there may be gaps in assessment reaches). Pan along the stream to view any tributaries or impoundments (lakes or reservoirs) that have been assessed separately. If a stream is partially or non-supporting, click on “Assessment Summary” in the popup box for additional details about the basis for this assessment.

Which stream segments are assessed?

Silver Creek 0.0 to 11.1

Fully Supports WAH, PCR, SCR; Not Assessed for FC, DWS, OSRW

Silver Creek 11.1 to 29.8

Non-Supporting WAH; Not Assessed for PCR, SCR, FC, DWS, OSRW

Lower Silver Creek Lake

Fully Supports DWS; Not Assessed for WAH, PCR, SCR, FC

Upper Silver Creek Lake

Fully Supports DWS; Not Assessed for WAH, PCR, SCR, FC

Brushy Fork 2.65 to 6.05

Non-Supporting WAH; Not Assessed for FC, PCR, SCR, DWS, OSRW

Are any impaired for any designated uses? If so, which stream segments and what is the designated use that is not being fully supported?

Silver Creek 11.1 to 29.8 – Non-Supporting WAH

Brushy Fork 2.65 to 6.05 – Non-Supporting WAH

What are the causes and sources of any impairments?

Silver Creek 11.1 to 29.8 – Non-Supporting WAH

Causes: Sedimentation/Siltation (371)

Sources: Loss of riparian habitat (72), managed pasture grazing (73), non-irrigated crop production (87), post-development erosion and sedimentation (107)

Brushy Fork 2.65-6.05 – Non-Supporting WAH

Causes: Alteration in stream-side or littoral vegetative covers (84), impairment other or unknown (463)

Sources: Loss of riparian habitat (72), streambank modifications / destabilization (125), agriculture (156), habitat modification – other than hydromodification (157), rural residential areas (176)

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Licking River Basin Example: Townsend Creek, Harrison and Bourbon Counties

HINTS: This time, try searching for Harrison County first. Pan to the southern region of the county and locate Townsend Creek by clicking on colored stream segments. Once you find it, you can zoom in to see it in better detail.

Which stream segments are assessed?

Townsend Creek 0.0 to 2.9 (Harrison County)

Fully Supports Aquatic Life and PCR; Not Assessed for SCR, FC, DWS, ORSW

Townsend Creek 2.9 to 4.8 (Harrison County) AND 4.8 to 9.9 (Bourbon County)

Fully Supports WAH; Non-Supporting PCR; Not Assessed for SCR, FC, DWS, ORSW

Townsend Creek 9.9-11.75 (Bourbon County)

Fully Supports WAH, PCR; Not Assessed for SCR, FC, DWS, OSRW

Townsend Creek 11.75 to 15.9 (Bourbon County)

Fully Supports WAH; Non-Supporting PCR; Not Assessed for SCR, FC, DWS, OSRW

Huskens Run 0.0 to 1.5*

Non-Supporting PCR; Not Assessed WAH, SCR, FC, DWS, OSRW

*NOTE: Although this stream segment is impaired for PCR, it is no longer included on the 303d list because it is covered by an approved TMDL for Townsend Creek and its tributaries (assessment category 4A). Details of the listing can still be found in the 305b report.

Silas Creek 0.0 to 4.75

Fully Supports PCR; Not Assessed for SCR, WAH, FC, DWS, OSRW

Are any impaired for any designated uses? If so, which stream segments and what is the designated use that is not being fully supported?

Townsend Creek 2.9 to 4.8 (Harrison County) – Non-Supporting PCR

Townsend Creek 4.9 to 9.9 (Bourbon County) – Non-Supporting PCR

Townsend Creek 11.75 to 15.9 (Bourbon County) – Non-Supporting PCR

Huskens Run 0.0 to 1.5 – Non-Supporting PCR

What are the causes and sources of any impairments?

HINT: This one is tricky! You will have to do some digging to find this information for the impaired segments in this example.

Townsend Creek 2.9 to 4.8 (Harrison County) – Non-Supporting PCR

Causes: Fecal coliform (400)

Sources: Source unknown (140)

Townsend Creek 4.9 to 9.9 (Bourbon County) – Non-Supporting PCR

Causes: Fecal coliform (400)

Sources: Source unknown (140)

Townsend Creek 11.75 to 15.9 (Bourbon County) – Non-Supporting PCR

Causes: Fecal coliform (400)

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Sources: Source unknown (140)

Huskens Run 0.0 to 1.5 – Non-Supporting PCR

Causes: Fecal coliform (400)

Sources: Source unknown (140)

Did you find any other helpful information about this example? Any other documents that help you learn more about water quality?

The Health report gave a summary of what is being done well and what can be improved upon. The TMDL report helped understand the fecal coliform issue, although it did not specify any source.

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Green River Basin Examples: Green River, Butler and Warren Counties

HINTS: Search for Woodbury, Kentucky to begin searching for this section of the Green River. Try zooming in until the map is shown as a satellite photograph. The level of land use detail that you can see is amazing! You can also use the “Switch Basemap” function to see other types of map displays.

Which Green River segments are assessed in Butler and Warren Counties?

Green River 109.3 to 151.0 (Butler County)

Fully Supports WAH, DWS, FC; Not Assessed PCR, SCR

Green River 151.0 to 170.3 (Butler and Warren Counties)

Fully Supports WAH, PCR, SCR, OSRW; Not Assessed DWS, FC

Are any impaired for designated uses? If so, which stream segments and what is the designated use that is not being fully supported?

No impairments.

What are the causes and sources of any impairments?

N/A

Other interesting findings: