Changes to the Draft 2014 Total Phosphorus/Biology Assessments

Prepared August 2013 by Ashley Beranek – based off of comments from regional biologists: Mark Hazuga, Kurt Rasmussen, Mary Gansberg, Andrew Hudak, Michael Sorge, Jim Amrhein, Jean Unmuth, Craig Helker, and Alex Smith.

Contents

Northern Region

Bayfield County
Siskiwit River – (2881900) Assessment Unit 19008

Don't list as Category 5A - leave as Category 3. Fish Survey Sequence # 91435 used too few fish. This no longer has a stand-alone biology assessment.

Little Sand Lake – (2661600) Assessment Unit 16827

Biologist: Alex Smith. Little Sand Lake should be a Headwater Drainage Lake, not a Seepage Lake. It should clearly meet the TP REC for headwater Drainage Lake. New Category 2 not 5.

Raspberry River – (2883800) Assessment Unit 17590

Don't list for biology because the preliminary Natural Community verification contradicts 'Coldwater' NC. Should likely be transitional headwater, but this needs to be verified

Douglas County
Bluff Creek – (2833200) Assessment Unit 17454

Don't list for biology because the preliminary Natural Community verification contradicts 'Coldwater' NC. Should likely be transitional headwater, but this needs to be verified

Newton Creek – (2843650) Assessment Unit 305141

Don't list addition for Biology. Double checked biology and Fish Survey Sequence # 112236936 used too few fish. This no longer has a stand-alone biology assessment.

Forest County
Shawano Creek – (475200) Assessment Unit 10921

Don't list as Category 5A - leave as Category 3. Fish Survey Sequence # 124384859 used too few fish. This no longer has a stand-alone biology assessment.

Swan Creek – (553500) Assessment Unit 12009

Don't list as Category 5A - leave as Category 3. Fish Survey Sequence # 203205628 used too few fish. This no longer has a stand-alone biology assessment.

Iron County
Fourmile Creek – (2295000) Assessment Unit 14945

Biologist: Jon Kleist. This will remain a Category 2 water. The 'poor' fish IBI had too few fish. This no longer has a stand-alone biology assessment.

Polk County
Bull Book – (2622000) Assessment Unit 16464

Bull Brook (2622000) not Snake Creek (2622600). Don't list for biology because the preliminary Natural Community verification contradicts 'Coldwater' NC. Should likely be transitional headwater, but this needs to be verified.

Gillespie Creek – (2664600) Assessment Unit 16770

Don't list for biology because the preliminary Natural Community verification contradicts 'Coldwater' NC. Should likely be transitional headwater, but this needs to be verified.

Knapp Creek – (2665400) Assessment Unit 16772

Don't list for biology because the preliminary Natural Community verification contradicts 'Coldwater' NC. Should likely be transitional headwater, but this needs to be verified.

Vilas County
Unnamed Single-line Stream – (1621900) Assessment Unit 12933

Don't list for biology because the preliminary Natural Community verification contradicts 'Coldwater' NC. Should likely be transitional headwater, but this needs to be verified.

Northeast Region

Kewaunee County
East Twin River – (84000) Assessment Unit 10205

Biologist: Mary Gansberg. River was assessed using warmwater mainstem and small stream (intermittent) FIBI but this is cold water class II trout water. FIBI needs to be re-run using the cold water FIBI. This is not a small stream. With coldwater NC designation the biology (FIBI) scores are poor. Change from Category 5P to Category 5A.

Oconto County
Little Waupee Creek – (460100) Assessment Unit 10905

Biologist: Andrew Hudak. "Only the F-IBI were used for assessment and I am not confident in the IBI used and the accuracy of the Natural Community it was rated against. It appears the poor rating may be associated with an incorrect assessment of fish IBI and to a further extent possible drought conditions in 2012. I believe this AU requires further review to verify natural community conditions and proper IBI assessments." Change to Category 2. With coldwater NC all scores are above 'poor'. (FIBI survey 82361 had 31 Brown Trout).

South Central Region

Columbia County
Rowley Creek – (1272100) Assessment Unit 12982

Biologist: Michael Sorge. New Category 2, not 5A for biology. With different NCs this site supports uses. Sorge: "This section is at a transitional point where the poor sample was identified (EXO site), the site here is the point at which natural community classifications change. More appropriate to use the Cool-Cold IBI's where the values 40-70 Fair to Good and not the small-intermittent stream IBI. Also the 2008 and 2011 FIBI Data is consistent and above the poor ranking thus showing no change. Might recommend looking at site again in 2014 and evaluating some of the adjacent tribs that drain into this section."

Grant County
Little Grant River – (963100) Assessment Unit 13923

Biologist: Jim Amrhein. New Category 2, not 5A for biology. The Natural Community for this segment is cool-cold, but was originally assessed with Cold FIBIs. With Cold-cool the stand alone biology is above poor.

Green County
Skinner Creek – (894500) Assessment Unit 13678

Biologist: Jim Amrhein. Remain a Category 5P, as biology does not confirm change to 5A. Original assessment used Cold FIBIs. Stream modeled to be cool-cold.

Lafayette County
East Branch Pecatonica River – (897800) Assessment Unit 13737

Biologist: Jim Amrhein. Changed to new 5P listing rather than 5A. Three sites used for poor IBIs. Of these, either wrong IBI used, or sampled outside of protocol. The 2010 FIBI survey # 94323174 has the note, "SURVEY CONDUCTED OUTSIDE OF INDEX PERIOD; BROWN TROUT NOT NORMALLY FOUND AT THIS SITE DURING INDEX PERIOD AND SHOULD NOT BE INCLUDED IN IBI CALCULATIONS." Listed for 5P only, but not 5A.

East Branch Pecatonica River – (897800) Assessment Unit 13687

Biologist: Jim Amrhein. This segment was listed as 5P in 2012. The only relevant IBI was from a non-wadable site and outside the time period as specified in the protocol. Data for bioconfirmation is not valid; therefore site should remain as 5P and NOT changed to 5A.

Mud Branch – (902300) Assessment Unit 13702

Biologist: Jim Amrhein. Remain a Category 3 instead of new Category 5A for biology. Segment was assessed with Cold fish IBIs, but the NC model suggests cold-cool and Lyon's method suggests cool-warm but IBIs above 'poor' for both of those NC types.

Gordon Creek – (907300) Assessment Unit 13722

Biologist: Jim Amrhein. Remain a Category 3 instead of new Category 5A for biology. The Natural Community designations are unclear for this segment – not enough evidence to list as impaired.

Rock County
Norwegian Creek – (878700) Assessment Unit 1496199

Biologists: Michael Sorge and Jim Amrhein. Lyons process suggests that the natural community may not be cold, but instead cool-warm. The cool-warm IBIs are excellent. Do NOT list. The wrong IBI was used. Changed from 5A for biology to Category 3.

Sauk County
Narrows Creek – (1276400) Assessment Unit 12996

Biologist: Jean Unmuth. Remain a Category 5P, as biology does not confirm change to 5A. Unmuth: "The single poor MIBI sample was collected on 4/21, in a flood year, water was noted as turbid, and timing is very crucial in spring, so I would not hang my hat on this MIBI. All other FIBI data scores for Narrows in last 10 years are excellent."

Southeast Region

Kenosha County
Des Plaines River – (734000) Assessment Unit 11799

Biologist: Craig Helker. Change from a Category 5A to a 5P. Biology FIBI should use Warmwater IBI, as Des Plaines should be classified as Warmwater.

Ozaukee County
Fish Creek – (44700) Assessment Unit 3924909

New Category 5A water, not Category 3. After a review it was noted that the Milwaukee Metropolitan Sewerage District (MMSD) data was not assessed for the 2014 cycle because it is not in SWIMS. A separate assessment was done and this waterbody was determined to be impaired for total phosphorus with bioconfirmation.

Sheboygan County
Unnamed Stream – (50740) Assessment Unit 1487190

Biologist: Craig Helker. Remain a Category 3 instead of new Category 5A for biology. Poor FIBI based on too few fish for IBI calculation.

Mill Creek – (52700) Assessment Unit 11375

Biologist: Craig Helker. Remain a Category 2 instead of new Category 5A for biology. Helker notes that instantaneous temperature readings consistent with Coldwater Natural Community.

Waukesha County
Menomonee River – (16000) Assessment Unit 3884139

New Category 5A water, not Category 3. After a review it was noted that the Milwaukee Metropolitan Sewerage District (MMSD) data was not assessed for the 2014 cycle because it is not in SWIMS. A separate assessment was done and this waterbody was determined to be impaired for total phosphorus with bioconfirmation.

West Central Region

Buffalo County
Peeso Creek – (1820700) Assessment Unit 14489

Biologist: Mark Hazuga. The Natural Community (NC) model predicts Peeso Creek is a cool cold headwater stream and intermittent IBIs are poor. However the draft NC verification process indicates the appropriate NC type for Peeso Creek is cool cold mainstem. Cool cold IBI ratings are good or excellent in three of four surveys and poor in one. The average IBI score is 60 and the rating is good, therefore the stream should not be listed as biologically impaired using current data.

Little Bear Creek – (2048000) Assessment Unit 1446718

Biologist: Mark Hazuga. Little Bear Creek in Buffalo County is represented by the cold and cool cold mainstem NC classifications. The average IBI score and rating is 58 and good, respectively (average nine IBI scores) therefore the stream should not be listed as biologically impaired using current data.

Chippewa County
Duncan Creek – (2150600) Assessment Unit 3987136

Biologist: Mark Hazuga. This stream segment is situated between two others that are listed for TP overwhelming exceedance (AUs 16166 and 3987409). Changing listing from Category 3 to Category 5A.

Swim Creek – (2146100) Assessment Unit 16151

Biologist: Mark Hazuga. The NC model predicts SWIM Creek is a coldwater stream which may be appropriate in lower stream reaches but upper stream reaches would represented by the cool headwaters classification. Three surveys were completed in the headwater reaches and the intermittent IBI should be used to assess the fishery. Intermittent IBI ratings were good therefore the stream should not be listed as biologically impaired on the 303d list.

Clark County
East Branch Halls Creek – (1711600) Assessment Unit 1438117

Biologist: Mark Hazuga. The NC model predicts East Branch Halls Creek is a cool cold headwater stream however the appropriate NC type is coldwater based on the draft NC verification process. Reproducing brook trout represented by multiple year classes are found in surveys and cold water IBI ratings are good and excellent. The stream should not be listed as biologically impaired on the 303d list.

Sterling Creek – (2148500) Assessment Unit 16156

Biologist: Mark Hazuga. The NC model predicts Sterling Creek is a coldwater stream however the appropriate NC type is cool warm headwater or mainstem based on the draft NC verification process. IBI ratings are good to excellent using the appropriate intermittent IBI index therefore the stream should not be listed as biologically impaired on the 303d list.

North Branch Oneil Creek – (1749600) Assessment Unit 14265

Biologist: Mark Hazuga. North Branch Oneil Creek clearly exceeds TP criteria but there is no biological confirmation. The NC model predicts the stream is coldwater however the appropriate NC type is cool

headwaters based on draft NC verification process. Intermittent IBI ratings are good therefore no biological exceedence.

<u>South Branch Yellow River – (1372600) Assessment Unit 12238</u>

Biologist: Mark Hazuga. The South Branch Yellow River overwhelming exceeds the TP standard but there is no bioconfirmation. The NC model predicts the stream is both cold water and cool cold headwater but the entire stream is cool headwater. The intermittent IBI ratings are generally good except the poor rating found at the Meridian Road crossing. Streamflow at this location is present as a result of snowmelt or large rain events and the stream should probably be classified as ephemeral. The entire stream should be listed for overwhelming TP exceedence but bio confirmation should not be added to the listing.

<u>Unnamed Creek – (1372800) Assessment Unit 1516846</u>

Biologist: Mark Hazuga. Unnamed stream 1372800 is a small ditched channel through a wetland. Upstream from the survey site the stream is ephemeral and streamflow is only present during prolonged periods of runoff (snowmelt or large rain events). A channel may not have existed historically at the survey site and the wetland was likely ditched historically in attempts to drain the area. Water in the channel is likely a result of excavation into groundwater. A defined channel only exists for 50 meters below the road crossing and then the channel diffuses through the wetland. A fishery would not be expected to develop in an artificial channel therefore assessing the community with a stream IBI would not be appropriate. The ditch could be listed for overwhelming TP exceedence since it contributes to the high TP in SB Yellow River but bio confirmation should not be added to the listing.

<u>Unnamed Creek – (5015142) Assessment Unit 3987619</u>

Biologist: Mark Hazuga. Unnamed Creek 5015142 is a small ditched channel that flows adjacent to a town road. The NC predicted by the model is coldwater however the draft NC verification guidance indicates the ditch is cool headwaters. The intermittent IBI is good therefore no biological exceedence. The ditch was completely dry in 2012. The ditch can be listed for overwhelming TP exceedence but bio confirmation should not be added to the listing.

Dunn County
<u>Irving Creek – (2064400) Assessment Unit 1455669</u>

Biologist: Mark Hazuga. The NC model predicts Irving Creek is coldwater except for one section which is classified as cool cold headwaters. The intermittent IBI for this section is poor however reproducing brook trout are found at this site indicating the coldwater classification is appropriate. The coldwater IBI rating for this section is excellent therefore there is no biological impairment. The stream should not be added to the impaired waters list.

<u>Lambs Creek – (2068200) Assessment Unit 15673</u>

Biologist: Mark Hazuga. Current WISCALM guidance indicates two poor IBIs are needed (in two years) to list a stream for biological impairment. Based on current data, only one fish IBI rating is poor. Also this poor rating was found near the headwaters at the location where the stream transitions from a cool headwater stream to a macroinvertebrate water. Few fish were found during the survey which is likely of function of natural conditions and the transitional nature of the stream. The stream should not be added to the impaired waters list.

Eau Claire County
Sevenmile Creek – (2128700) Assessment Unit 16088

Biologist: Mark Hazuga. Sevenmile Creek was surveyed at three locations on June 11 2013. Reproducing brook trout and multiple year classes of trout were found in lower and middle reaches. The stream becomes intermittent in headwaters and is dry when groundwater inputs are low (natural conditions). The stream should not be added to the impaired waters list.

Whippoorwill Creek – (2134900) Assessment Unit 18824

Biologist: Mark Hazuga. The NC model predicts Whippoorwill Creek is a cool warm headwater stream however the appropriate NC type is coldwater based on the draft NC verification process. The stream is intermittent in the headwaters and groundwater inputs increase moving downstream to the mouth. Reproducing brook trout are found in the lower reaches and coldwater IBIs are good. Poor MIBI and FIBI scores in the upper reaches (Channey Road upstream) are a result of intermittent/ephemeral streamflow. Trout will migrate to the area when water is present but will seek stable groundwater inputs downstream when water levels begin to decrease in upper reaches. The entire stream flows through the Eau Claire County forest therefore the stream is protected from disturbed landuses. The stream should not be added to the impaired waters list.

Pea Creek – (2135200) Assessment Unit 16124

Biologist: Mark Hazuga. Pea Creek is a very darkly stained stream that drains large wetland complexes within the Eau Claire County Forest. Shocking efficiency is poor due to low conductivity and low pH limits the fishery. The stream is at the cool warm mainstem/headwater threshold and mainstem IBIs are fair and good. MIBI ratings are good and excellent. The stream is protected and there are no disturbed landuses. The stream should not be added to the impaired waters list.

Jackson County
Indian Creek – (1734100) Assessment Unit 18618

Biologist: Mark Hazuga. The NC model predicts Indian Creek is a warm mainstem however the appropriate NC type is cool warm mainstem. The average cool warm IBI score and rating is 35 and Fair, respectively therefore the stream should not be listed on the impaired waters list. The stream has been historically channelized and the hydrology may be influenced by cranberry operations. The stream is close to the listing threshold and the most recent data indicates poor biology. Further evaluation should be completed to better document biological conditions and if the modified use category applies.

Juneau County
Lemonweir River – (1301700) Assessment Unit 13060

Biologist: Mark Hazuga. Propose listing of segment 3 (AU 13060) because it is one mile of stream situated between segments 2 and 4, which are both impaired for phosphorus only (Category 5P). Segment 4 (201397) listed as 5P in 2012 303(d) list and segment 2 (13059) proposed for 5P in 2014 303(d) draft list.

Yellow River – (1352800) Assessment Unit 12230

Biologist: Mark Hazuga. Total phosphorus concentrations clearly exceed the statewide criteria however there is no bio confirmation. Fishery data collected in 2008 (survey sequence number 17660878) are not representative of the fish community and should not be used for analysis. The river should be added to

the impaired water list for clearly exceeding the total phosphorus criteria but there is no biological confirmation.

La Crosse County
Unnamed Stream – (1653700) Assessment Unit 14002

Biologist: Kurt Rasmussen. No Addition for Biology. With correct NC and removal of fish survey 83387 (too few fish) this waterbody is not impaired. Rasmussen: "Adams Valley Creek. This AU (mouth to mile 2.56) is already on the 303d list for degraded habitat with the pollutants including Low DO and sediment/TSS. For this assessment the Small-Stream (Intermittent) Fish IBI was used but the Coldwater FIBI should have been used due to the naturally reproducing trout populations. However trout number were low < 25 needed for IBI calculation. Also, MIBI is excellent."

Bostwick Creek – (1650900) Assessment Unit 35671

Biologist: Kurt Rasmussen. The Natural Community (NC) model predicts this Assessment Unit (AU) of Bostwick Creek contains both cool-cold headwater and cool-cold mainstem communities. The intermittent fish IBI was used for the cool-cold headwater natural community yielding a score of 10 which is considered poor. The cool-cold transition fish IBI was used for the cool-cold mainstem community yielding a score of 40 which is considered fair. However, the fish surveys found multiple age classes of brown trout at both sites within this AU indicating that the coldwater IBI classification is appropriate. Using the coldwater fish IBI at both stations within the AU yields an average score of 60 which has a good rating and indicates that there is no biological impairment. Therefore, this stream should not be added to the impaired waters list.

Unnamed Creek (Jostad Coulee Creek) – (1676600) Assessment Unit 14061

Biologist: Kurt Rasmussen. The Natural Community (NC) model predicts this Assessment Unit (AU) of Jostad Coulee Creek is a cool-cold headwater community. The intermittent fish IBI was used for the cool-cold headwater natural community yielding an average score of 26.7 which is considered poor. However, the fish survey data shows that multiple age classes of brook trout were found indicating that natural reproduction is taking place and that the coldwater IBI classification is appropriate to use. (Please note that two of the fish surveys yielded less than 25 fish, not enough to calculate a fish IBI) Using the coldwater fish IBI yields an average score of 86.7 which has an excellent rating and indicates that there is no biological impairment. Therefore, this stream should not be added to the impaired waters list.

Unnamed Creek (McKinley Creek) – (1653100) Assessment Unit 1180042

Biologist: Kurt Rasmussen. The Natural Community (NC) model predicts this Assessment Unit (AU) of Mckinley Creek is a cool-cold headwater community. The intermittent fish IBI was used for the cool-cold headwater natural community yielding an average score of 30 which is considered poor. However, the fish survey data shows that multiple age classes of brook trout were found indicating that natural reproduction is taking place and that the coldwater IBI classification is appropriate to use. (Please note that one of the fish surveys only found four brook trout, not enough to calculate a fish IBI) Using the coldwater fish IBI yields an average score of 90 which has an excellent rating and indicates that there is no biological impairment.

Marathon County
Drewek Creek – (1458600) Assessment Unit 12476

Biologist: Mark Hazuga. The NC model predicts Drewek Creek is a coldwater stream however the appropriate NC type is cool headwater. The average small stream IBI score is 90 and the rating is good therefore the stream should not be listed as impaired on the 303d list.

Monroe County
South Fork Lemonweir River – (1338500) Assessment Unit 3870704

Biologist: Kurt Rasmussen. South Fork Lemonweir River clearly exceeds the TP standard but there is no biological confirmation. The Natural Community (NC) model predicts this Assessment Unit (AU) of the South Fork Lemonweir River contains three different communities: cool-cold headwater and cool-cold mainstem and coldwater. The intermittent fish IBI was used for the cool-cold headwater natural community yielding a score of 90 which is considered good. The cool-cold transition fish IBI was used for the cool-cold mainstem community yielding a score of 60 which is considered good. The coldwater fish IBI was used for the coldwater community yielding a score of 0 which is considered very poor. The fish communities within this AU do not reflect a coldwater stream. The cool-cold transitional fish IBI should potentially be used for this site which would yield a score of 60 which is considered good. Therefore, the South Fork of the Lemonweir River should be listed for clearly exceeding the TP standard but bioconfirmation should not be added to the list.

Pierce County
Plum Creek – (2051300) Assessment Unit 18766

Biologist: Mark Hazuga. The NC model predicts this section of Plum Creek is a coldwater stream however the appropriate NC type is cool warm mainstem. The three cool warm IBI ratings are excellent therefore the stream should not be listed as impaired on the 303d list.

Trempealeau County
Borst Valley Creek – (1783100) Assessment Unit 14346

Biologist: Mark Hazuga. The NC model predicts this section of Borst Valley Creek is a cool cold headwater stream however the appropriate NC type is coldwater or cool cold mainstem. All cold water and mainstem IBI ratings are fair or better therefore the stream should not be listed as impaired on the 303d list

Buffalo River – (1813900) Assessment Unit 14496

Biologist: Mark Hazuga. This segment is situated between AUs 1439446 and 1439446 (listed in 2012) both of which are listed for TP overwhelming exceedance. Changed listing from Category 3 to Category 5A because situated between two TP impaired segments.

Turton Creek – (1777100) Assessment Unit 14355

Biologist: Mark Hazuga. The NC model predicts this section of Turton Creek is a cool cold headwater stream however the appropriate NC type is coldwater. The average IBI score is 88 and the rating is good therefore the stream should not be listed as impaired on the 303d list.

Unnamed Stream – (1680200) Assessment Unit 1181333

Biologist: Mark Hazuga. Remain a Category 3 instead of new Category 5A for biology. NC community is coldwater not cool cold. Coldwater IBIs are good but number of fish is less than 25 (N = 9 and 12).

Wood County

Lynn Creek – (1386600) Assessment Unit 12266

Biologist: Mark Hazuga. Two fish surveys were completed within this assessment unit but data collected in 2008 should not be used for analysis because these data do not likely represent the fish community. Data collected in 2004 indicates the IBI rating is good therefore the stream should not be listed as impaired on the 303d list.

Rocky Creek – (1370800) Assessment Unit 12233

Biologist: Mark Hazuga. Rocky Creek clearly exceeds the total phosphorus criteria but there is no bio confirmation. Data collected from two sites within this assessment unit should not be used for analysis. The survey completed at Robin Road (Swims ID 10033558) was stopped short due to overgrown conditions and data does not represent the fish community. The survey completed at Eagle Road (Swims ID 10017034) was completed in the headwaters where stream size is near the threshold for using the small stream IBI. The IBI may not accurately assess the fish community at Eagle Road due to small watershed size above sampling location. The survey completed at Falcon Road is between these sites and the small stream IBI rating was good therefore there is no bio confirmation and the stream should only be listed for exceeding the total phosphorus standard.