

Horse Creek Stewardship Program
Response on Draft 2014 Annual Report Comments

April 9, 2017

2014 HCSP Annual Report Comments – Sam Stone, PRMRWSA

Table of Contents

Be consistent on capitalizing Appendices, Tables and Figures

Went through the document and made sure consistent (all capitalized).

Executive Summary

page xiii: Second paragraph, Sheri can you insert something brief that describes what these upstream stations are and what mining or land use activity is occurring at those stations. AND Sheri when did these trends begin to increase and was it due to active mining?

See the comment below for I-28 for approximate landuse.

Mining occurred upstream of HC@SR37 in 1988-1995 and of HC Inlet in 1988-1999 (pre-Altman) and 2008-2014 (Altman Tract). For MJ SW-1, some mining occurred in the West Fork Horse Creek Basin (Hardee side) to the northeast of MJ SW-1 in 1998-2002, but that area may not have been upstream of the station; small areas of the WFHC basin upstream of MJ SW-1 were mined in 2003-2004 and 2013. For MJ SW-5, some mining occurred in the West Fork Horse Creek Basin (Hardee side) to the northeast of MJ SW-5 in 1998-2002, but that all of area may not have been upstream of the station; small areas of the WFHC basin upstream of MJ SW-5 were mined in 2003-2013. Water quality data does not go back far enough for any of the four stations to identify possible trends pre-mining, which is why this section states that the trends occurred prior to the HCSP (pre-2003).

Executive Summary

page xiii: third paragraph, add either “related” or “unrelated” to sentence “...trends at HCSW-1 can be explained by regional factors unrelated to mining and...”

Revised sentence to say “Thus, while some isolated conductivity values at HCSW-1 may be related to increased groundwater influence at NPDES discharges, the majority of the increasing trend at HCSW-1 can be explained by regional factors, upstream conditions, or other factors unrelated to mining.”

Section 1

page 1-2: end of section, Sheri please provide the name of this report (Referring to Durbin and Raymond 2006 reference).

This document is provided in the references section; here is the complete reference: Durbin, D. J. and K. M. N. Raymond. 2006. Horse Creek Stewardship Program: Summary of Historical Information on Water Quantity, Quality, and Aquatic Biology. Prepared by Biological Research Associates for the Mosaic Company.

Section 3.1

page 3-2: last paragraph, Sheri the pond water elevations data to PRMRWSA were deleted when we cranked up the turbidity continuous monitoring at station 1. This system send out an alarm when the 6 hour average turbidity exceeds 150 NTU. Ryan know more about this than I do off the top of my head. AND Sheri this needs to be changed to reflect the new turbidity alarm system.

Text has now been added to the report in the mining section referencing an approval letter dated July 14, 2014.

Section 4.1

Page 4-1: first paragraph, Sheri Mosaic has changed the name of this location (Referring to HCSW-3).
For consistency sake, a clarification of the station location name was added “also known as Horse Creek at Wuthrich Road” but the entire name was not changed. Sampling still does occur at SR70 during times of high water levels (notes are always on field sheets).

Section 4.1

Page 4-1: last paragraph, Sheri I would suggest to add another column to Table 2 and move the BCSW into that column.

Column added to Table 2 to reflect Brushy Creek water quality sampling dates.

Section 4.2

Page 4-2: Sheri do we need to add a FM-1 outfall here?

There is no separate outfall for FM-1. Water from FM-1 would be discharged either through the Wingate D-004 (old FTG-004) or D-002 outfalls if necessary.

Section 4.3

Page 4-2: first paragraph, Sheri check with Ryan but I believe that the new turbidity alarm station at this same location is a second meter. Do we need to discuss this here? Not sure.

There is only one continuous recorder in place at the HCSW-1 station. There are two devices (one serving as a backup) that are available for use but only one is deployed at a time.

Section 5.1.4

Page 5-9: Sheri this lag can also be caused to some degree by the outfall flows later in the wet season.

Noted. This is described more in first paragraph on page 5-12.

Section 5.1.5

Page 5-13: first paragraph, Sheri I am confused where does FM-1 discharge to?

Water from FM-1 would be discharged either through the Wingate D-004 (old FTG-004) or D-002 outfalls if necessary.

Section 5.2.2 - Color

Page 5-34: second paragraph, Sheri does Brushy Creek flow into Horse Creek below or above Station 2?

The confluence of Brushy Creek and Horse Creek is upstream of HCSW-2 (both water quality and biology).

Section 5.2.3 – Nitrate-Nitrite Nitrogen

Page 5-41: Sheri Figure 43 poor scale.

It matches the scale on the box plots.

Section 5.2.3 – Orthophosphate

Page 5-45: last paragraph, Sheri what was your findings? (Referring to comparing to NNC standards).

Paragraph added from TN section as well as a reference to Table 10 in Appendix I.

Section 5.2.4 – SC

Page 5-49: last paragraph, Sheri check this (Referring to sentence “Groundwater, which generally contains more concentrated dissolved ions than surface water, is closer to the surface in the lower Horse Creek Basin, making seepage into the stream more likely.”). We have more sink holes and USGS terms for sink holes in the upper Peace River Basin than in the lower basin suggesting that groundwater is closer to the surface further upstream. However, the reason for higher conductivity at station 4 may be due to more agriculture pumping of well water.

Revised sentence to read “Groundwater from the intermediate aquifer, which generally contains more concentrated dissolved ions than surface water or groundwater from the surficial aquifer, is closer to the surface in the lower Horse Creek Basin, making seepage into the stream more likely.” This is described in more detail in the Historical Report (Durbin and Raymond 2006).

Section 5.2.4 – Fluoride

Page 5-60: Sheri Figure 70 need to revise scale.

Scale matches those of the box plots.

Section 5.4.5

Page 5-91: last paragraph, Sheri you mentioned in the text but did not show the graph showing that the fish species had leveled out. Do we need to include this or not?

The last sentence refers to Table 27 (reference added). The graphs were removed because it duplicated the values represented in the table.

Section 7.1

Page 7-1: second bullet, Sheri I do not remember you saying much about CFI.

This information is located in the Introduction and Mining sections, although CFI was not mentioned directly. More text has been added to clarify the mining references.

Appendix I

Page I-2: third paragraph, Sheri please list the 5 ions here

Added ions alkalinity, calcium, fluoride, sulfate, and TDS to text

Page I-20: fourth paragraph, Sheri should this date be 2001 or 2010 (Referring to Charlie Creek change point discussion).

The date should be 2001 based on the change-point results in the table portion of Figure 24. To clarify the year, updated sentence to read “...and a change-point decrease at the beginning of a wetter period (2001)...”

Page I-28: first paragraph, Sheri we need to say something about the land use present and past for these upstream creek stations. Are they natural land, land that has been reclaimed, or land mined in the past but not reclaimed yet? We need to understand what these regional changes are on the lands above the NPDES locations.

Here is the approximate landuse for each station:

- ***HC@SR37: About 1600 ac land upstream, about 20% reclaimed, 10% unmined, and 70% CSA.***
- ***HC Inlet: About 4300 ac land upstream, about 60% reclaimed, 7% mined and not reclaimed, 3% unmined, and 30% CSA.***
- ***MJ-SW-1: About 1800 ac land upstream, about 10% reclaimed, 1% mined and not reclaimed, 75% unmined (mostly row crops), and 14% CSA.***
- ***MJ-SW-5: About 6600 ac land upstream, about 20% reclaimed, 40% mined and not reclaimed, 30% unmined (mostly row crops), and 10% CSA.***

These landuse figures are rough estimates, so we will not put them into the 2014 report.

Page I-35: first paragraph, Sheri station HC@Hwy 37 is highest for the parameters of concern than any other upstream stations. I plan to ask at TAG meeting what is the land use upstream for this station past and present and is there anything that can be physically done to improve this water quality discharge in the future.

The majority of the landuse upstream of this station within the historical basin boundaries is CSA, so the drainage basin is small.

Page I-37: last paragraph, Sheri Figure 34 from 2011-2014 looks like it is trending downward, is this a concern?

It is not a downward trend in the fish species richness, it is part of the normal cycle in the data. HCSW-4 has been more stable over time than HCSW-1 (based on the location within the basin as well as the stream structure), and there is no observed trend over time in annual median richness.

Page I-42: first paragraph, Sheri did the Charlie Creek continue the higher trend like HCSW-1 for the period of 2008-2014?

Charlie Creek did follow the same trend as HCSW-1, but it began in late 2006 instead of early 2008 and has continued through 2014.

Page I-43: Sheri the above impact assessment for Station 1 is good. What about the trends related to Station 4? Is it possible that Station 4 is trending the same as Station 1 but adding more chemical parameters due to agriculture issues that is higher are different than Station 1? Should more information be made available on Station 4?

There are no trends at HCSW-4 that are not already observed at HCSW-1, with the slope and change-points at both stations being very similar. Some sentences have been added to the change-point analysis portion to reflect this.

List of Changes from Sam Stone

Executive Summary, Introduction: third paragraph, add "additional" after 112

Change made.

Executive Summary, Recent Mining and Reclamation: change "was mined" to "were mined" and "114 acres" to "113 acres"

Change made.

Executive Summary, Water Quantity Results: first paragraph, add average historical flow rates and current rainfall

Updated to now read "The annual average daily streamflow at Horse Creek in 2014 at both HCSW-1 (19.67 cfs) and HCSW-4 (99.54 cfs) was below the long-term annual averages of 30.49 and 187.61 cfs, respectively. Annual rainfall of 58.51 inches in 2014 was above the long-term average annual rainfall of 52.88 inches (1908-2014)."

Executive Summary, Water Quantity Results: first paragraph, add "stream" after "In 2014"

Change made.

Section 1, page 1-1: second paragraph, add "the" before "Horse Creek Basin" in the last sentence

Change made.

Section 1, page 1-1: third bullet, add "Station 1," after WQ parameters

Added "HCSW-1"

Section 1, page 1-1: last paragraph, add "previously" before "mined" in the first sentence

Change made.

Section 2, page 2-2: fourth paragraph, change “downstream sections of the creek” to “downstream sections of Horse Creek”

Change made.

Section 3.1, page 3-1: first paragraph change “114 acres” to “113 acres”

Change made.

Section 5.1.4, page 5-12: second to last sentence change “tracts and that last” to “tracts lasting”

Change made.

Section 5.1.4, page 5-12: add to end of paragraph “This finding suggests that mining activities have not impacted the relationship between rainfall and streamflow.”

Updated text to “These findings suggest that mining activities have not changed the relationship between rainfall and stream discharge.”

Section 5.1.6, page 5-16: first paragraph, change/add “wetlands, small creeks, or mining industrial wastewater circulation system” in second to last sentence

Change not made, describes NPDES circulation system filling in next paragraph.

Section 5.2.2, page 5-31, turbidity: add “were” after “Brushy Creek” in last sentence

Change made.

Section 5.2.3, page 5-45, orthophosphate: second paragraph, add “with” after “but it was not correlated”

Change made.

Section 5.2.4, page 5-55, dissolved iron: first paragraph, add “three” after “iron at all” in the first sentence

Revised sentence to read: “Levels of dissolved iron at all stations were below 1 mg/l (the trigger level of HCSW-1, HCSW-2, and HCSW-3) during all sampling events in 2014”

Section 5.4.2, page 5-83: first paragraph, remove “from” before “2010 to 2012 and 2014”

That sentence was removed for clarity of the paragraph.

Section 5.4.4, page 5-88: last paragraph, change “heights” to “stream flows” after “very high stage” in last sentence

Change not made. Water levels would have to reach certain heights regardless of flow in order to flow through the culverts.

Appendix I, page I-2: third paragraph, change last sentence to read “...considered to be similar to and sufficiently covered by the focus on specific conductivity to not be discussed here in detail.”

Sentence now reads “...other trends in dissolved ions were considered to be similar and sufficiently covered by the focus on specific conductivity, and therefore were not discussed here in detail.”

Appendix I, page I-35: first paragraph after table, change “examine” to “examined” in first sentence

Change made.

2014 HCSP Annual Report Comments – Jeff Clark, EarthBalance®

Section 1, Figure 1, page 1-3: Suggest adding South Pastures area to Figure 1 map.

Edited in version distributed to the TAG. No additional revisions necessary.

Section 3.1, page 3-1: Recommend a brief (i.e., 1 paragraph) explanation regarding the lack of acreage reconnected to Horse Creek since 2009.

Mosaic will provide more text on this in the 2015 report.

Section 3.2, page 3-2: Capitalize Brushy on last paragraph under Reclamation.

Edited in version distributed to the TAG. No additional revisions necessary.

Section 4.3, page 4-3: spell out 1st occurrence of numerical nutrient criteria.

Change made.

Section 4.3.1, page 4-6: I'd state that the change to DO percent saturation was approved by the TAG members.

Changed the last sentence of the third paragraph to: "On January 21, 2016 a memo was approved and circulated to the TAG changing the DO trigger level from a 5.0 mg/L concentration to the time of day translation of the 38 percent saturation daily average criterion beginning with the 2014 annual report. This change is also noted in Appendix B, change number 13."

Section 4.4, page 4-7: last paragraph, I can't tell if the 2007-2013 SCI data was rescored/interpreted using the 2012 calculations. It just states that they can be, because the collection and sorting methods didn't change. I'd suggest rescoring them with the 2012 method if they haven't since presumably it would be a more accurate assessment.

The last sentence of the paragraph states that "The SCI scores reported in Section 5.3 of the 2014 Annual Report were calculated using the 2012 protocol." That is the entire SCI section and pertains to all results from November 2006 onward (further clarified in Appendix J).

Section 4.7, page 4-10: first paragraph, I'd reword "...there was also a clear path of cattle accessing the creek...". A cleared cattle path? Cleared path from cattle?

Changed text to "there was also a path cleared by cattle to access the creek near the 0 meter mark".

Section 5.1.1, Table 8, page 5-1: I can't tell what the footnote of 12 means for the 2013 Average of Mosaic Gauges. It's not in the footnotes below.

Edited in version distributed to the TAG. No additional revisions necessary.

Section 5.1.5, page 5-13: I suggest describing where the outfalls are on the South Pasture property.

The only outfall locations that are included in the report are for outfalls to Horse Creek. The South Pasture outfalls go to Doe Branch and Shirttail Branch, which are not tributaries of Horse Creek.

Section 5.2.2, page 5-27 and 5-28: DO, I suggest leaving out the DO concentration data since the change to percent saturation has been made. I don't see it as useful.

The first few years of percent saturation data is missing because of missing temperature data so there would be no saturation data available for analysis or graphing from that time period. Therefore both DO concentration and percent saturation are included.

Section 5.2.2, Figure 23 and 24, page 5-28: I don't see the Station 2 data gap from May to July addressed in the text.

HCSW-2 was not sampled in January, May, June, and July 2014 because of no flow conditions. Table 2 in Section 4.1 in has been updated to reflect this.

Section 5.2.4, page 5-53: Dissolved Calcium, I suggest adding some text stating that the dissolved calcium values observed above and near the exceedance level did not occur during a period when Mosaic was discharging. In fact, concentrations tended to be at their lowest when discharging.

Updated text.

Section 5.2.4, page 5-62: Sulfate, again I suggest text stating that sulfate exceedances did not occur during a period when Mosaic was discharging.

Updated text.

Section 5.2.4, page 5-64: TDS, suggest text stating that TDS values observed above and near the exceedance level did not occur during a period when Mosaic was discharging. In fact, concentrations tended to be at their lowest when discharging.

Updated text.

Section 5.3.2.2, Figure 81, page 5-76: the line differentiating the 1 vial vs. 2 vial methodology isn't significant enough to put on the graph for me and tends to clutter it. Also, the Exceptional and Impaired ratings are left off the graph whereas Healthy is on it.

This methodology change is important to how scores are calculated. The SCI scores increased using the SCI 2012 metric calculations and this new calculation could not be applied to samples older than November 2007. The scores reported prior to November 2007 are lower than the two vial SCI 2012 calculations so this difference in scores methodology (and differences in scores) needed to be noted.

The Exceptional and Impaired ratings have been made visible on the graph.

Section 5.3.3, Figures 82 and 83, page 5-78: the line differentiation the 2 different methodologies again isn't significant enough for me to put on the graphs. It's sufficiently explained in the text and there's no shift in the data that it can help explain.

This methodology change is important to how scores are calculated. The SCI scores increased using the SCI 2012 metric calculations and this new calculation could not be applied to samples older than November 2007. The scores reported prior to November 2007 are lower than the two vial SCI 2012 calculations so this difference in scores methodology (and differences in scores) needed to be noted.

Section 5.4, page 5-80: second paragraph, "Fourteen species of fish that had been collected from 2003 to 2013 were absent in 2014" is an alarming statement. I'd add a sentence justifying why we should not be alarmed.

Sentence changed to read: "A total of 41 species of fish have been observed in Horse Creek from 2003-2013, with a range of 18 to 32 species seen each year. In 2014, 27 fish species were observed, which is within the range of previous years."

2014 HCSP Annual Report Comments – John Ryan, Sarasota County

Table of Contents, page i – like the hyperlinks

Comment Noted

Table of Contents, Appendices, page ii: consistent capitalization “Literature Review of Statistical trend Analysis Method”

Change made.

Table of Contents, Appendices, page ii: typo in Appendix G “Imapct”

Change made.

Table of Contents, Appendices, page ii: Is there a bibliography of all HCSP reports?

The previous reports are listed alphabetically by author in the References section.

Executive Summary, Introduction, page x: second paragraph, should the word impact assessment be used here (referring to second component of the HCSP)? Just thinking that using identical wording (whatever that is) as is used in the agreements or documents provides clarity.

The wording in the second paragraph identifying the three components comes from the HCSP agreement (also provided as Appendix A).

Executive Summary, Water Quantity Results, page xi: first paragraph, HCSW-1 was 65% and HCSW-4 was 53% of annual averages, way low!

Comment Noted

Executive Summary, Water Quantity Results, page xi: Comment of “Good Comparison” in reference to last sentence of paragraph.

Comment Noted

Executive Summary, Water Quality Results, page xii: second paragraph, Is there a reference for conductivity of the surficial aquifer – maybe FGS?

The conductivity of the surficial aquifer varies by spatial location and time. It is outside the scope of the HCSP to investigate groundwater quality in a quantitative way.

Section 3.1, Table 1, page 3-1: Add totals to this table.

Because Table 1 only shows a portion of the mining in the Horse Creek Basin over the period of record, we do not want to misrepresent the total acres mined by adding a totals row. In addition, the reclamation acreage is not necessarily cumulative because, for example, plantings could occur on the same area more than once if plants did not successfully recruit the first time.

Section 3.2, page 3-2: How long does reclamation normally take and why? If success is a FDEP decision, then that might be mentioned here. Perhaps a reference to reclamation rules.

Mosaic is working on a succinct answer for this complex question.

Section 4.3, page 4-2: Comment of “Excellent!” to continuous recorder use

Comment Noted

Section 4.3, page 4-3: last paragraph, Comment of “Disagree. I think the NNC should be evaluated and reported here, even without biological metrics” (in reference to Therefore, incorporating the NNC thresholds as standalone trigger levels for the HCSP would be inappropriate and would not accurately reflect the NNC).

The NNC are being met at HCSW-1, as is discussed in detail in Appendix I in the context of demonstrating that Horse Creek has healthy biological conditions. Because the NNC thresholds are not trigger values and are not related to monthly concentrations, then putting them into the graphics with the main text would be misleading.

Section 4.3, Table 5, page 4-5: Not doing TP is weird.

Only orthophosphate is required under the original agreement and no addendums to add have been proposed to include total phosphorus.

Section 4.3.1, page 4-6: Did the PRMRWSA agree to this change? (In reference to “beginning with the 2014 report, the revised HCSP trigger level will be the time of day translation of the 38 percent saturation daily average criterion.”)

Yes. A memo was approved and circulated to the TAG on January 21, 2016. The change is also noted in Appendix B, change number 13.

Section 4.7, Figures 5-7: Comment “Love the Pictures!”

Comment Noted

Section 5.1.1, Table 8, page 5-1: This would make a great graph with an average number drawn through it at 52.88 inches. Table is informative but takes more study to grasp.

Comment Noted

Section 5.1.1, Figure 8, page 5-2: What are the averages for the region?

Using the NOAA 148 and 336 gauges, the annual average for rainfall from 1908-2014 is 52.88 inches. Monthly rainfall is shown below:

Month	POR Average (in)
January	2.16
February	2.46
March	2.84
April	2.41
May	3.81
June	8.48
July	8.22
August	8.44
September	7.69
October	3.38
November	1.78
December	1.84

Section 5.1.2, Figure 10, page 5-5: I would expect a longer lasting pump here – something like a rise mid-July that tapers off late October. Is it present but not shown in the depiction? Or does water spread into the floodplain rather than rise?

In 2014, the summer rainfall totals were not as high as in the past, and the largest rainfall event occurred in late-September which lead to the peak but then rapid drop-off.

Section 5.1.2, Figure 11, page 5-5: What is the minimum gauge height?

The minimum value the gauge reads when the system is dry. (The values listed in the figure description are correction to NGVD values plus the 0 water level elevations.)

Section 5.1.3, Figure 12, page 5-6: These peaks, even though >90th percentile might matter a lot to the biology?

Comment Noted

Section 5.1.3, Figure 12, page 5-6: I would like to see this graph with 100 cfs as the max.

Comment Noted

Section 5.1.3, Table 10, page 5-7: Comment “Wow! Very informative.”

Comment Noted

Section 5.2.1, page 5-19: top of page, Comment “Weird summer season (May to September). I’m used to June to October.

Comment Noted. The wet season was selected based on a review of rainfall totals in the region using the two NOAA gauges (Arcadia and Myakka). Even when using the traditional June to September wet season, results were very similar to the originally selected May to September time frame.

Section 5.2.2, Figure 27, page 5-30: DO, Comment “Good graph – really tells a story.”

Comment Noted

Section 5.2.2, Figure 32, page 5-33: Turbidity, What caused these high values?

They may have been times of cattle crossing Horse Creek, a pulse after a rain event, or when the meter was calibrated. The exact cause cannot be known for certain, except that there were no breaches of Mosaic CSA’s during those times.

Section 5.2.3, page 5-36: TN, Add discussion of nutrient limitation. Calculate it for each TN/TP paired sample set and show results.

The concept of “limiting nutrients” in Florida streams is not a diagnostic factor in stream ecology, especially in the Bone Valley. In addition, the HCSP collected data on orthophosphate, not total phosphorus, so that ratio would not be correct.

Section 5.2.3, page 5-36: TN, third bullet, Yes – 62-302 TN West Central is 1.65. This report needs a statement of TN geometric mean for each station and a graph with a red line showing 1.65 mg/L as a standard. It’s silly to be evasive about this.

The NNC are being met at HCSW-1, as is discussed in detail in Appendix I in the context of demonstrating that Horse Creek has healthy biological conditions. Because the NNC thresholds are not trigger values and are not related to monthly concentrations, then putting them into the graphics with the main text would be misleading.

Section 5.2.3, page 5-39: TKN, Give us percentages (in regards to TKN comprised the majority of TN in most samples).

Percentages calculated and added to the text (46-99%).

Section 5.2.3, Figure 42, page 5-41: Nitrate-Nitrite, Comment of Pretty high numbers.

Comment Noted

Section 5.2.5, Figure 78, page 5-70: So turbidity peaks are apparently unrelated to VSS as algae.

Turbidity and chlorophyll a (which is not exactly the same as VSS) do not seem to have well-correlated peaks.

Section 5.3.2, page 7-72: Comment of “?” to results in Table 21 description.

Not certain where the “?” is referring to. If it is about the attached CD, one will be provided with the final PDF version of the report. If it is referring to vial average for the SCI scores, that is the listed protocol from the FDEP SOP.

Section 5.3.2, Table 20, page 5-73: What are the maximum possible scores for each characteristic?
Bank Stability, Riparian Buffer Zone Width, and Riparian Zone Vegetation Quality evaluate each bank separately with a maximum individual bank score of 10 (maximum total of 20). All other metrics have a maximum score of 20.

Appendix B: Comment “Good information to have in the report.”
Comment Noted

Appendix C, Figure C-6, page C-6: TN, The NNC value should appear on this and other appropriate graphs 1.65 mg/L? The y-scale should be appropriate to see comparisons to the NNC threshold – 10 mg/L is too high.
The NNC are being met at HCSW-1, as is discussed in detail in Appendix I in the context of demonstrating that Horse Creek has healthy biological conditions. Because the NNC thresholds are not trigger values and are not related to monthly concentrations, then putting them into the graphics with the main text would be misleading. The elevated value will remain on this graphic in 2014 but will be removed from the 2015 graph and report.

Appendix C, Figure C-8, page C-8: Nitrate-Nitrite, Interesting that HCSW is so high. I would like to know why – based on a factual analysis. Does anything correlate with the high values?
Some of the highest values will be removed as erroneous data in the 2015 report.

Appendix C, Figure C-9, page C-9: Ammonia, Is there an explanation offered for why these elevated values occur? There should be.
The elevated ammonia at all stations on 7/31/2008 is being proposed to be removed along with all data collected from August 2010 to July 2011 because of lab analysis issues.

Appendix C, Figure C-11, page C-11: Chlorophyll-a, Isn't 20 ug/L a useful threshold from FDEP?
The threshold of 20 ug/L is set in reference to annual geometric means. The data presented in this figure is monthly results and would not be appropriate to compare to an annual standard.

Appendix C, Figure C-14, page C-14: Iron, Does iron come from the surficial aquifer?
Iron is elevated in groundwater compared to stream concentrations during the wet season, so groundwater influence during the dry season could increase stream concentrations.

Appendix D: Comment “Good chapter to have.”
Comment Noted

Appendix D, page D-1: Should a discussion of change-point analysis be added to this section?
Appendix D is specifically about the Seasonal Kendall Tau test that is used for the majority of trend analysis within the report. Additional information about change-point analysis has been added to the Appendix I impact assessment after the references section, as that method is only used when further analysis is needed.

Appendix F: Comment “Good appendix to have.”
Comment Noted

Appendix G: Comment “Good stuff.”
Comment Noted

Appendix I, Figure 13, page I-15: I think I understand this but am not sure. What is level 2 and 1 for example?

They are the recognized step change periods. If there were multiple step-changes over the data set then there were more than one "Level" recognized in the graph and summary table. Additional information about change-point analysis has been added to the Appendix I impact assessment after the references section.

Appendix K.1: Comment "Excellent appendix to have."

Comment Noted

2014 HCSP Annual Report Comments – Alissa Powers, Manatee County

In reviewing Manatee County records, we offer the following information:

- The wetland reclamation on Jameson Tract that outfalls into HC @37 was released in 2001. The wetlands consist of 196 acres of wetland hardwood forest, freshwater marsh and shrub marsh. The records do not indicate when the BMP was removed.
- The headwater marsh on Southeast Tract (upstream of Horse Creek) was reconnected to the West Fork of Horse Creek (WFHC) during the 2014-2015 annual report cycle. Rosemarie Garcia of Mosaic may have more precise timeframe in her records as to when the BMP was removed.

This information can be added to Appendix I in the 2015 report as additional information on the locations upstream of HCSW-1 after Mosaic adds additional information.