

**Horse Creek Stewardship Program
Technical Advisory Group
Meeting Summary for December 9, 2016**

Draft 2014 Annual Report

TAG Panel

Bill Byle	Charlotte County
Rob Brown	Manatee County
Alissa Powers	Manatee County
John Ryan	Sarasota County

Presenters

Kris Robbins	Cardno
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Attendees

Sam Stone	PRMRWSA
Morgan Colacone	PRMRWSA
Jeff Clark	EarthBalance
Santino Provenzano	Mosaic
Ryan Tickle	Mosaic
Sheri Huelster	Cardno

1. Report Overview

Kris Robbins of Cardno provided a technical summary and overview of Program data presented in the 2014 HCSP Annual Report, including a summary of the impact assessment for pH and specific conductivity.

Similar to the previous Annual Reports, potential trends were identified for various water quality parameters in the 2014 annual report. For four parameters (DO saturation, color, iron, and ammonia), the direction or the magnitude of the potential trends are not adverse. Six of the parameters (calcium, alkalinity, chloride, fluoride, sulfate, and TDS) are related to specific conductivity, so the discussion focused on specific conductivity as the best surrogate for all dissolved ions showing potential trends. The majority of the trend discussion focused on pH and specific conductivity changes over time.

A Seasonal and Annual Kendall Tau analysis of the pH data indicates that there is a slight increasing trend over the longer time period and when using data collected by SWFWMD. Specific conductivity still showed an increasing trend when additional years were included. The group discussed possible contributors to the increasing trend, as laid out in the impact assessment of the 2014 annual report.

Other topics discussed in the context of the 2014 annual report include: creating a “decision memo” dealing with potentially erroneous or out of range data, combining 2015 and 2016 report TAG meetings, and for 2016 report creating a “dashboard” summary along with regular report to see if reductions are possible.

2. Action Items:

- TAG members will get any additional comments on the 2014 report to the Authority by December 23, 2016.
- Cardno will provide a Word document of all reviewers’ questions/comments and responses to the Authority for transmittal to TAG members for the 2014 report.

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- Cardno will emphasize the dry period since 2005 in the water quantity section of the 2014 report.
- In Appendix I of the 2014 report, Cardno will include a plot of the SC from the NPDES discharge, discuss how HCSW-4 shows the same step-change in SC as HCSW-1 (and describe what the aqua boxes on the change point graphs mean), and add that HCSW-2 is not positively correlated with NPDES so any outfall influence is not going downstream. In Appendix I, Cardno will discuss trends at the downstream stations in addition to HCSW-1.
- Cardno will add year labels to the inflection points in the 2014 report and investigate other shorter inflections like 1983-1984 or 1999-2000 in the 2015 report.
- Cardno will investigate why iron was correlated with high flow, and see if time of day influences pH measurements in Horse Creek in the 2015 report. Cardno will also look into higher nitrate-nitrite values in the 2015 report.
- Mosaic will provide the conservation easement areas in the southern reserves as well as provide information on the criteria and requirements on mining and the timing of reclamation or release. Work on this action item is in progress in 2017.
- Mosaic and Cardno will update the mining/reclamation/reconnection total acres going back to 2004 with the inclusion of legacy CFI. They will also look into when acres were reconnected for Horse Creek at SR37 and Horse Creek Inlet. Work on this action item is in progress in 2017.
- Mosaic will investigate the water table elevation along Horse Creek as well as water use. Where practical, cross-sections of Horse Creek during the mining process will be provided. In addition inter-basin water transfers across Mosaic mining areas will be provided. Work on this action item is in progress in 2017.
- Mosaic and Cardno will create a "Decision Memo" that would include the new permitted outfalls in the Horse Creek and Brushy Creek basins along with where water would be sent. Work on this action item is in progress in 2017.
- Mosaic will internally discuss improved sampling methods to ensure that "no flow" systems are not sampled and look into SC and iron at Horse Creek at SR37. Work on this action item is in progress in 2017.

3. Timeline for 2014 Annual Report

The 2014 final report could be sent to the Authority by Quarter 1, 2017.