PEACE RIVER/MANASOTA REGIONAL WATER SUPPLY AUTHORITY
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HON. ADAM S. CUMMINGS, CHARLOTTE COUNTY | HON. TERRY L. WELLES, DESOTO COUNTY | HON. PATRICIA M. GLASS, MANATEE COUNTY | HON. SHANNON STAUB, SARASOTA COUNTY

PATRICK J. LEHMAN, P.E., EXECUTIVE DIRECTOR

MEMORANDUM

July 8, 2004

TO: Robert Brown — Manatee County
Terry Briggs — Charlotte County
James Chisholm — DeSoto County
John Ryan — Sarasota County

FROM: Sam Stone

RE: Horse Creek Stewardship Program Status Report

The attached status report (provided to the Authority Board of Directors on 7/07/04) is also provided to you since some of you do not receive copies of the Board folder. Should you require additional information concerning this project please contact me by phone at 863-993-4565 or e-mail at sspeariv@skycasters.net.

xc: Pat Lehman
Sunny Diver
Ralph Montgomery
Ross Franklin

Project Status Report

PROJECT: Horse Creek Stewardship Program

DATE: July 7, 2004

DEVELOPED BY: Samuel Stone, Environmental Affairs Coordinator

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The following information is a brief summary of important tasks or recent activities occurring with the Horse Creek Stewardship Program (HCSP).

Technical Advisory Group (TAG).
Members of the TAG consist of the following people. Terry Briggs (Charlotte County), James Chisholm (DeSoto County), Robert Brown (Manatee County) and John Ryan (Sarasota County). The TAG is receiving monthly project updates and other appropriate information when made available.

Monthly Water Quality Monitoring.
The sampling effort by IMC was started in April 2003 and has continued through June 2004. IMC has transmitted data to the Authority covering the period April 2003 - May 2004. In December 2003 EarthBalance visited the monitoring sites with IMC and split samples at the 4 surface water sites. In February, April and June of 2004 EarthBalance also collected samples at random to spot check water quality at the designated 4 sample stations.

Macroinvertebrate and Fish Sampling.
Required samples were collected in April, July and November of 2003 completing the first year of sample collection. The second year of sample collection has already started with those samples collected in April 2004.

Clay Settling Ponds Realtime Monitoring.
This equipment was fully operational as of December 12, 2003. False alarms had declined over time but continued. On 4/20/04 due to the cooperative efforts of IMC and the Authority, additional equipment modifications where implemented and resulting in no more false alarms. IMC also completed a report on the background operational procedures for the clay ponds and together with the Authority up dated the emergency procedures established for future clay pond alarms. This information was also transmitted to the TAG.

Water Quality Continuous Recorder.
This equipment was installed and became operational in July 2003. This monitoring effort is on going.

Reports.
The draft QA/QC Report was received by the Authority on December 18, 2003. Review comments by the Authority and EarthBalance were transmitted to IMC on June 25, 2004. Upon receiving a revised version the document will then be sent to the TAG for their evaluation, possibly in September 2004.

For the Historical Report, IMC has started collecting the historical data. A draft Historical Report outline was transmitted to the Authority in late February 2004. Review comments by the Authority and EarthBalance were transmitted to IMC on March 29, 2004. The completed outline is expected in July 2004. The actual draft Historical Report is expected to be completed for the Authority and TAG's review around September -October 2004.

The first draft Annual Report outline was received from IMC on 5/25/04. Review comments by the Authority and EarthBalance is expected to be transmitted to IMC in early July. Delivery of the actual draft Annual Report is anticipated to occur in August 2004.

Impact Assessments.
For the period April 2003-May 2004 Station 4 has exceeded the trigger level of 0.3 mg/l for iron for 9 of 14 months. An impact assessment determined that the current levels of iron were very similar to levels found in the past.

For the period April 2003-May 2004 Station 2 has exceeded the trigger level of dissolved oxygen for 12 of 14 months. An impact assessment determined that this condition is common in the Horse Creek basin and is localized near Station 2.

As a consequence of these preliminary impact assessment results, monitoring for these parameters and trend analysis of the data over time will continue.

For the month of April 2004 Station 2 exceeded the trigger level for chlorophyll. An impact assessment is expected to be complete in a few days. An initial review indicates this condition is a localized situation.

Project Historical Briefing

PROJECT: Horse Creek Stewardship Program

DATE: July 7, 2004

DEVELOPED BY: Samuel Stone, Environmental Affairs Coordinator

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The Settlement Agreement between the Peace River Manasota Regional Water Supply Authority (Authority) and IMC Phosphates Company (IMC) became effective on March 5, 2003. Contained within the agreement is the required implementation of the Horse Creek Stewardship Program (HCSP) by IMC and included program oversight by the Authority.

The Authority Board of Directors at their Meeting of June 4, 2003 authorized staff to retain EarthBalance on a time and materials basis to provide technical and professional support to the Authority during oversight of the monitoring program. These services will include assistance in reviewing the QA/QC program, creation and coordination of the Technical Advisory Group (TAG), review of technical reports, data management, and collection / lab analysis of duplicate and split water quality samples. Authority staff has negotiated and completed the necessary letter of authorization, project budget, and work orders with EarthBalance to begin work on the program.

The HCSP consists of multiple tasks occurring on different schedules. Below is a list of the major tasks and a brief description of the task.

Technical Advisory Group (TAG).
The TAG as required by the HCSP is made of one representative from each member government. The TAG is to review the progress and findings of the program and provide technical input to the Authority.

Monthly Water Quality Monitoring.
IMC will collect surface water samples from Horse Creek at four fixed stations once per month. These samples will be analyzed for 21 different chemical parameters and the results reported to the Authority monthly.

Macroinvertebrate and Fish Sampling.
This sampling effort is required three times per year in the Spring, Summer and Fall. The sample locations are the same 4 fixed stations used for water quality monitoring.

Clay Settling Ponds Realtime Monitoring.
This component requires that the Authority have the ability to monitor in real time the fluid levels of various clay settling ponds. This system could act as an early warning device for the Peace River Facility staff should an embankment fail, releasing clay materials into Horse Creek.

Horse Creek Flow Data.
Flow data is collected and monitored at the 4 fixed water quality sample stations. Stations 1 & 4 have existing USGS stations with data available on the USGS web site. Stations 2 & 3 required the installation of new equipment by IMC.

Water Quality Continuous Recorder.
The continuous water quality monitoring equipment is located at the fixed water quality station number 1 and continuously monitors and records data. Monthly this data is down loaded in the field, then placed into a data base and reported to the Authority.

Reports.
The QA/QC project report will describe the field methods, lab methods, standards and procedures used by IMC when implementing the monitoring program. The QA/QC plan will ensure that the HCSP methods used are the standard methods accepted by scientific and regulatory communities as well as, ensure that the results are reliable, reproducible and consistent with other programs.

The Historical Report will be an accumulation of existing historical data on Horse Creek. This data will then be analyzed to determine historical back ground conditions of Horse Creek, determine if any trends are evident and be the basis for comparing with current data collected as part of the HCSP.
The Annual Report will provide all the data collected as part of the HCSP for the previous years and will compare these results with the historical data. The intent is to determine if current water quality is different from the past and if a trend can be determined.

Impact Assessments.
As required by the HCSP, if a water quality parameter exceeds a specified trigger value or a significant trend in the data is found then IMC will initiate an impact assessment for the cause of the exceedence. The assessment can consist of further monitoring, and evaluations within the basin and may result in scientific assistance from IMC (if not at fault) or corrective mining actions (if at fault). If the assessment finds IMC at fault for the trigger exceedence or trend then the impact assessment is followed by corrective actions evaluation and implementation.

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PATRICK J. LEHMAN, P.E., EXECUTIVE DIRECTOR

MEMORANDUM

August 10, 2004

TO: Robert Brown — Manatee County
Terry Briggs — Charlotte County
James Chisholm — DeSoto County
John Ryan — Sarasota County

FROM: Sam Stone

RE: Horse Creek Stewardship Program Status Report

The attached status report (provided to the Authority Board of Directors on 8/04/04) is provided to you since some of you do not receive copies of the Board folder. Should you require additional information concerning this project please contact me by phone at 863-993-4565 or e-mail at sspeariv@skycasters.net.

xc: Pat Lehman
Sunny Diver
Ralph Montgomery
Ross Franklin

Project Status Report

PROJECT: Horse Creek Stewardship Program

DATE: August 4, 2004

DEVELOPED BY: Samuel Stone, Environmental Affairs Coordinator

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The following information is a brief summary of important tasks or recent activities occurring with the Horse Creek Stewardship Program (HCSP).

Technical Advisory Group (TAG).
Members of the TAG continue to receive copies of the Board Package Project Status Reports monthly. In April the TAG received back ground information on the operation of two clay ponds currently monitored as real time at the Peace River Facility. Included in this information was emergency response procedures for IMC if the dams are breached. In July 2004, the TAG received copies of the most recent impact assessment for high chlorophyll. An in depth project status report dated July 23, 2004 which included all the project water quality data, fish data and benthic data through May 2004 was also provided to the TAG.

Monthly Water Quality Monitoring.
This sampling effort by IMC has continued monthly without any interruption of collected data. IMC has transmitted data to the Authority covering the period April 2003 - June 2004. In June of 2004 EarthBalance also collected samples at random to spot check water quality at the designated 4 sample stations.

Macroinvertebrate and Fish Sampling.
The second year of sample collection has already started with those samples collected in April 2004. The second set for 2004 was scheduled for July 23 but due to high flows on Horse Creek this sampling effort was re-scheduled for the week of August 2.

Clay Settling Ponds Realtime Monitoring.
This equipment was fully operational as of December 12, 2003. At the Authority's request IMC agreed to model and provide a report on the possible affects of a dam failure on these ponds and the resulting flow rate scenarios down Horse Creek. This draft Dam Breach Study was reviewed by the Authority on June 25, 2004 and the final report is expected in August.

Water Quality Continuous Recorder.
This monitoring effort is on going and creating a very large data base. Existing plans include suppling this data as part of the Annual Report. More recently the Authority has been exploring with IMC methods to plot this large data set in a meaningful method and be submitted to the Authority on a monthly basis in addition to providing this data in the Annual Report.

Reports

The draft QA/QC Report was received by the Authority on December 18, 2003. Review comments by the Authority and EarthBalance were transmitted to IMC on June 25, 2004. Upon receiving a revised version the document will then be sent to the TAG for their evaluation, possibly in September / October 2004.

For the Historical Report, IMC has started collecting the historical data. A draft Historical Report outline was transmitted to the Authority in late February 2004. Review comments by the Authority and EarthBalance were transmitted to IMC on March 29, 2004. The completed outline is expected in August 2004. The actual draft Historical Report is expected to be completed for the Authority and TAG's review around October - November 2004.

The draft first Annual Report outline was received from IMC on 5/25/04. Review comments by the Authority and EarthBalance was transmitted to IMC July 6, 2004. Delivery of the actual draft Annual Report is scheduled for August 27, 2004.

Impact Assessments.

For the month of April and May 2004 Station 2 exceeded the trigger level for chlorophyll. An impact assessment was implemented on May 27 and the completed report was received June 29. The findings of the assessment concluded (and the Authority agrees) that the high chlorophyll was a local problem caused by low flow at the sample location. June results show an improvement to levels below the trigger level due to higher stream flows. The program will continue to monitor this parameter and perform trend analysis over time.

For the month of June Station 4 exceeded the trigger level for sulfates. An impact assessment is now under way. Most likely the cause for the increased sulfate levels at this station will be increased ground water pumping and run off by agriculture during the dry season.

Project Historical Briefing

PROJECT: Horse Creek Stewardship Program

DATE: August 4, 2004

DEVELOPED BY: Samuel Stone, Environmental Affairs Coordinator

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The Settlement Agreement between the Peace River Manasota Regional Water Supply Authority (Authority) and IMC Phosphates Company (IMC) became effective on March 5, 2003. Contained within the agreement is the required implementation of the Horse Creek Stewardship Program (HCSP) by IMC and included program oversight by the Authority.

The Authority Board of Directors at their Meeting of June 4, 2003 authorized staff to retain EarthBalance on a time and materials basis to provide technical and professional support to the Authority during oversight of the monitoring program. The HCSP consists of multiple tasks occurring on different schedules. Below is a list of the major tasks, a brief description of the tasks and historical progress on those tasks.

Technical Advisory Group (TAG).
The TAG as required by the HCSP is made of one representative from each member government. The TAG is to review the progress and findings of the program and provide technical input to the Authority. Members of the TAG consist of the following people. Terry Briggs (Charlotte County), James Chisholm (DeSoto County), Robert Brown (Manatee County) and John Ryan (Sarasota County).

Monthly Water Quality Monitoring.
IMC will collect surface water samples from Horse Creek at four fixed stations once per month. These samples will be analyzed for 21 different chemical parameters and the results reported to the Authority monthly.

This sampling effort by IMC was started in April 2003 and has continued monthly without any interruption of collected data. In December 2003 EarthBalance visited the monitoring sites with IMC and collected duplicate samples at the 4 surface water sites. Every other month EarthBalance is scheduled to visit the sites to collect samples at random to spot check water quality or collected duplicate samples with IMC at the designated 4 sample stations.

Macroinvertebrate and Fish Sampling.
This sampling effort is required three times per year in the Spring, Summer and Fall. The sample locations are the same 4 fixed stations used for water quality monitoring.

Required samples were collected in April, July and November of 2003 completing the first year of sample collection. The second year of sample collection has already started with those samples collected in April 2004.

Clay Settling Ponds Realtime Monitoring.

This component requires that the Authority have the ability to monitor in real time the fluid levels of various clay settling ponds. This system could act as an early warning device for the Peace River Facility staff should an embankment fail, releasing clay materials into Horse Creek.

This equipment was fully operational as of December 12, 2003. False alarms declined over time but continued. On 4/20/04 additional equipment modifications where implemented and resulted in no more false alarms. IMC also completed a report on the background operational procedures for the clay ponds and together with the Authority up dated the emergency procedures established for future clay pond alarms. This information was also transmitted to the TAG.

Horse Creek Flow Data.

Flow data is collected and monitored at the 4 fixed water quality sample stations. Stations 1 & 4 have existing USGS stations with data available on the USGS web site. Stations 2 & 3 required the installation of new equipment by IMC.

Water Quality Continuous Recorder.

The continuous water quality monitoring equipment became operational in July 2003 and is located at the fixed water quality station number 1. Monthly this data is down loaded in the field, then placed into a data base. This monitoring effort is on going and creating a very large data base. Existing plans include suppling this data as part of the Annual Report.

Reports.

The QA/QC project report will describe the field methods, lab methods, standards and procedures used by IMC when implementing the monitoring program. The QA/QC plan will ensure that the HCSP methods used are the standard methods accepted by scientific and regulatory communities as well as, ensure that the results are reliable, reproducible and consistent with other programs.

The Historical Report will be an accumulation of existing historical data on Horse Creek. This data will then be analyzed to determine historical back ground conditions of Horse Creek, determine if any trends are evident and be the basis for comparing with current data collected as part of the HCSP.

The Annual Report will provide all the data collected as part of the HCSP for the previous years and will compare these results with the historical data. The intent is to determine if current water quality is different from the past and if a trend can be determined.

Impact Assessments.

As required by the HCSP, if a water quality parameter exceeds a specified trigger value or a significant trend in the data is found then IMC will initiate an impact assessment for the cause of the exceedence. The assessment can consist of further monitoring, and evaluations within the basin and may result in scientific assistance from IMC (if not at fault) or corrective mining actions (if at fault). If the assessment finds IMC at fault for the trigger exceedence or trend then the impact assessment is followed by corrective actions evaluation and implementation.

For the period April 2003-June 2004 Station 4 has exceeded the trigger level of 0.3 mg/l for iron for 9 of 15 months. An impact assessment determined that the current levels of iron were very similar to levels found in the past.

For the period April 2003-June 2004 Station 2 has exceeded the trigger level of dissolved oxygen for 13 of 15 months. An impact assessment determined that this condition is common in the Horse Creek basin and is localized near Station 2.

As a consequence of these preliminary impact assessment results, monitoring for these parameters and trend analysis of the data over time will continue.

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PATRICK J. LEHMAN, P.E., EXECUTIVE DIRECTOR

MEMORANDUM

November 4, 2004

TO:

Robert Brown	Manatee County
Terry Briggs	Charlotte County
James Chisholm	DeSoto County
John Ryan	Sarasota County

FROM: Sam Stone

RE: Horse Creek Stewardship Program Status Report

The attached status report (provided to the Authority Board Directors on (11/03/04) is provided to you since some of you may not receive copies of the Board Folder.

In other matters we received a draft copy of the Annual Report from IMC on 10/7/04. The Authority and its consultants have reviewed the draft report and sent comments to IMC on October 22, 2004. In the near future draft copies (version 2) of the report will be sent to you for review leading up to a scheduled TAG meeting.

xc: Pat Lehman
Sunny Diver
Ralph Montgomery
Ross Franklin

PEACE RIVER FACILITY ♦ 8998 S. W. COUNTY RD. 769 ♦ ARCADIA, FLORIDA 34269 ♦ TEL (863) 993-4565 ♦ FAX (863) 993-4568 ♦ E-MAIL: pearivf@sleycasters.net

Project Status Report

PROJECT: Horse Creek Stewardship Program

DATE: November 3, 2004

DEVELOPED BY: Samuel Stone, Environmental Affairs Coordinator

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The following information is a brief summary of important tasks or recent activities occurring with the Horse Creek Stewardship Program (HCSP).

Technical Advisory Group (TAG).
Members of the TAG continue to receive copies of the Board Package Project Status Reports monthly. An in depth project status report dated July 23, 2004 which included all the project water quality data, fish data and benthic data through May 2004 was also provided to the TAG. In September 2004, the TAG received copies of the most recent impact assessment for high sulfate.

Monthly Water Quality Monitoring.
This sampling effort by IMC has continued monthly without any interruption of collected data. IMC has transmitted data to the Authority covering the period April 2003 - August 2004. On August 30 of 2004 EarthBalance collected duplicate samples with IMC to spot check water quality at the designated 4 sample stations. September samples were collected on September 29th and October samples are scheduled for collection on October 27th. The lab results for September are expected no later than 10/29/04

Macroinvertebrate and Fish Sampling.
The second year of sample collection has already started with those samples collected in April 2004. The second set for 2004 was scheduled for July or August but due to high flows on Horse Creek this sampling effort has been rescheduled for November.

Clay Settling Ponds Realtime Monitoring.
This equipment was fully operational as of December 12, 2003. At the Authority's request IMC agreed to model and provide a report on the possible affects of a dam failure on these ponds and the resulting flow rate scenarios down Horse Creek. This draft Dam Breach Study was reviewed by the Authority on June 25, 2004 and the final report is expected in October.

Water Quality Continuous Recorder.
This monitoring effort is on going and creating a very large data base. Existing plans include suppling this data as part of the Annual Report. More recently the Authority has been exploring with IMC methods to plot this large data set in a meaningful method and be submitted to the Authority on a monthly basis in addition to providing this data in the Annual Report.

Reports.

The draft QA/QC Report was received by the Authority on December 18, 2003. Review comments by the Authority and EarthBalance were transmitted to IMC on June 25, 2004. Upon receiving a revised version the document will then be sent to the TAG for their evaluation, possibly in November / December 2004.

For the Historical Report, IMC has started collecting the historical data. A draft Historical Report outline was transmitted to the Authority in late February 2004. Review comments by the Authority and EarthBalance were transmitted to IMC on March 29, 2004. The draft Historical Report is expected to be completed for the Authority and TAG's review around November - December 2004.

The draft first Annual Report outline was received from IMC on 5/25/04. Review comments by the Authority and EarthBalance was transmitted to IMC July 6, 2004. IMC provided the draft Annual Report to the Authority on October 7 and the Authority provided review comments to IMC on October 22. It is expected that copies of the report will be transmitted to the TAG for their review over the next few weeks.

Impact Assessments.

For the month of June Station 4 exceeded the trigger level for sulfate. An impact assessment was completed August 31, 2004 by IMC. The Authority and EarthBalance reviewed the information presented and agreed that most likely the cause for the increased sulfate levels at this station was due to increased ground water pumping and run off during the dry season.

During August 2004 Dissolved Oxygen below the trigger level was found at all the Horse Creek stations at the same time as the Peace River basin experienced low DO after the storm. All parties agreed that no impact assessment was required since the storm caused the low DO through out the region.

Project Historical Briefing

PROJECT: Horse Creek Stewardship Program

DATE: November 3, 2004

DEVELOPED BY: Samuel Stone, Environmental Affairs Coordinator

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The Settlement Agreement between the Peace River Manasota Regional Water Supply Authority (Authority) and IMC Phosphates Company (IMC) became effective on March 5, 2003. Contained within the agreement is the required implementation of the Horse Creek Stewardship Program (HCSP) by IMC and included program oversight by the Authority.

The Authority Board of Directors at their Meeting of June 4, 2003 authorized staff to retain EarthBalance on a time and materials basis to provide technical and professional support to the Authority during oversight of the monitoring program. The HCSP consists of multiple tasks occurring on different schedules. Below is a list of the major tasks, a brief description of the tasks and historical progress on those tasks.

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Monthly Water Quality Monitoring.
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Macroinvertebrate and Fish Sampling.
This sampling effort is required three times per year in the Spring, Summer and Fall. The sample locations are the same 4 fixed stations used for water quality monitoring.

Required samples were collected in April, July and November of 2003 completing the first year of sample collection. The second year of sample collection has already started with those samples collected in April 2004.

Clay Settling Ponds Realtime Monitoring.
This component requires that the Authority have the ability to monitor in real time the fluid levels of various clay settling ponds. This system could act as an early warning device for the Peace River Facility staff should an embankment fail, releasing clay materials into Horse Creek.

This equipment was fully operational as of December 12, 2003. False alarms declined over time but continued. On 4/20/04 additional equipment modifications where implemented and resulted in no more false alarms. IMC also completed a report on the background operational procedures for the clay ponds and together with the Authority up dated the emergency procedures established for future clay pond alarms. This information was also transmitted to the TAG.

Horse Creek Flow Data.
Flow data is collected and monitored at the 4 fixed water quality sample stations. Stations 1 & 4 have existing USGS stations with data available on the USGS web site. Stations 2 & 3 required the installation of new equipment by IMC.

Water Quality Continuous Recorder.
The continuous water quality monitoring equipment became operational in July 2003 and is located at the fixed water quality station number 1. Monthly this data is down loaded in the field, then placed into a data base. This monitoring effort is on going and creating a very large data base. Existing plans include suppling this data as part of the Annual Report.

Reports.
The QA/QC project report will describe the field methods, lab methods, standards and procedures used by IMC when implementing the monitoring program. The QA/QC plan will ensure that the HCSP methods used are the standard methods accepted by scientific and regulatory communities as well as, ensure that the results are reliable, reproducible and consistent with other programs.

The Historical Report will be an accumulation of existing historical data on Horse Creek. This data will then be analyzed to determine historical back ground conditions of Horse Creek, determine if any trends are evident and be the basis for comparing with current data collected as part of the HCSP.
The Annual Report will provide all the data collected as part of the HCSP for the previous years and will compare these results with the historical data. The intent is to determine if current water quality is different from the past and if a trend can be determined.

Impact Assessments.
As required by the HCSP, if a water quality parameter exceeds a specified trigger value or a significant trend in the data is found then IMC will initiate an impact assessment for the cause of the exceedence. The assessment can consist of further monitoring, and evaluations within the basin and may result in scientific assistance from IMC (if not at fault) or corrective mining actions (if at fault). If the assessment finds IMC at fault for the trigger exceedence or trend then the impact assessment is followed by corrective actions evaluation and implementation.

For the period April 2003-August 2004 Station 4 has exceeded the trigger level of 0.3 mg/l for iron for 11 of 17 months. An impact assessment determined that the current levels of iron were very similar to levels found in the past.

For the period April 2003-August 2004 Station 2 has exceeded the trigger level of dissolved oxygen for 15 of 17 months. An impact assessment determined that this condition is common in the Horse Creek basin and is localized near Station 2.

For the month of April and May 2004 Station 2 exceeded the trigger level for chlorophyll. An impact assessment was implemented on May 27. The findings of the assessment concluded (and the Authority agrees) that the high chlorophyll was a local problem caused by low flow at the sample location.

As a consequence of these preliminary impact assessment results, monitoring for these parameters and trend analysis of the data over time will continue.