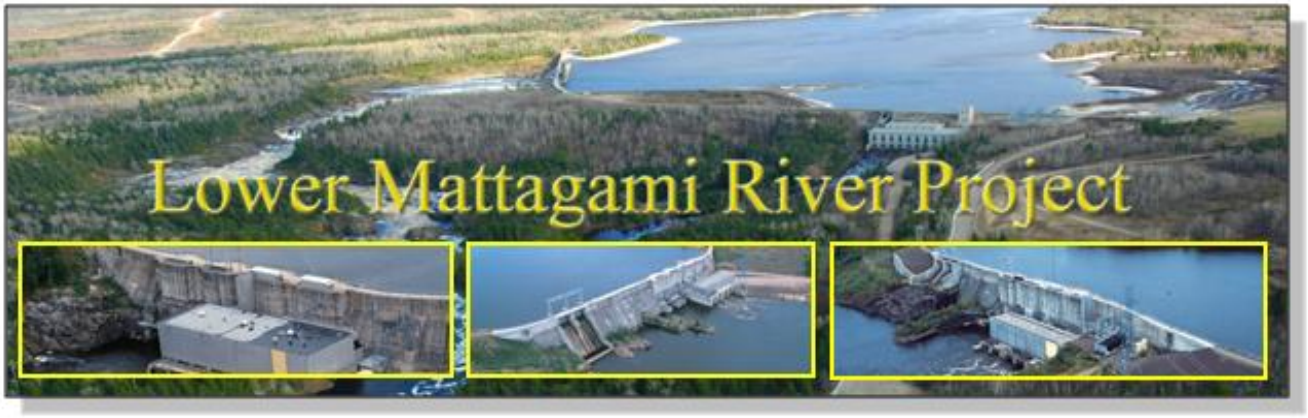


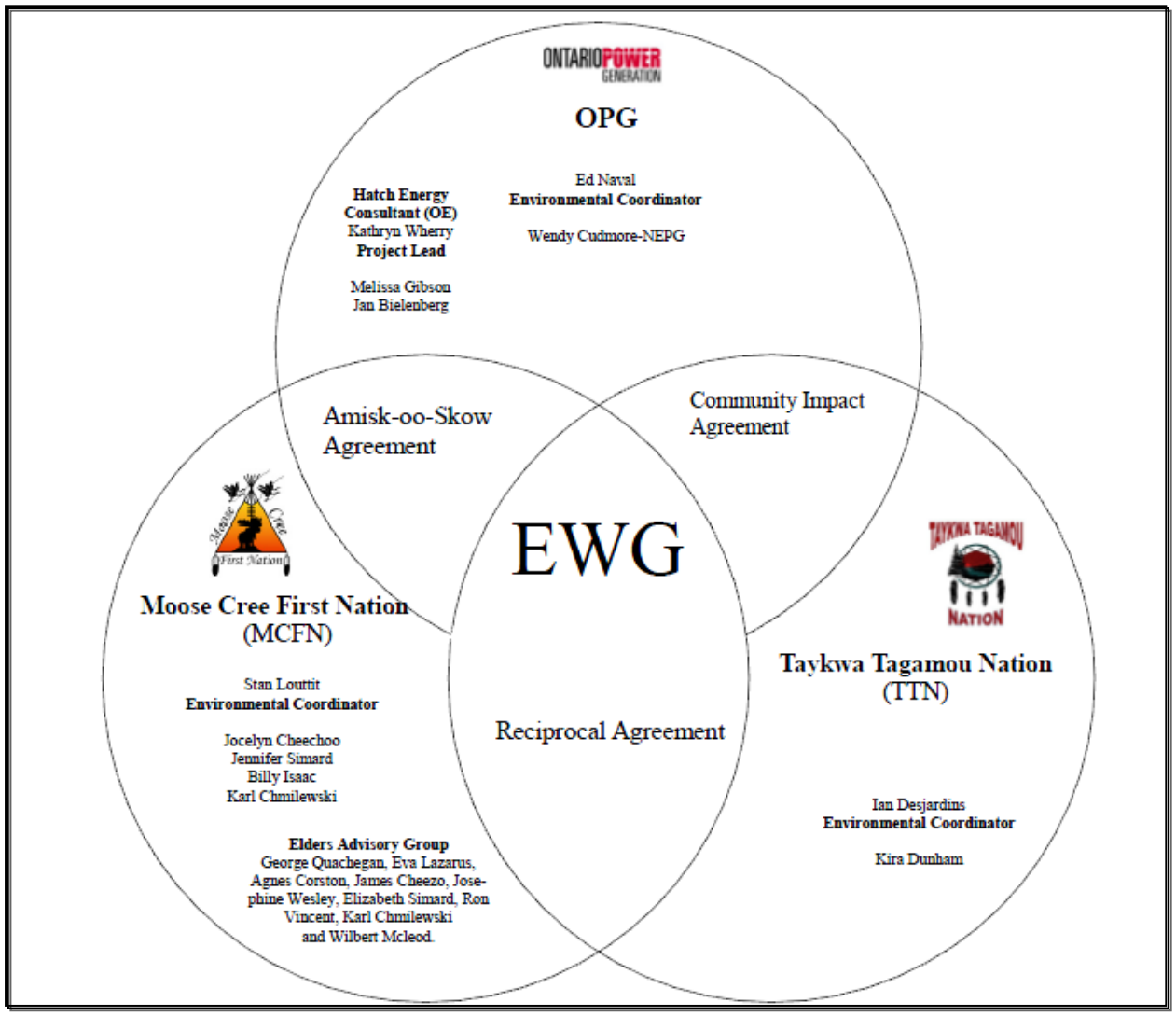
Environmental Working Group

Monthly Report

December 2013

ENVIRONMENTAL WORKING GROUP

Relationship Organizational Chart



- Weekly Environmental Working Group (EWG) and EWG/Kiewit – Alarie, a Partnership (KAP) meetings.
  - The EWG review its Action Items that include priority permit reviews, and deliverables to the Mattagami Extensions Coordinating Committee (MECC).
  - KAP gives EWG a construction up date every week and discusses any upcoming issues and/or urgent permit reviews.
  - Specific items that were discussed are below.
- During the month of December members of the EWG reviewed the application for the Smoky Falls Permit to Take Water Amendment, the amended Little Long Operations Manual, and the most recent draft of the Environmental Effects Monitoring Plan.
- On December 4, the EWG held its last face to face meeting of the year at the OPG Kipling Office in Toronto. Topics that were discussed included the incorporation of TEK in the Cost Benefit Analysis Report for Adam Creek (presentation by MCFN) and outstanding action items to incorporate TEK into the monitoring/baseline data.
- MCFN held a meeting with its Elders on Dec. 16 to finalize what was presented to incorporate TEK in the Cost Benefit Analysis Report for Adam Creek.
- TTN members of the EWG continued to work on developing their own Elders Advisory Group.
- MCFN and TTN members of the EWG worked on incorporating TEK into the SENES Erosion and Aquatic Reports for Adam Creek (commissioned by the MECC).
- Inclusion of a First Nation perspective on the Cost Benefit Analysis of Mitigating and Reducing Spill in Adam Creek. TTN and MCFN have completed their interviews and continue to look at ways to incorporate the First Nation perspective within the report. MCFN and TTN are now working independently to develop their own community's perspectives for the report. A presentation on the work completed to date was given by MCFN on Dec. 4 (see above). TTN continues to conduct additional Elder interviews.
- MCFN and TTN of the EWG members continue to work on the development of a TEK Monitoring Program. The TEK Monitoring Program is intended to work with the OPG Environmental Effects Monitoring Plan to address term and condition 13 - Aboriginal Knowledge.
- Members of the EWG continued their work on the "Peoples of the Moose River Basin" historical text (EA Term and Condition 2c). Several members of the EWG have begun writing portions of the text. The MECC is now hosting the POMRB blog. A teleconference has been scheduled for January 28, 2014.
- The OPG and Hatch members of the EWG continue to work on collecting additional baseline information. The EWG members are also working on ways to implement the recommendations to incorporate TEK within the Baseline/monitoring EA Terms and Conditions.
- In an effort to improve the understanding of TEK, members of the EWG have been reading the "The Inconvenient Indian, A Curious Account of Native People in North America", by Thomas King.

ACTIONS TO BE COMPLETED in 2013

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
EWG Environnemental Due Diligence Audit #3												
EWG Face to Face Meetings												
EWG present to the MECC the result of its review of the draft "Cost Benefit Analysis of Mitigating and Reducing Adam Creek Spill" (Condition 4(c) and (e) of EA T&Cs) by Hatch.												TBD
EWG present to the MECC "Environmental Effects Monitoring Plan, Lower Mattagami Development" (EA T&C 3, 4b, 5b, 6, 7 and 14).												TBD
EWG present to the MECC the "Erosion Monitoring Plan" (EA T&C 6).												TBD
EWG present to the MECC the results and recommendations of periodic re-evaluations (Condition 10 of EA T&Cs).												TBD
TEK Workshop												
MCFN TEK Workshop												
EWG read TEK book 'Sacred Ecology'.												
EWG read TEK book 'Ellen Smallboy: Glimpses of a Cree Women's Life'.												
EWG read TEK book 'Wisdom of the Elders'.												
EWG read TEK book 'The Inconvenient Indian, A Curious Account of Native People in North America'.												TBD

Completed: Pending: *Additional work still required to fulfill EA Term and Condition

Construction

Little Long (Figure 1)

- The focus of work this month was subsystem testing and commissioning, Unit testing and commissioning, and Transfer of Control (TOC) documentation.
- Grinding of the discharge ring to increase clearances was declared complete, measurements were taken at November month-end, and the clearances were determined to meet the required tolerance. The measurements were verified and clearances were accepted on December 5.
- Unit testing occurred between December 5 and month-end, covering a large number of operational scenarios.
- Very minor rubbing (runner / discharge ring contact) was detected during the 100% load rejection test. Andritz ground and buffed the areas affected.
- Corrective work to address deficiencies identified during testing is ongoing.
- KAP and Andritz electricians continued to work on addressing punch list items.
- The Unit forecast in-service date is currently January 19, 2014.

Figure 1: Little Long Overview

Harmon

- Andritz completed all unit alignment activities.
- Andritz started installing the generator enclosure (Figure 2).

- Andritz continued to install cooling water and oil lines for various systems inside and outside the generator enclosure area.
- AFI installed the draft tube gate storage racks on the tailrace deck.
- Remedial work on the runner and discharge ring started before the Christmas break. Andritz lowered the runner into the draft tube cone and grinding of material on the tips of the blades is under way. Once this is complete, high spots on the discharge ring will be ground down and then buffed smooth.
- The intake gate was installed and wet testing was successfully completed.
- A number of walk downs and pre-operational tests were completed in the month.

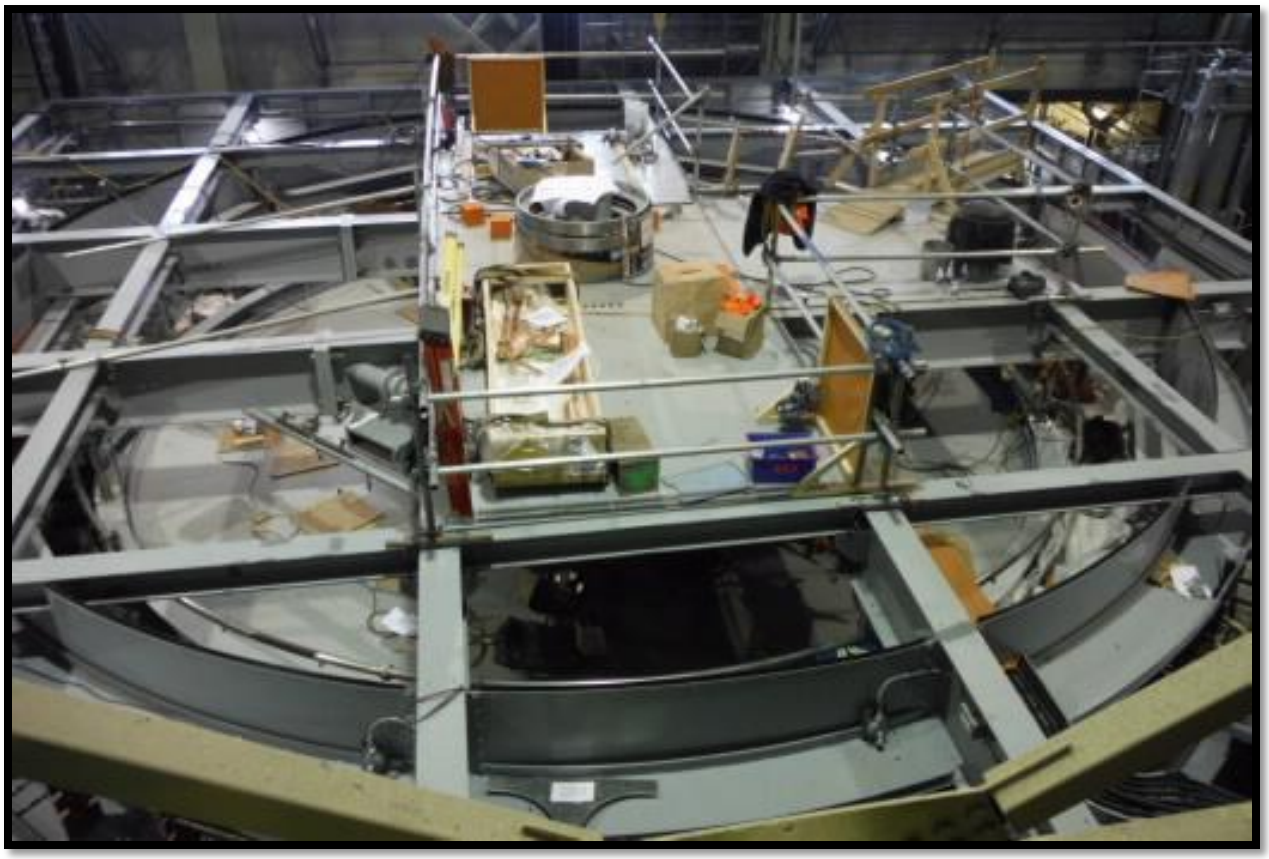


Figure 2: Harmon Unit 3

Kipling

- 223 m^3 of concrete was poured this month, bringing the total poured to date to 11,260 m^3 of 11,885 m^3.
- The superstructure erection is complete and the inner cladding and temporary roof was installed (Figure 3).
- Removal of fill from Cell 1 of the cellular cofferdam was completed to the level required to install the cell template. The cofferdam crew demobilized and cofferdam removal is planned to resume in 2014.
- Andritz prepared rotor parts (stored in the Service Bay) for assembly and have started welding the rotor spider.
- Preparations to assemble the Unit 3 runner between Units 1 and 2 are under way.
- KAP continued to install service air and depression air lines on the generator floor.

- Stark International / CG Power completed GSU transformer testing as defined in the construction Inspection and Test Plan.

Figure 3: Kipling Superstructure erection

Smoky Falls

- 916 m^3 of concrete was poured this month in the service bay, powerhouse, and intake areas, bringing the total poured to date to 140,165 m3 of 155,084 m^3.
- At the end of the month, all major concrete pours have been completed at Smoky Falls. Seven concrete pours are in various stages of work (formwork started and / or rebar being installed) and progressing in the intake, powerhouse, Service Bays, Gravity Dams, and tailrace retaining walls (Zones 3 & 5). Thirty five (35) pours were completed during the month (a number of these were small pours).
- Earthworks activities around the East gravity dam progressed in the month, with rockfill placement and slope trimming on the downstream side. Backfilling has started on the upstream side of the East gravity dam (Figure 5).
- Global Precast completed installing precast panels on the east side of Unit 3 and on the elevator shaft enclosure.
- Subcontractor CanAm continues installing and sealing the roof over the powerhouse and the mechanical building (Service Bay East).
- Depression air tanks were installed behind the mechanical building.

- At Zone 5, the installation of additional rock anchors to improve the stability of the rock face and concrete work (formwork, rebar, and concrete placement) continues. Two pours were completed in the month. Shotcrete placement was completed on the North side, beneath the West retaining wall.
- At Zone 3, anchor hole drilling and anchor installation continues, with good progress made (6 anchors remain to be installed). Concrete work (formwork, rebar, and concrete placement) continues, one pour was completed and formwork is being installed for the next two pours.
- Alstom continues to prepare Turbine/Generator components in the West Service Bay (WSB) and work inside the Units. They have completed the following tasks:
  - At Unit 1, Alstom installed wicket gate levers and the outer head cover. The bolts between the bottom ring and the stay ring were torqued. Alstom completed rotor pole installation and leveled them (Figure 4);
  - At Unit 2, Alstom measured and adjusted the rotor spider in preparation for wedge carrier installation. Unit 2 stator core loop test was completed and the stator assembly was placed in the Unit 2 turbine pit;
  - At Unit 3, Alstom received the stator frame and started aligning the sections in preparation for welding them together. KAP continued to work on intake and powerhouse concrete pours.
- Upstream gate guide installation is advancing on the intakes on all 3 units.
- KAP continues to install the Isolated Phase Bus ducts on Units 1 and 2. BOP electrical work continues to advance on schedule.
- KAP electricians completed the transformer installation for Units 1 and 2. The Unit 3 transformer was delivered to site prior to the Christmas shut-down.

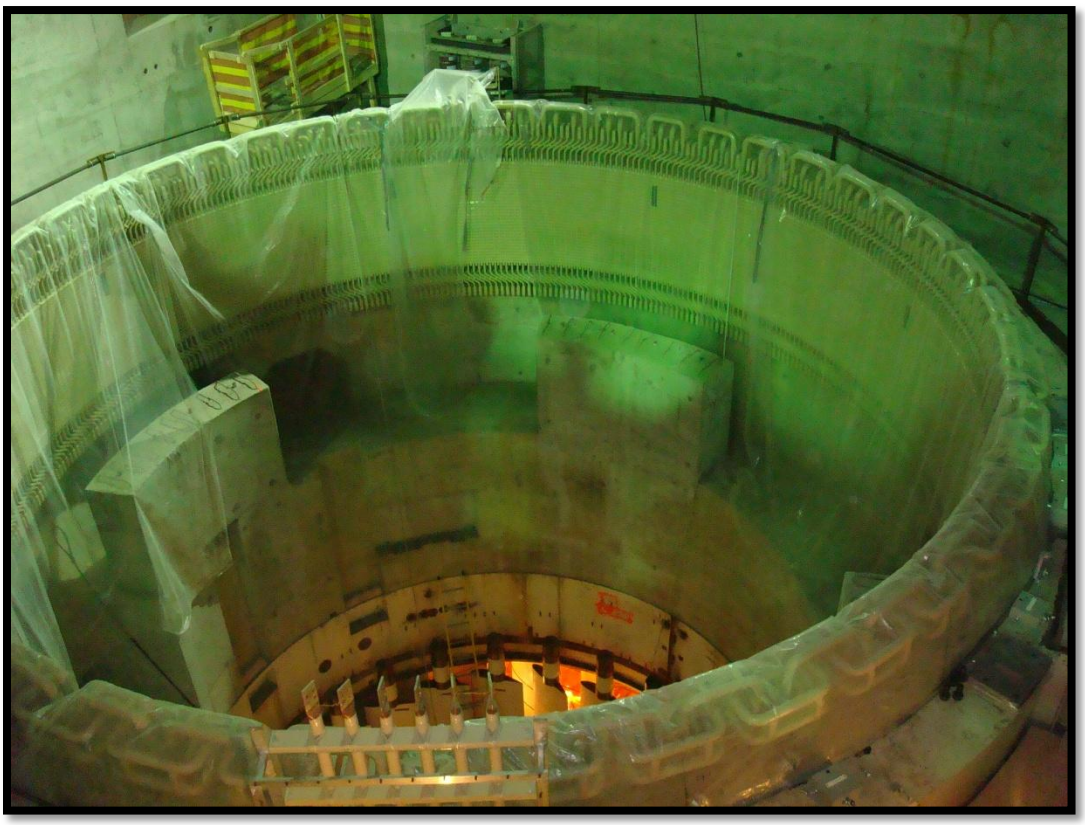


Figure 4: Smoky Falls Unit 1Stator & Wicket gates installed

Figure 5: Smoky Falls Exterior Overview

Monthly Summary – December 2013

<table>
<tr><td colspan="4">SPILLS</td></tr>
<tr><td colspan="2">No. of Spills:</td><td colspan="2">3; Spill Reports 405-407 (see Figure 6 for LMRP spills breakdown).</td></tr>
<tr><td colspan="2">Classification of Spills:</td><td colspan="2"><u>KAP Project Classification</u>
Minor – 1 Moderate – 2 Major –0 To Water - 0
<u>MOE Classification</u>
Non-reportable - 2
Reportable to MOE
- Class C – 1
- Class B – 0
- Class A – 0</td></tr>
<tr><td colspan="4">Reportable Spills</td></tr>
<tr><td>No.</td><td>Quantity /Product Spilled</td><td>Spill Site</td><td>Reason for being Reportable</td></tr>
<tr><td>1</td><td>2-3 m^3/Sand</td><td>Harmon – Marine Access Pad Removal</td><td>The crusher crew had installed frost fighters on the track screener on the previous day to help warm the oil prior to moving it for use the next day. Overnight, the frost fighters had not been filled and stopped working, which caused the hydraulic oil to become thicker, causing stress on the pumping system to the motor. This stress increased the pressure inside the engine, which in turn broke the seal on the engine. This caused the oil in the engine to leak out, onto the ground.</td></tr>
<tr><td colspan="2">KAP Project Classification
Minor: ≤ 10L
Moderate: Between 10L and 100L
Major: ≥100L
To Water: Any amount is reportable to the MOE
(See Figure 7: KAP Spills Response Flowchart)</td><td colspan="2">MOE Classification (see Reportable and Non-reportable Spills definition below)
Non-reportable: < 100L
Reportable to MOE
• Class C - Less Serious
• Class B – Serious
• Class A – Very Serious</td></tr>
<tr><td colspan="4">Sediment Pond Exceedance of Effluent Objective</td></tr>
<tr><td>No. of Exceedance days recorded</td><td>Location</td><td colspan="2">Mitigation Measures used</td></tr>
<tr><td>3 (Dec 1st to 3rd)</td><td>Smoky Falls Sediment Pond</td><td colspan="2">The daily water sample collected at the Smoky Falls Sediment Pond was noted to be above the 30 NTU objective. The increase in turbidity was caused by the excavation work that is currently ongoing at the intake of the powerhouse due to the removal and backfilling of material. This is causing the seepage water to collect some fine material prior to making its way to the sediment pond. KAP has used a new type of flocculent/polymer that is meant to work in colder temperatures. The alternate flocculent was added on Dec 4, and turbidity levels have dropped below the NTU objective.</td></tr>
</table>

Spills Response

When **any spill** occurs on site, KAPs spill response process is to be followed (Figure 7). This includes notification of the Supervisor and KAPs Environmental Department, and an assessment of the severity of the spill. Regardless of the quantity, clean-up measures are implemented for **every spill** using spill kits that are available throughout the site (materials used for clean-up and any contaminated soil are removed from the site). A spill report is then prepared for **each spill that occurs** which outlines the location, type, severity and quantity of the spill, in addition to details on how the spill occurred, how it was cleaned up and measures implemented on how the spill could be avoided for the future. This report is sent out to several OPG and Hatch representatives as well as all EWG members.

Reportable and Non-reportable Spills:

Section 92 of the *Environmental Protection Act* (EPA) requires that **a spill** be reported forthwith to the Ministry of the Environment. The definition of a spill in the EPA (subsection 91.1) is: a discharge,

(a) into the natural environment,
(b) from or out of a structure, vehicle or other container, and
(c) that is abnormal in quality (e.g. the product spilled) or quantity (e.g. the amount spilled) in light of all the circumstances of the discharge.

Spills that are exempt from reporting to the Ministry of the Environment (ie. non-reportable) are discharges that don't fall within the 'spill' definition or, are exempted under EPA Regulation 675/98, *Classification and Exemptions of Spills and Reporting of Discharges*. This includes (not limited to) Class VI – Motor Vehicle exemptions, which exempts reporting of spills that are less than 100 L of fluid from a motor vehicle.

Subsection 30 .2 of the *Ontario Water Resources Act*, requires that the discharge of any material of any kind into water that is not in the normal course of events (e.g. regardless of quantity or quality) be reported to the Ministry of the Environment.

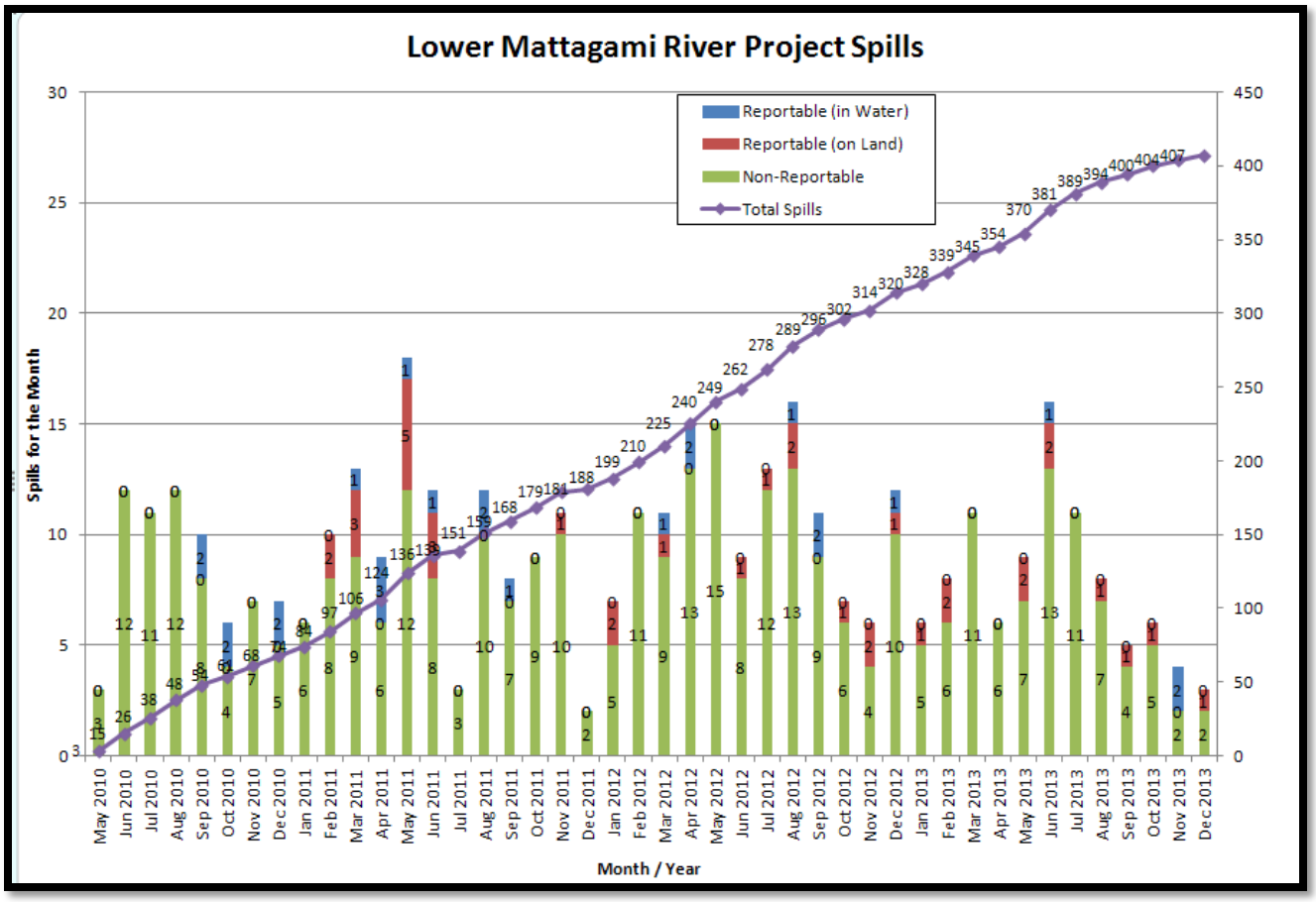


Figure 6: Lower Mattagami River Project spills

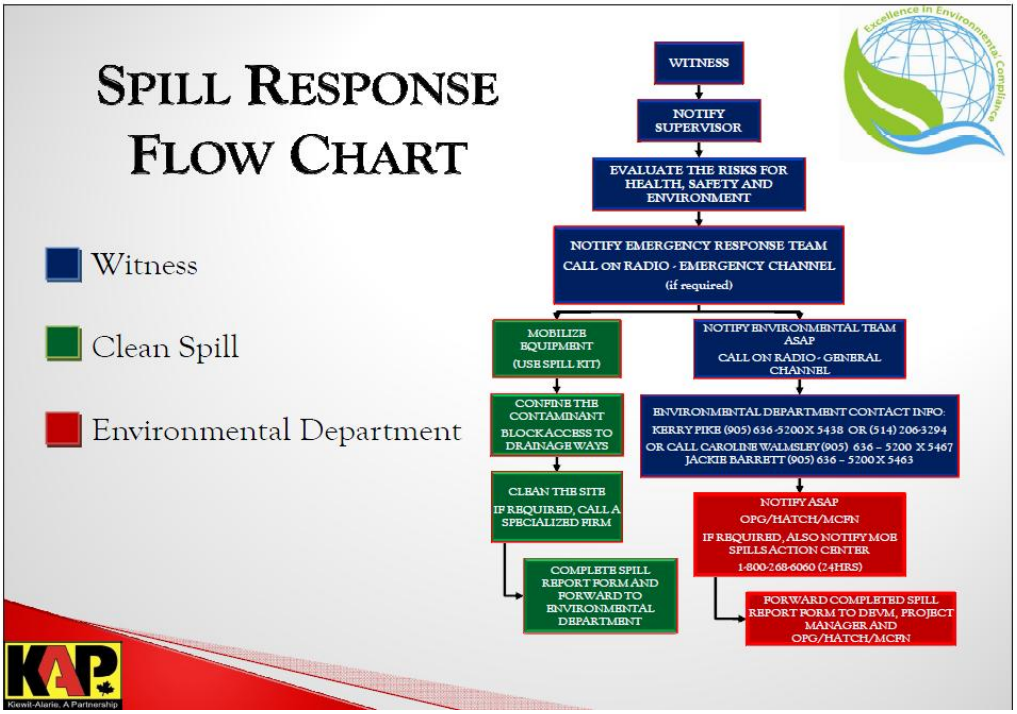
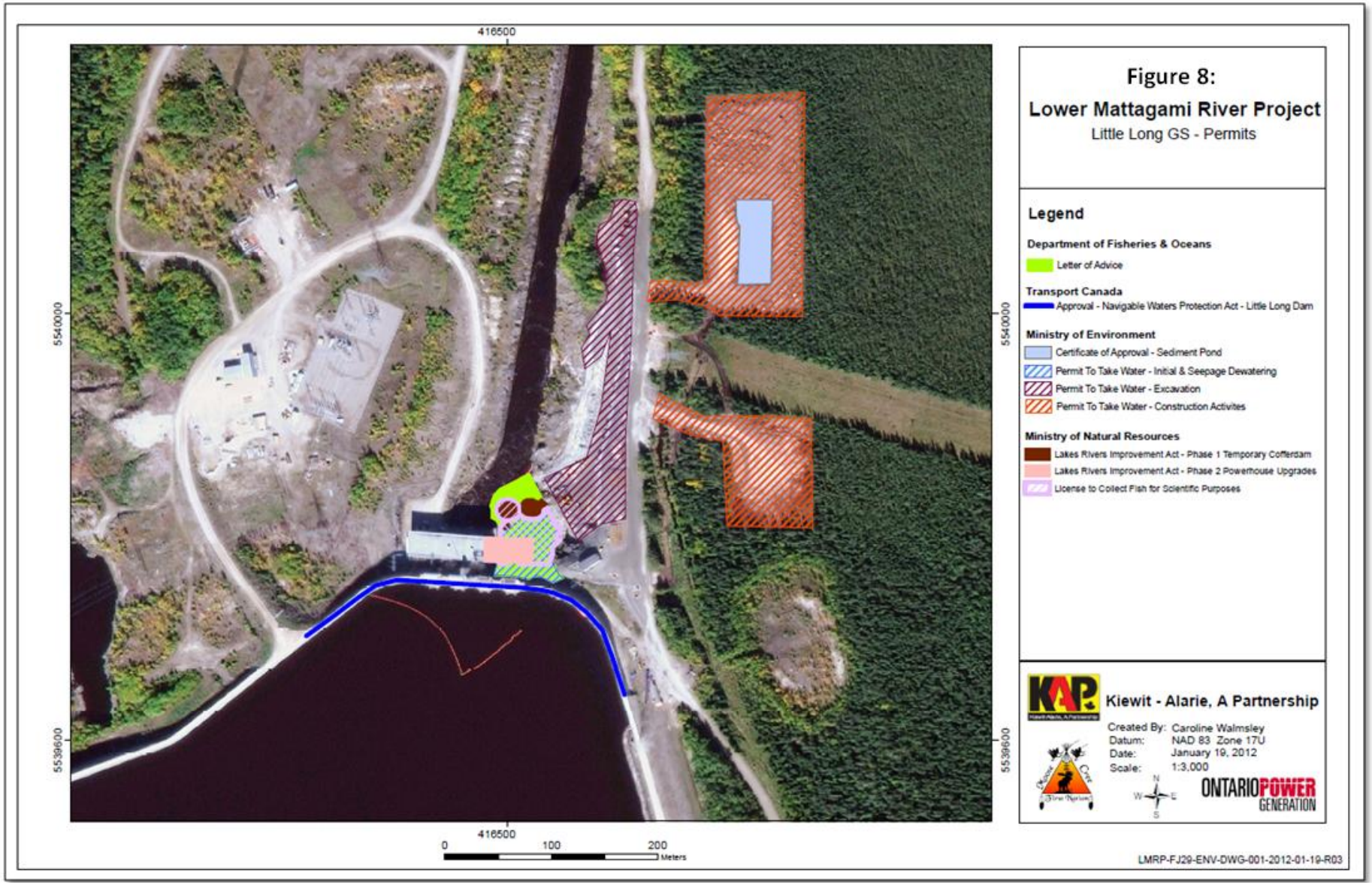


Figure 7: KAP Spills Response Flowchart

PERMIT AND APPROVAL REVIEW			
No. Reviewed:	0	List:	• Smoky Falls Permit to Take Water Amendment • Amended Little Long Operations Manual
No. Sent to KAP:	0	List:	• Smoky Falls Permit to Take Water Amendment • Amended Little Long Operations Manual
Reports Review			
No. Reviewed for KAP	0	List:	
No. Sent to KAP	0	List:	
No. Reviewed for MECC	5	List:	On-going: • Cost Benefit Analysis of Mitigating and Reducing Spill in Adam Creek • Mercury in Fish Flesh Summary Report • Fish Habitat Assessment Report • Terrestrial Habitat Restoration Downstream of Kipling GS • Draft Environmental Effects Monitoring Plan • KAP LMRP Site Rehabilitation Plan
No. Review Completed	4	List:	• Operation Overview Report • Waste Management Plan • Noise Control Plan • The Interim Measures Agreement as it relates to EA Term and Condition 14c (Permit Review and Compliance Monitoring Protocol)
REQUESTS FOR INFORMATION (RFIs)			
No. Reviewed:	0	List:	n/a
No. Sent to KAP:	0	List:	n/a
See figures 8 to 13 below for site location of the permits that have been or are pending approval.			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Meters
Figure 8:
Lower Mattagami River Project
Little Long GS - Permits
Legend
Department of Fisheries & Oceans
Letter of Advice
Transport Canada
Approval - Navigable Waters Protection Act - Little Long Dam
Ministry of Environment
Certificate of Approval - Sediment Pond
Permit To Take Water - Initial & Seepage Dewatering
Permit To Take Water - Excavation
Permit To Take Water - Construction Activites
Ministry of Natural Resources
Lakes Rivers Improvement Act - Phase 1 Temporary Cofferdam
Lakes Rivers Improvement Act - Phase 2 Powerhouse Upgrades
License to Collect Fish for Scientific Purposes
Kiewit - Alarie, A Partnership
Created By: Caroline Walmsley
Datum: NAD 83 Zone 17U
Date: January 19, 2012
Scale: 1:3,000
ONTARIOPOWER GENERATION
LMRP-FJ29-ENV-DWG-001-2012-01-19-R03

Figure 9:
Lower Mattagami River Project
Harmon GS - Permits

Legend

Department of Fisheries & Oceans
- Letter of Advice

Transport Canada
- Navigable Waters Protection Act - Temporary Bridge
- Navigable Waters Protection Act - Harmon Dam

Ministry of Environment
- Amended - Certificate of Approval - Sediment Pond
- Permit To Take Water - Dewatering

Ministry of Natural Resources
- Lakes Rivers Improvement Act - Phase 1A Marine Access Pad
- Lakes River Improvement Act - Phase 1B - Temporary Cofferdam
- Lakes River Improvement Act - Phase 2 Powerhouse Upgrades
- License To Collect Fish for Scientific Purposes

0 100 200 400 Meters

Kiewit - Alarie, A Partnership

Created By: Caroline Walmsley
Datum: Zone 17U
Date: January 19, 2012
Scale: 1: 5,500

N W E S

ONTARIO POWER GENERATION

LMRP-FJ28-ENV-DWG-0001-2012-01-19-R04

Figure 10:
Lower Mattagami River Project
Kipling GS - Permits

Legend

Department of Fisheries & Oceans
- Letter of Advice

Transport Canada
- Approval - Navigable Waters Protection Act - Kipling Dam

Ministry of Environmental
- Amended Certificate of Approval - Sediment Pond
- Permit To Take Water - Dewatering

Ministry of Natural Resources
- Lakes River Improvement Act - Phase 1A - Marine Access Pad
- Lakes Rivers Improvement Act - Phase 1A -1 Deflector Wall
- Lakes Rivers Improvement Act - Phase 1A - 2 Spillway Location Revised
- Lakes Rivers Improvement Act - Phase 1B Temporary Cofferdam
- Lakes Rivers Improvement Act - Phase 2 Powerhouse Upgrades
- Licence to Collect Fish for Scientific Purposes

Kiewit - Alarie, A Partnership

Created By: Caroline Walmsley
Datum: Zone 17U
Date: January 19, 2012
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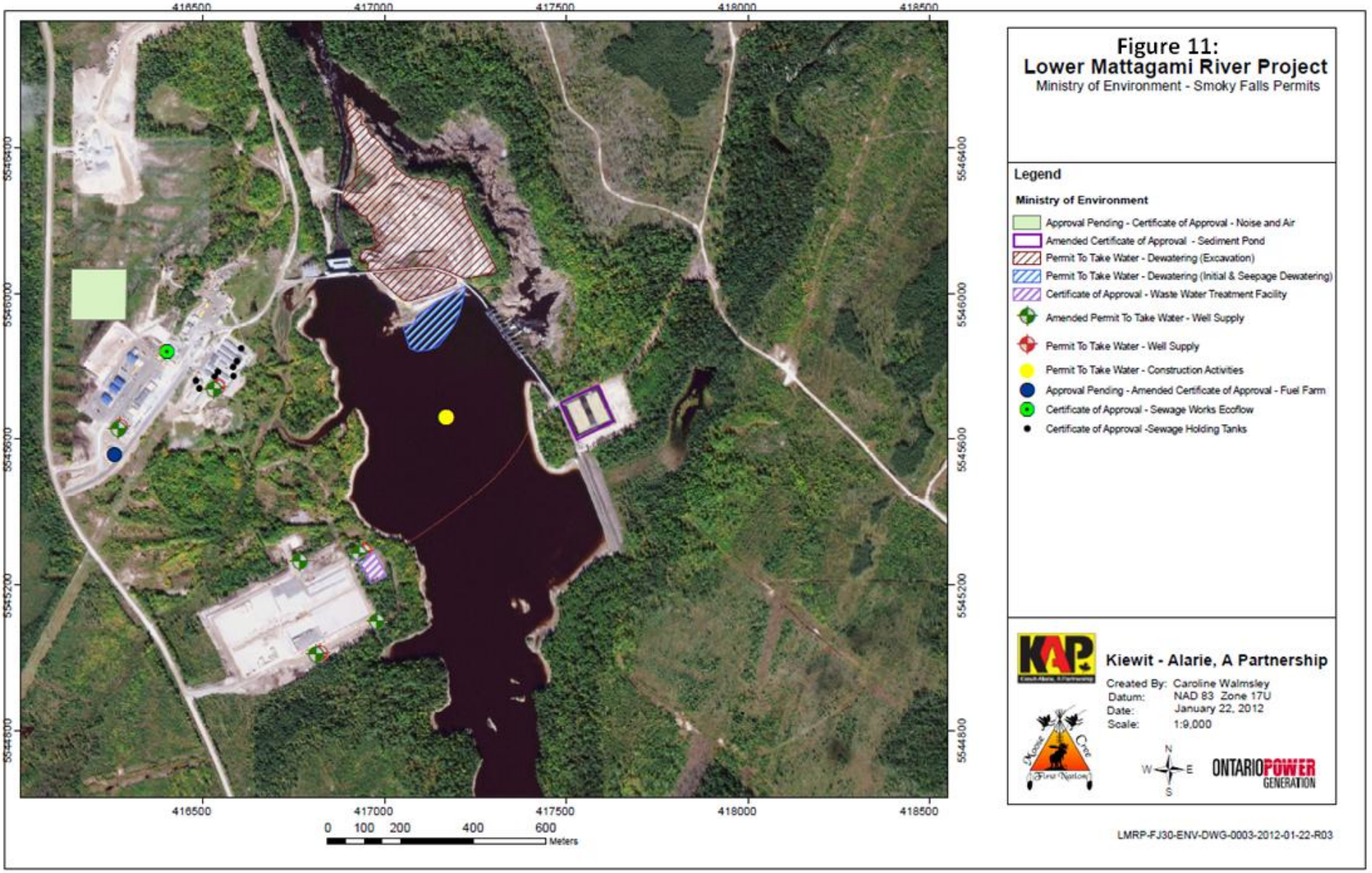
Figure 11:
Lower Mattagami River Project
Ministry of Environment - Smoky Falls Permits
Legend
Ministry of Environment
Approval Pending - Certificate of Approval - Noise and Air
Amended Certificate of Approval - Sediment Pond
Permit To Take Water - Dewatering (Excavation)
Permit To Take Water - Dewatering (Initial & Seepage Dewatering)
Certificate of Approval - Waste Water Treatment Facility
Amended Permit To Take Water - Well Supply
Permit To Take Water - Well Supply
Permit To Take Water - Construction Activities
Approval Pending - Amended Certificate of Approval - Fuel Farm
Certificate of Approval - Sewage Works Ecoflow
Certificate of Approval -Sewage Holding Tanks
Kiewit - Alarie, A Partnership
Created By: Caroline Walmsley
Datum: NAD 83 Zone 17U
Date: January 22, 2012
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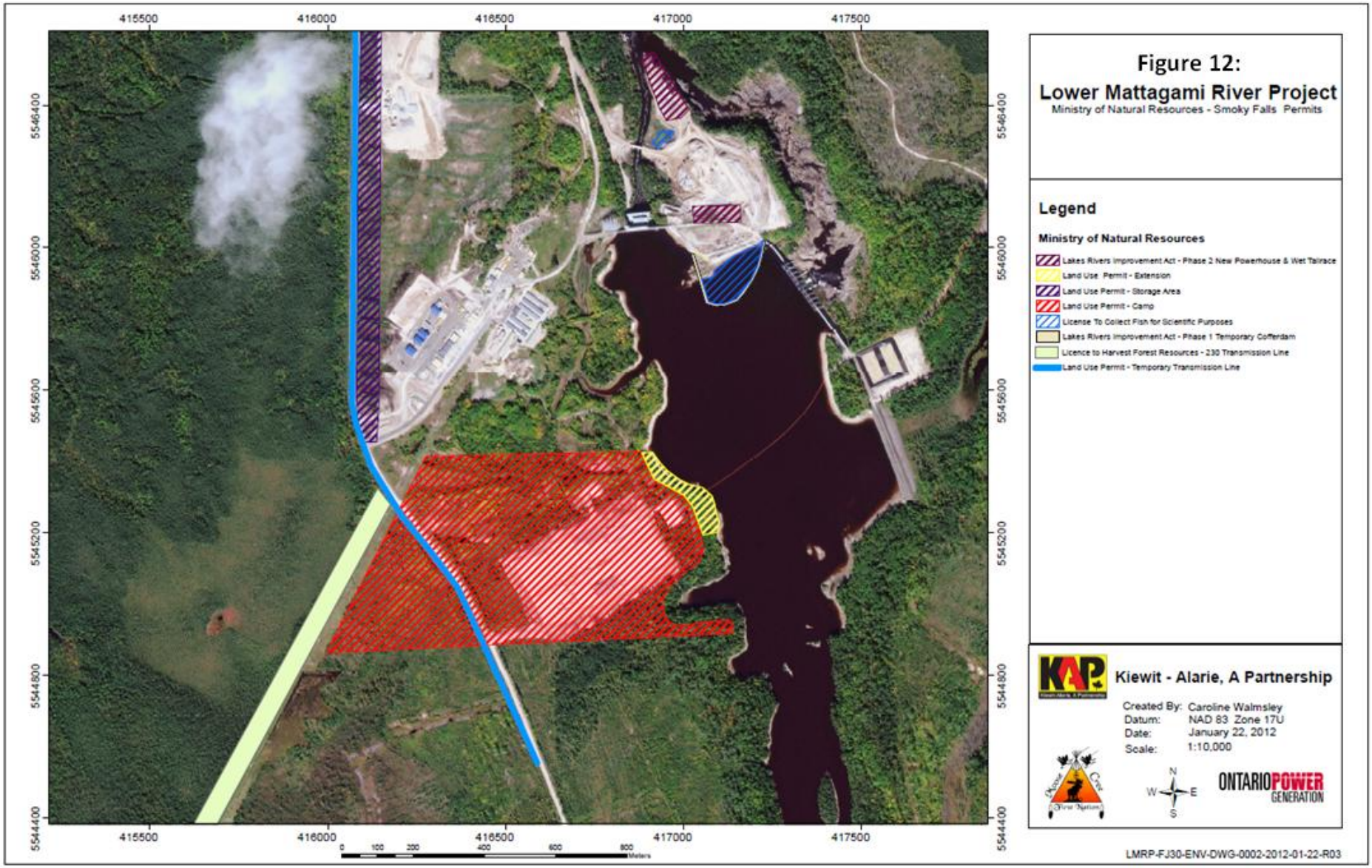
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Figure 12:
Lower Mattagami River Project
Ministry of Natural Resources - Smoky Falls Permits
Legend
Ministry of Natural Resources
Lakes Rivers Improvement Act - Phase 2 New Powerhouse & Wet Tailrace
Land Use Permit - Extension
Land Use Permit - Storage Area
Land Use Permit - Camp
License To Collect Fish for Scientific Purposes
Lakes Rivers Improvement Act - Phase 1 Temporary Cofferdam
Licence to Harvest Forest Resources - 230 Transmission Line
Land Use Permit - Temporary Transmission Line
Kiewit - Alarie, A Partnership
Created By: Caroline Walmsley
Datum: NAD 83 Zone 17U
Date: January 22, 2012
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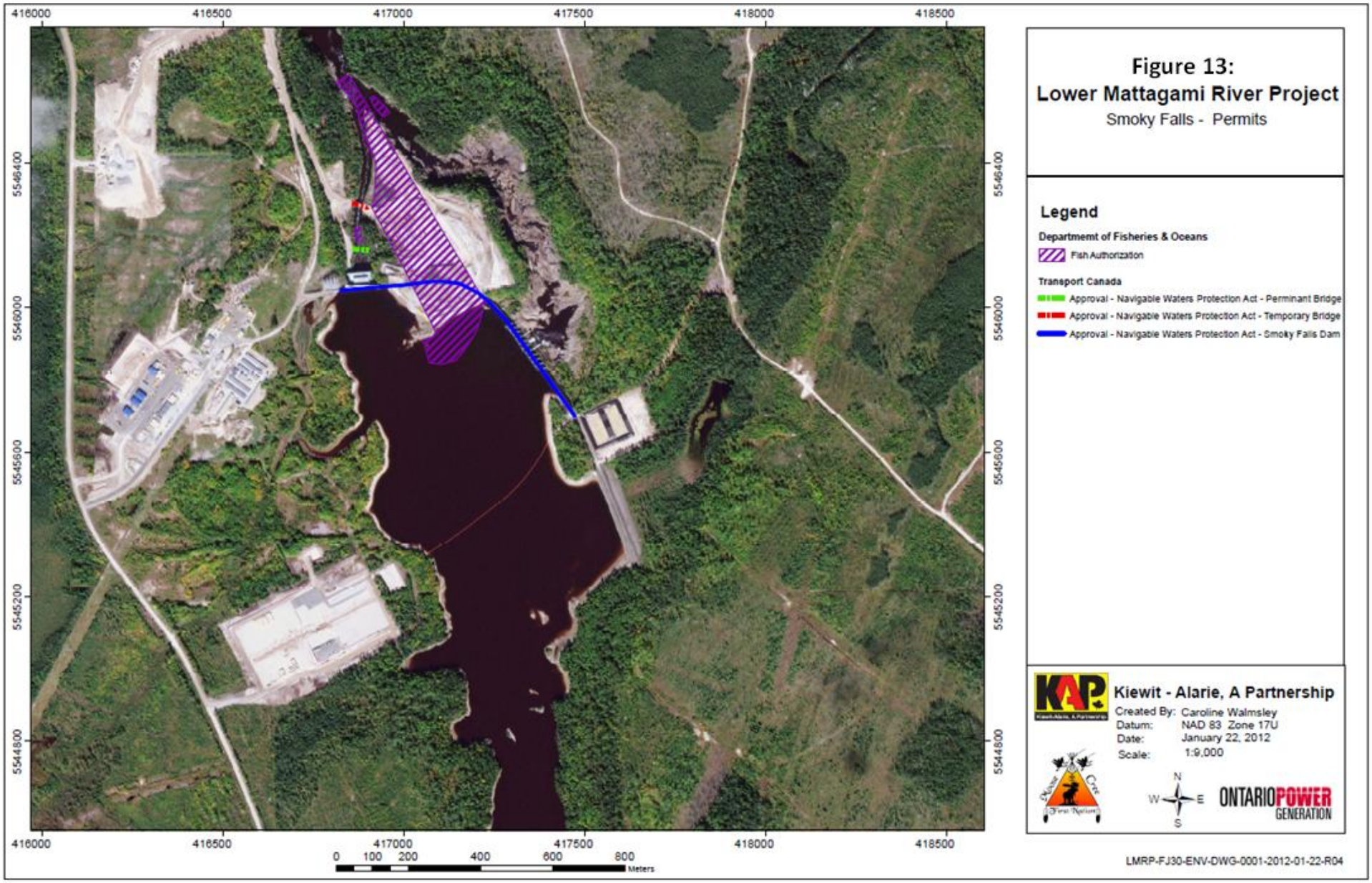
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Meters
Figure 13:
Lower Mattagami River Project
Smoky Falls - Permits
Legend
Department of Fisheries & Oceans
Fish Authorization
Transport Canada
Approval - Navigable Waters Protection Act - Perminant Bridge
Approval - Navigable Waters Protection Act - Temporary Bridge
Approval - Navigable Waters Protection Act - Smoky Falls Dam
Kiewit - Alarie, A Partnership
Created By: Caroline Walmsley
Datum: NAD 83 Zone 17U
Date: January 22, 2012
Scale: 1:9,000
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ONTARIOPOWER GENERATION
LMRP-FJ30-ENV-DWG-0001-2012-01-22-R04

Issues and Concerns
None this month