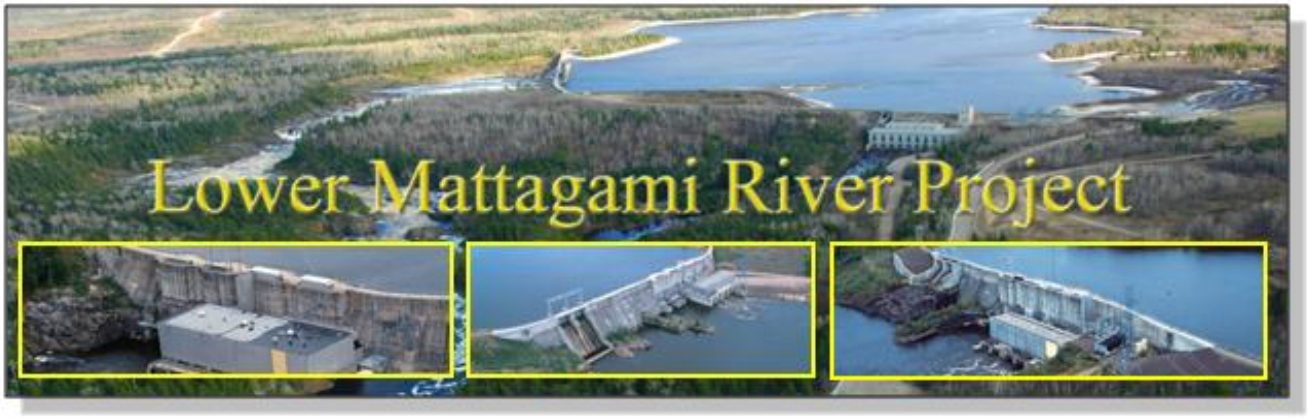


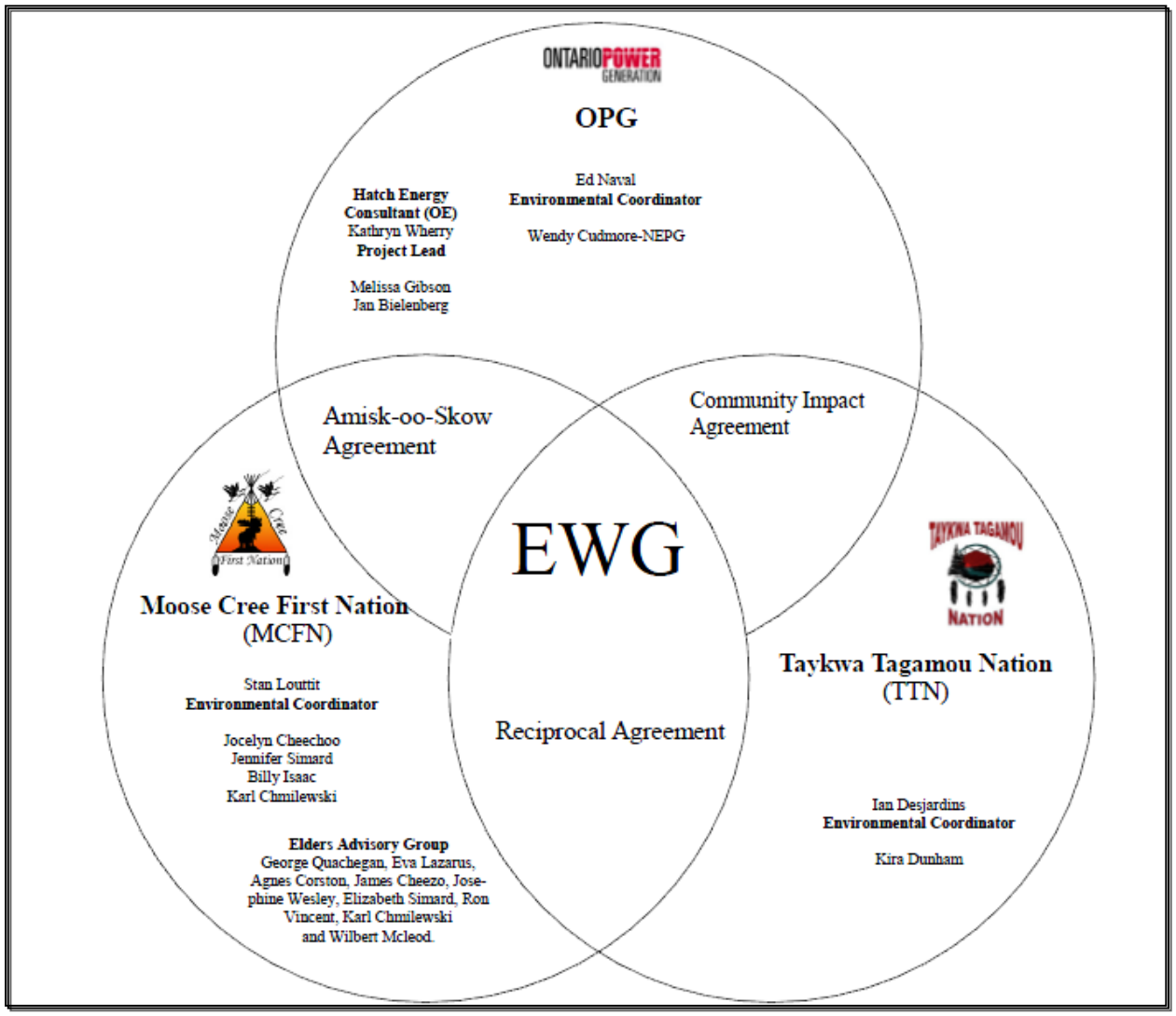
Environmental Working Group

Monthly Report

November 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 November members of the EWG reviewed the application for the Smoky Falls cofferdam and rock plug removal, which included a detailed Erosion and Sediment Control Plan.
- EWG members are preparing for the next face to face meeting on Dec. 5, 2013. The meeting will be held in Toronto at OPG's Kipling St. Offices.
- 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 will be given at the EWGs face to face on Dec. 5, 2013.
- 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 face to face meeting was held on November 24 and 25 to discuss the submissions that have been completed and how they be organized within the book.
- 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 started 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

- The focus of work this month was testing and commissioning, remedial work to the discharge ring, and Transfer of Control (TOC) documentation.
- Grinding of the discharge ring to increase clearances continued, measurements were taken at month-end (Figure 1).
- KAP replaced generator guide bearing pads.
- Andritz refilled the bearing oil systems with filtered oil.
- The KAP grouting crew continued to inject epoxy grout into cracks in the scroll case concrete to reduce leakage. This work is nearly complete at month-end.
- A number of components and systems were walked down.
- KAP and Andritz electricians continued to work on addressing punch list items.

Figure 1: Little Long Discharge Ring

Harmon

- KAP ironworkers removed the spillway bridge early in the month (Figure 2).
- Rotor pole installation is complete and Andritz completed elevation measurements and adjustments to the poles as required.
- Andritz pipefitters installed oil and water cooling lines inside and outside the generator enclosure area.
- Andritz millwrights have completed rotor sweep measurements.

- Andritz took concentricity readings on the bottom ring and discharge ring in preparation for remedial activities.
- The Upper bracket was installed in the Unit.
- Unit alignment activities are under way, all measurements taken by month-end were in tolerance.
- Cable tray installation and cable pulling continues throughout the powerhouse.
- AFI completed work on the intake gate guides and roller paths. At month-end preparations were under way to install the intake gate.
- A number of walk downs and pre-operational tests were completed in the month.

Figure 2: Harmon Bridge Dismantling.jpg

Kipling

- 83 m^3 of concrete was poured this month, bringing the total poured to date to 11,037 m^3 of 11,885 m^3 total.
- The superstructure erection was nearly completed at month-end.
- Removal of fill from Cell 2 of the cellular cofferdam was completed, and the sheet piles and spud piles from Cell 2 were removed.
- The shoring towers have been removed from the intake.

- KAP installed the two depression air tanks on the Unit 3 mezzanine.
- The bottom ring was installed and aligned with the stay ring and discharge ring. All the bolts fastening the bottom ring, discharge ring, and stay ring were torqued.
- The intake roller path bolt hole template was installed in preparation for drilling anchor bolt holes.
- The GSU transformer was delivered to site, placed on its pad, dressed and filled with oil.
- Replacement of the overhead crane bus bars in Units 1 and 2 is under way.

Figure 3: Kipling Superstructure

Smoky Falls

- 1,330 m^3 of concrete was poured this month in the service bay, powerhouse, and intake areas, bringing the total poured to date to 139,249 m^3 of 155,084 m^3 totals.
- At the end of the month, almost all major concrete pours have been completed at Smoky Falls. Thirteen concrete pours are in various stages of work (formwork started and / or rebar being installed) and progressing in the intake, powerhouse, Service Bays, and Gravity Dams. Hoarding was installed over Zones 3 (tailrace east) and 5 (tailrace west) to allow work to continue during the winter months. Thirty five (35) pours were completed during the month (a number of these were small pours).
- Supermétal erected the elevator shaft structural steel and Q-decking.

- Global Precast installed precast panels on the east side of Unit 3 and completed installing the precast panels on the mechanical equipment building at the East Service Bay. At month end they were staging the precast panels for the elevator shaft enclosure and preparing to install them.
- Subcontractor Cyrheault continues to place concrete block walls throughout the powerhouse.
- Sucontractor CanAm continues to install the roof over the powerhouse.
- 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.
- At Zone 3, anchor hole drilling and anchor installation continues, with good progress made (9 anchors remain to be installed). Concrete work (formwork, rebar, and concrete placement) continues, though cold weather slowed productivity somewhat in the latter part of the month.
- 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 the bottom ring and the discharge ring in the pit, and are aligning the assembly. Alstom completed making adjustments to the concentricity and circularity of the rotor and got approval of the adjustments from their engineers. Rotor pole installation has started (Figure 4);
  - At Unit 2, Alstom welded the upper and lower draft tube cones together. Unit 2 stator stacking was completed in the Service Bay. It will be placed in the Unit 2 pit next month and winding will resume. The Unit 2 runner was received and stored in the Service Bay;
  - At Unit 3, KAP continued to work on intake and powerhouse concrete pours.
- Gate guide installation is advancing on the intakes on all 3 units (Figure 5).
- Dressing of both the Unit 1 and Unit 2 transformers was completed and both transformers were filled with oil.

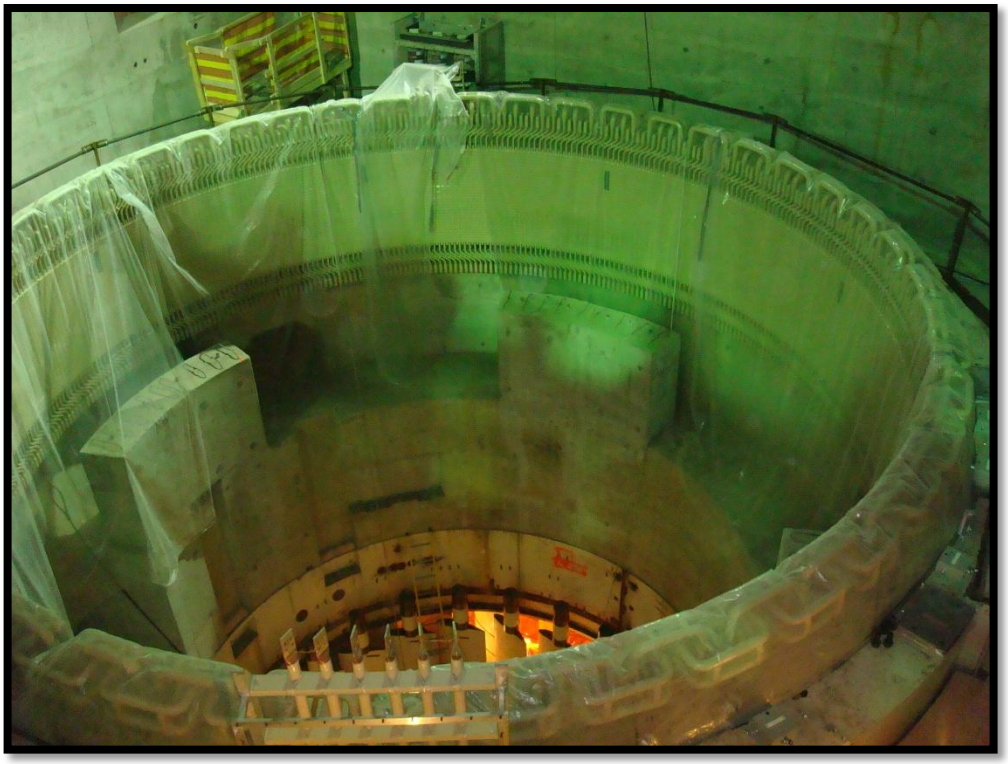


Figure 4: Smoky Falls Unit 1 Stator & Wicket Gates

Figure 5: Smoky Falls Intake

Monthly Summary – November 2013

<table>
<tr><td colspan="4">SPILLS</td></tr>
<tr><td colspan="2">No. of Spills:</td><td colspan="2">4; Spill Reports 401-404 (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 – 2 Moderate – 1 Major –1 To Water - 0
<u>MOE Classification</u>
Non-reportable - 2
Reportable to MOE
- Class C – 2
- 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>Reportable spill in-water. Upon completion of the temporary marine access pad removal, it was observed that there was sand remaining from the former bridge ramp access of the pad along the concrete outcrop of the existing dam and spillway. The long reach excavator was unable to position itself to recover the material as it was working from the spillway bridge. This material, which remains above the water line, will be submerged and washed away once the spillway returns to normal operation. A safe access to the area no longer exists as it was removed as part of the overall pad removal. Therefore, the remaining material cannot be recovered.</td></tr>
<tr><td>2</td><td>5L/Gasoline</td><td>Kipling Cofferdam</td><td>Reportable spill in-water. Two workboats attached to the barge were swamped with flows from the generating station causing them to sink. The boats were removed from the water and most of the fuel remained in the fuel tank. It is estimated at approximately 5 L of fuel was released from the tank.</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>
</table>

11	Smoky Falls Sediment Pond	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 on order a new type of flocculent/polymer that is meant to work in colder temperatures. The alternate flocculent is scheduled to arrive on site by December 1st. It will be installed as soon as it arrives.

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.

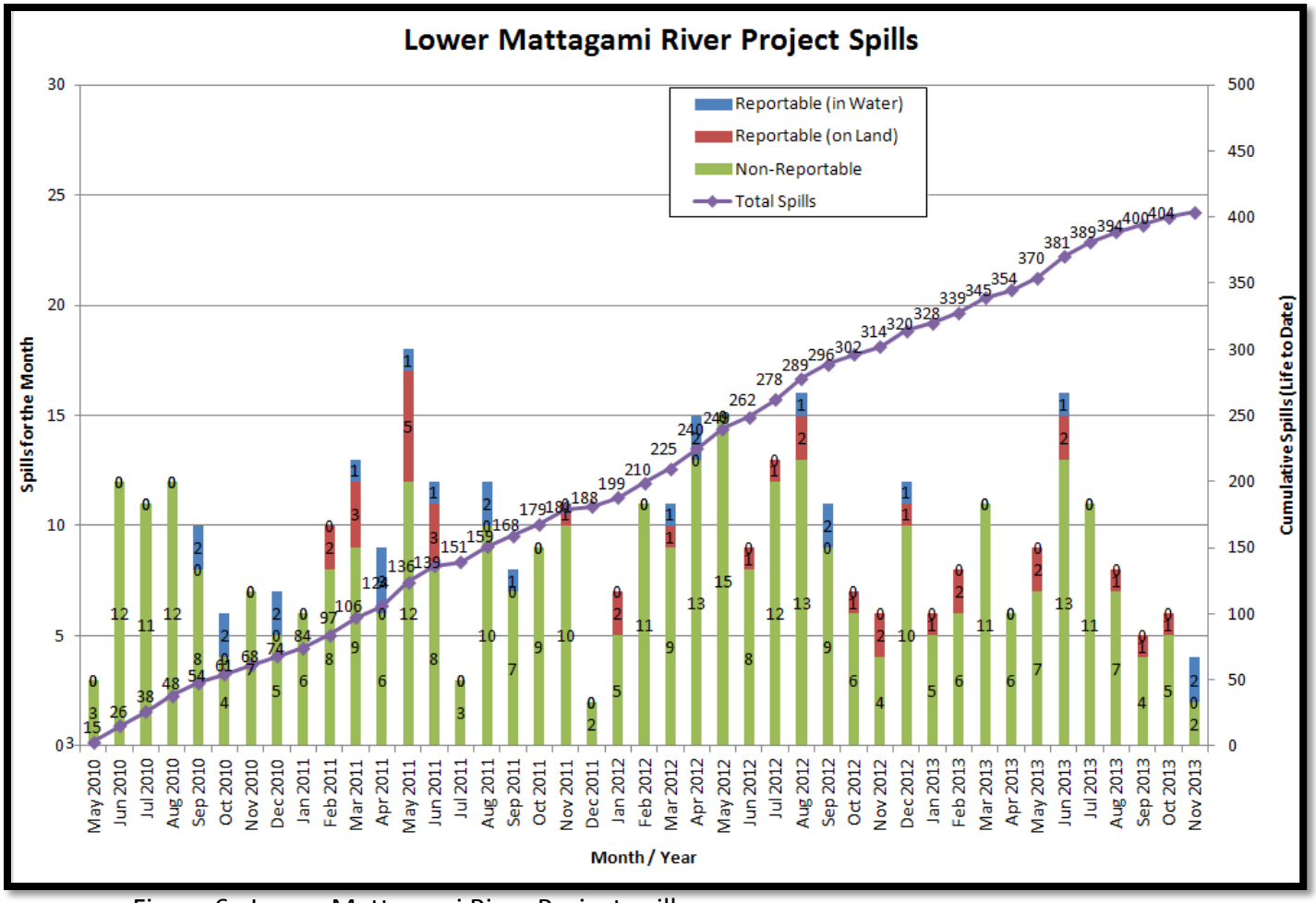


Figure 6: Lower Mattagami River Project spills

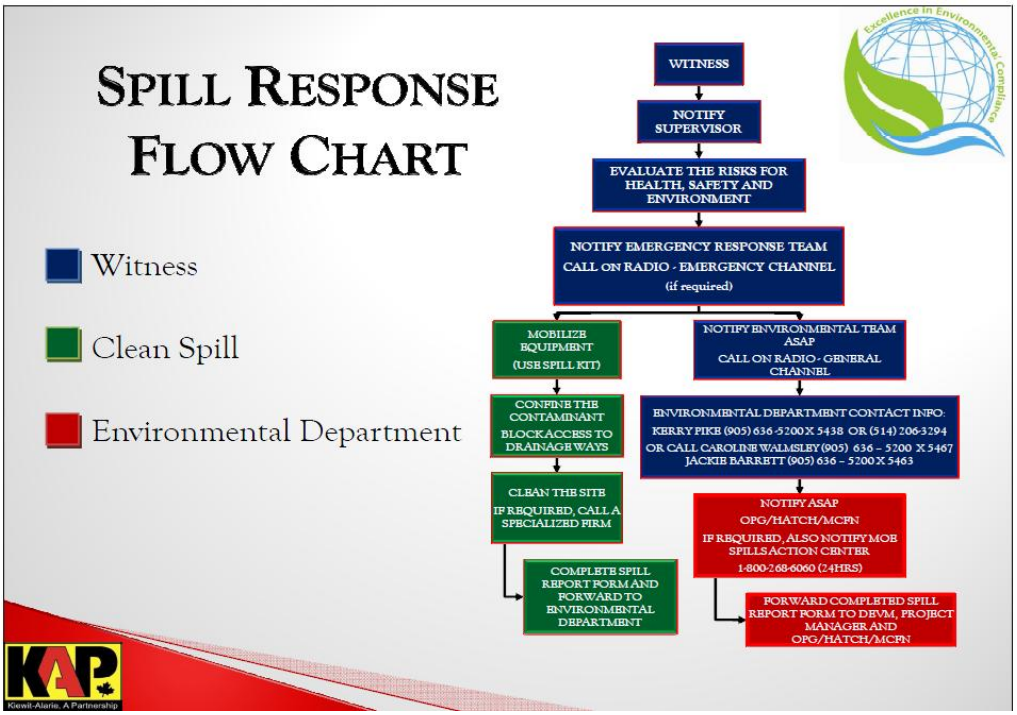
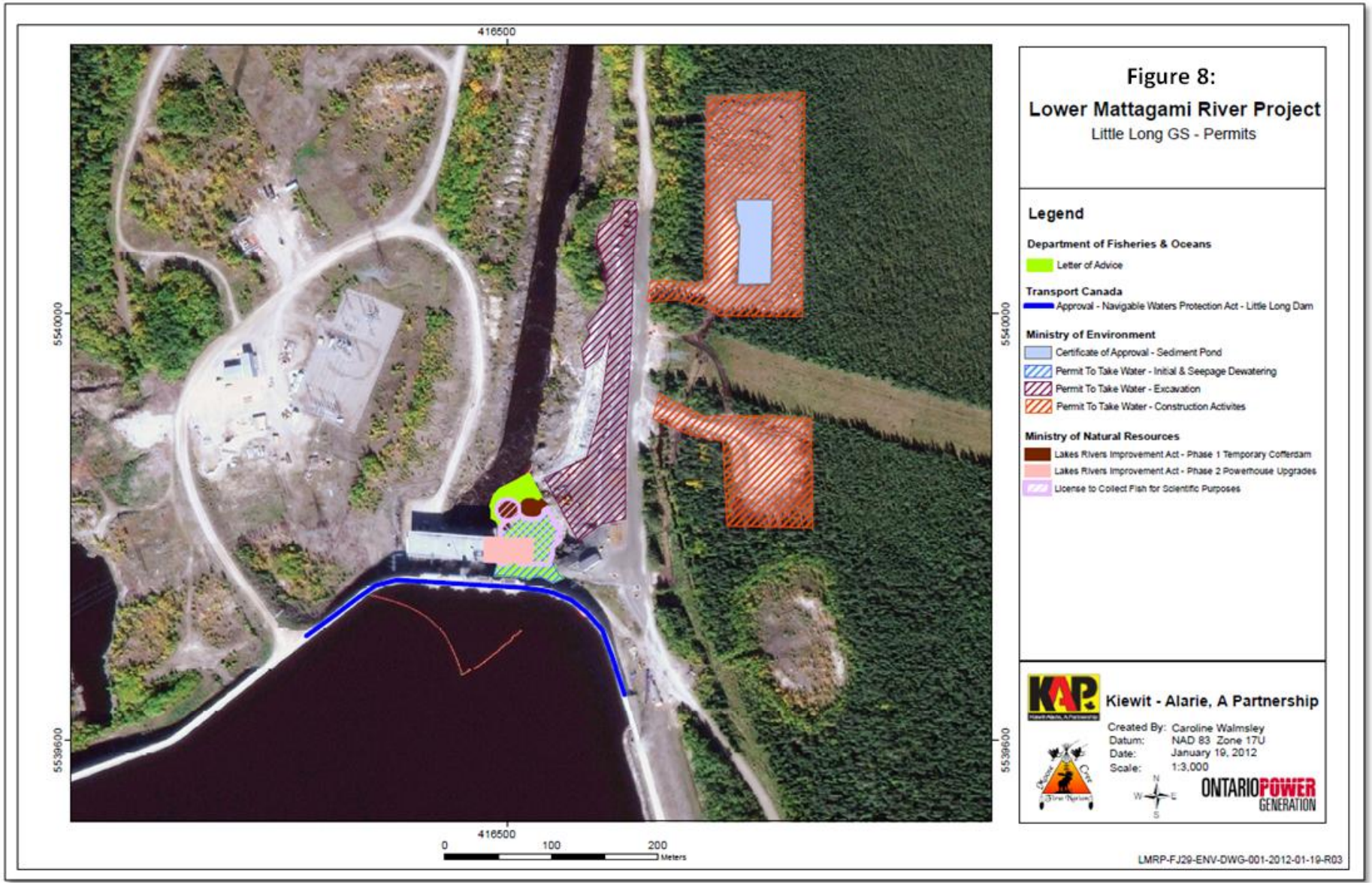


Figure 7: KAP Spills Response Flowchart

PERMIT AND APPROVAL REVIEW			
No. Reviewed:	0	List:	• Smoky Falls cofferdam and rock plug removal
No. Sent to KAP:	0	List:	• Smoky Falls cofferdam and rock plug removal
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.			


416500
5540000
5539600
416500
0
100
200
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
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LMRP-FJ29-ENV-DWG-001-2012-01-19-R03

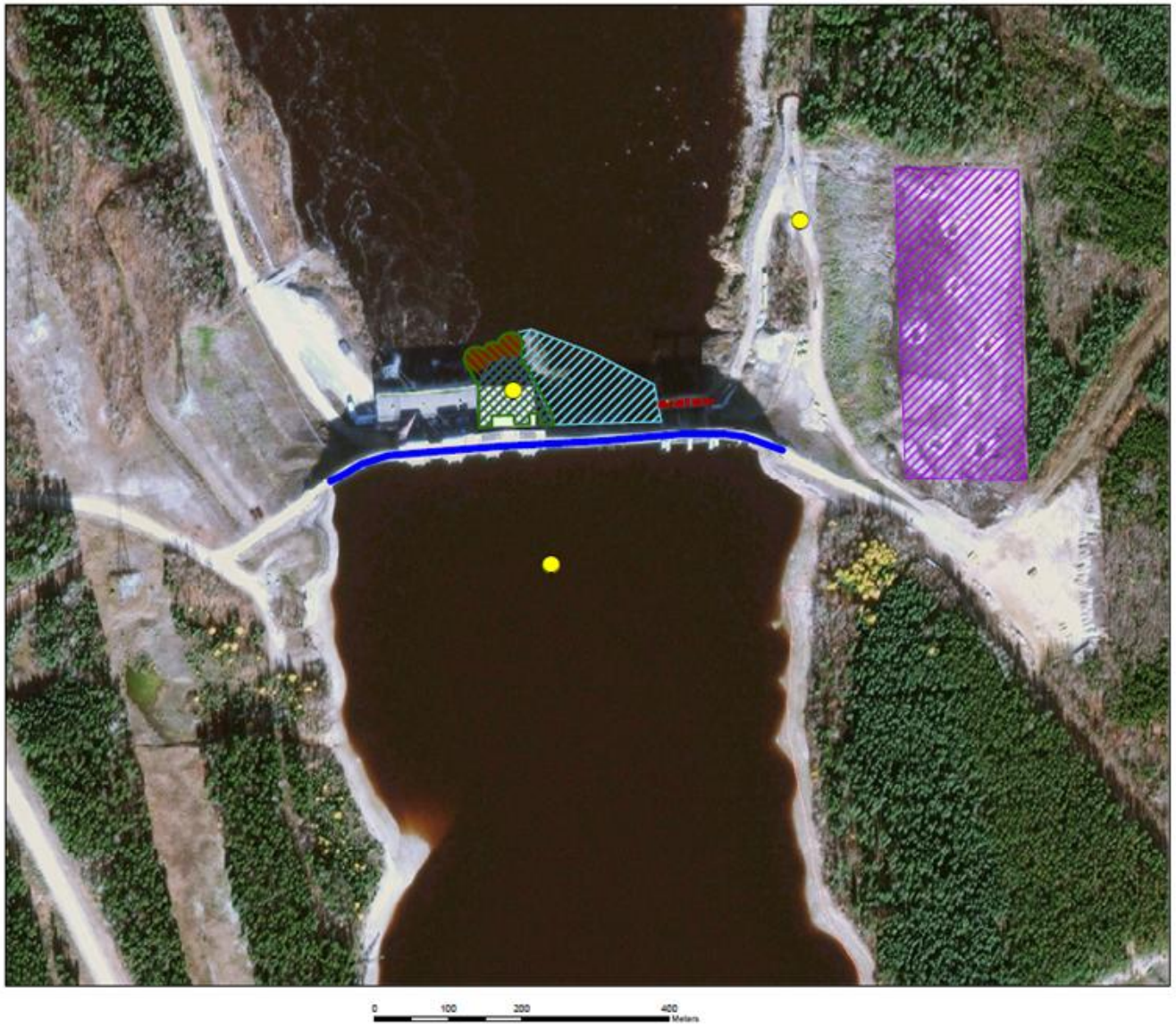

Figure 9:
Lower Mattagami River Project
Harmon GS - Permits

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
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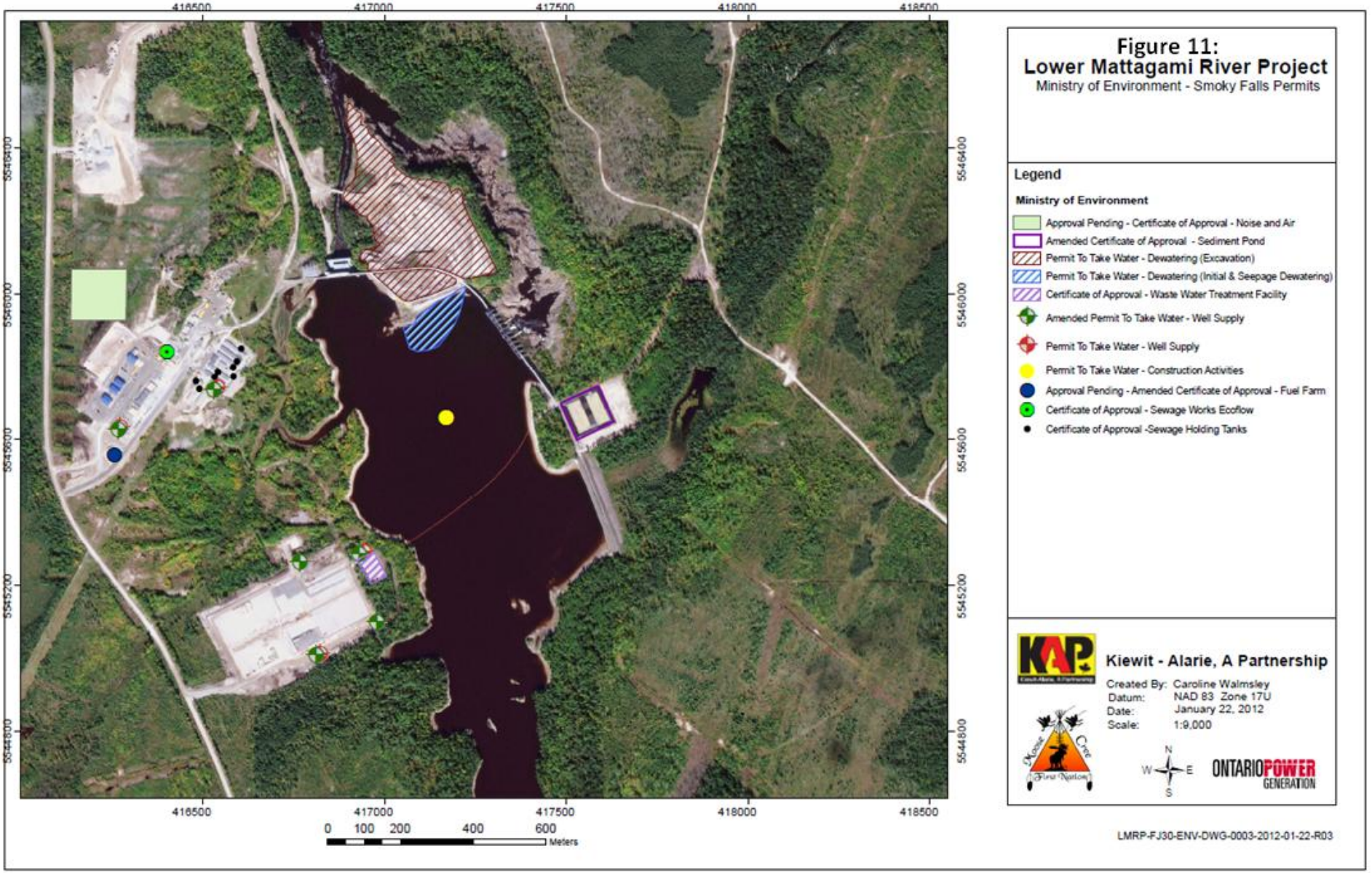
Figure 11:
Lower Mattagami River Project
Ministry of Environment - Smoky Falls Permits
Legend
Ministry of Environment
Approval Pending - Certificate of Approval - Noise and Air
Amended Certificate of Approval - Sediment Pond
Permit To Take Water - Dewatering (Excavation)
Permit To Take Water - Dewatering (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
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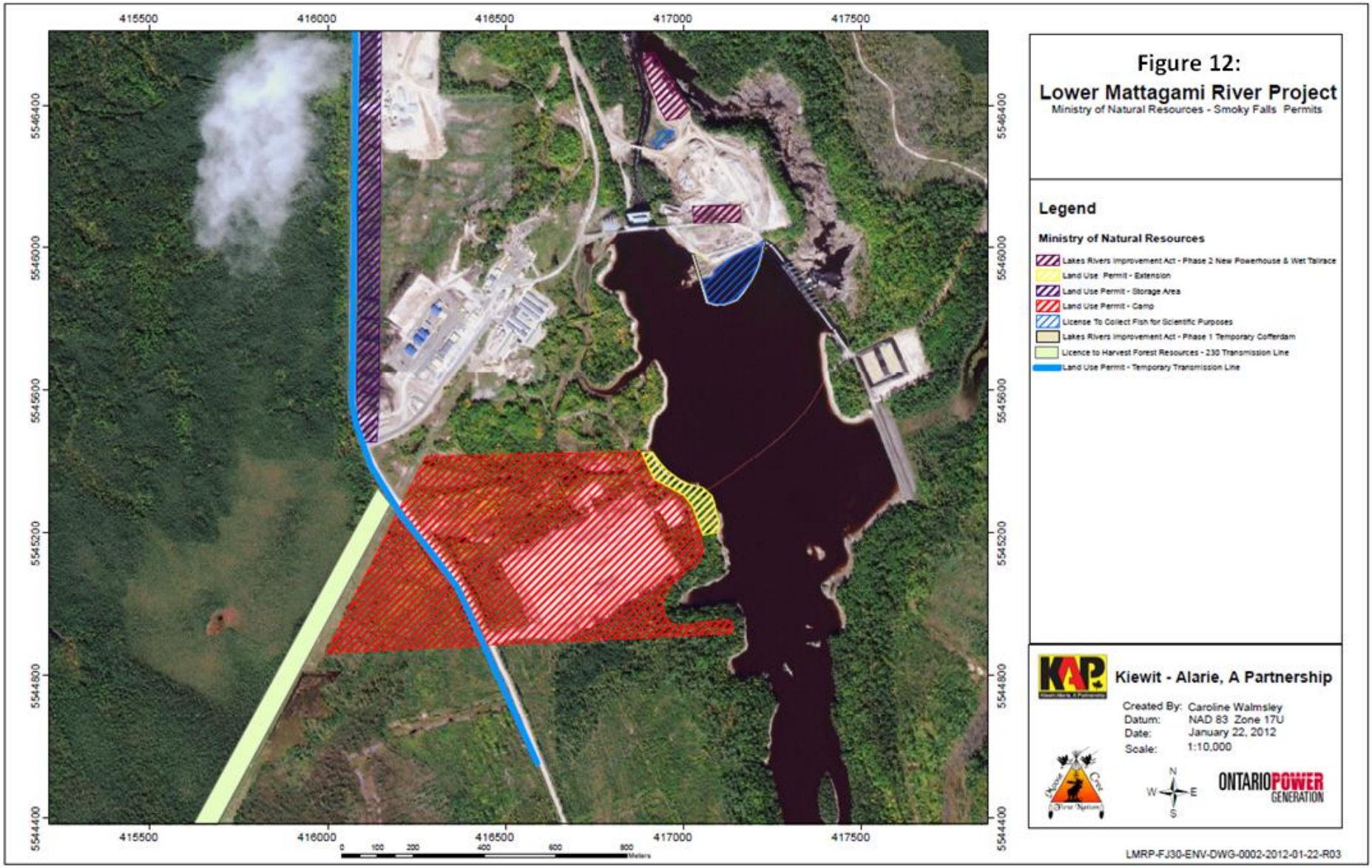
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Figure 12:
Lower Mattagami River Project
Ministry of Natural Resources - Smoky Falls Permits
Legend
Ministry of Natural Resources
Lakes Rivers Improvement Act - Phase 2 New Powerhouse & Wet Tailrace
Land Use Permit - Extension
Land Use Permit - Storage 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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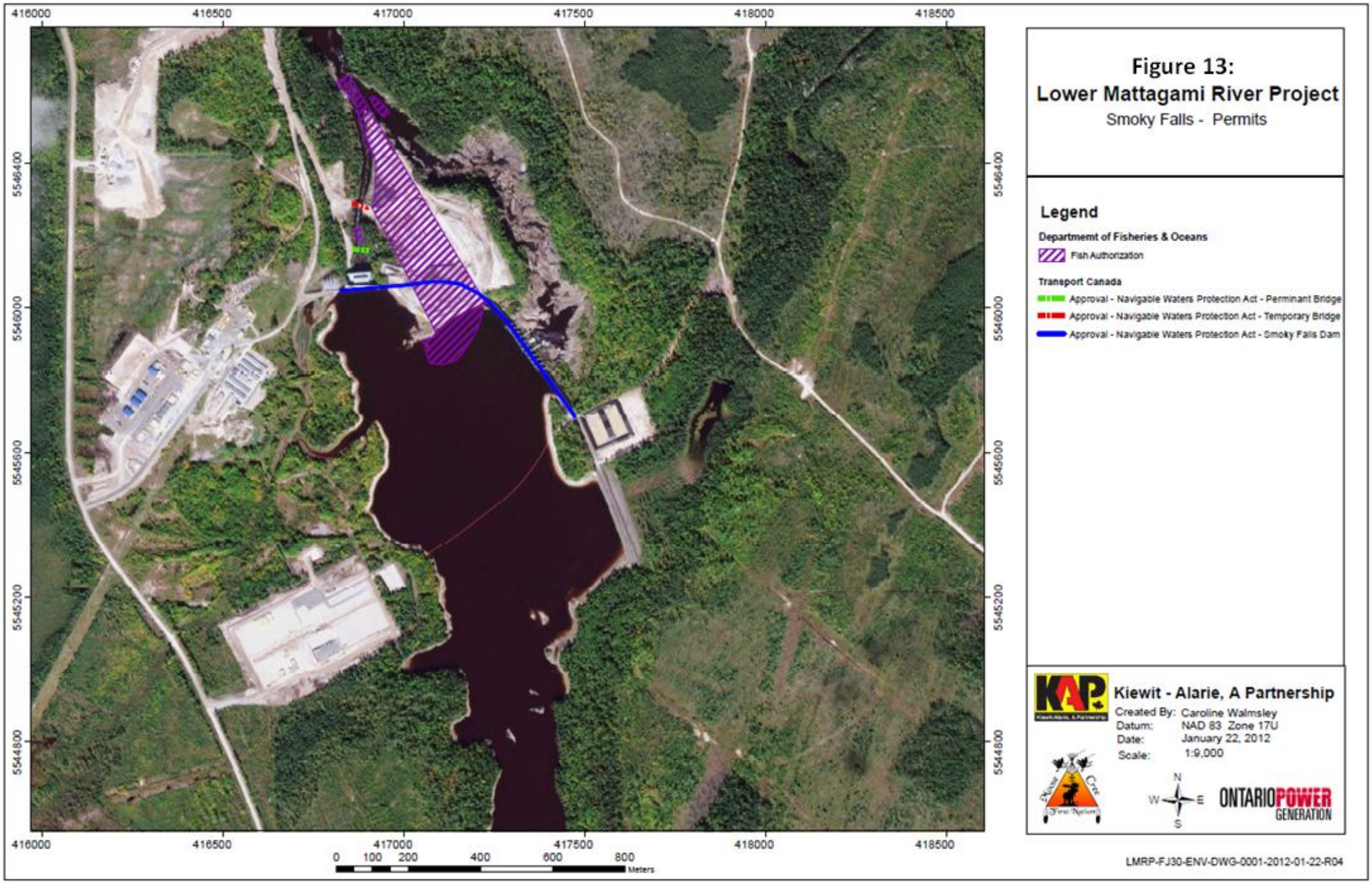
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Figure 13:
Lower Mattagami River Project
Smoky Falls - Permits
Legend
Department of Fisheries & Oceans
Fish Authorization
Transport Canada
Approval - Navigable Waters Protection Act - Perminant Bridge
Approval - Navigable Waters Protection Act - Temporary 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