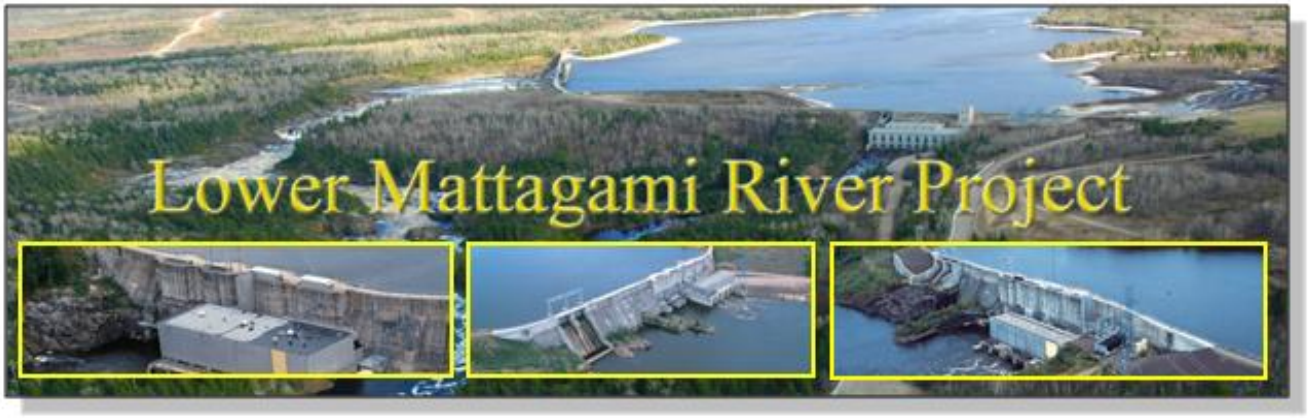


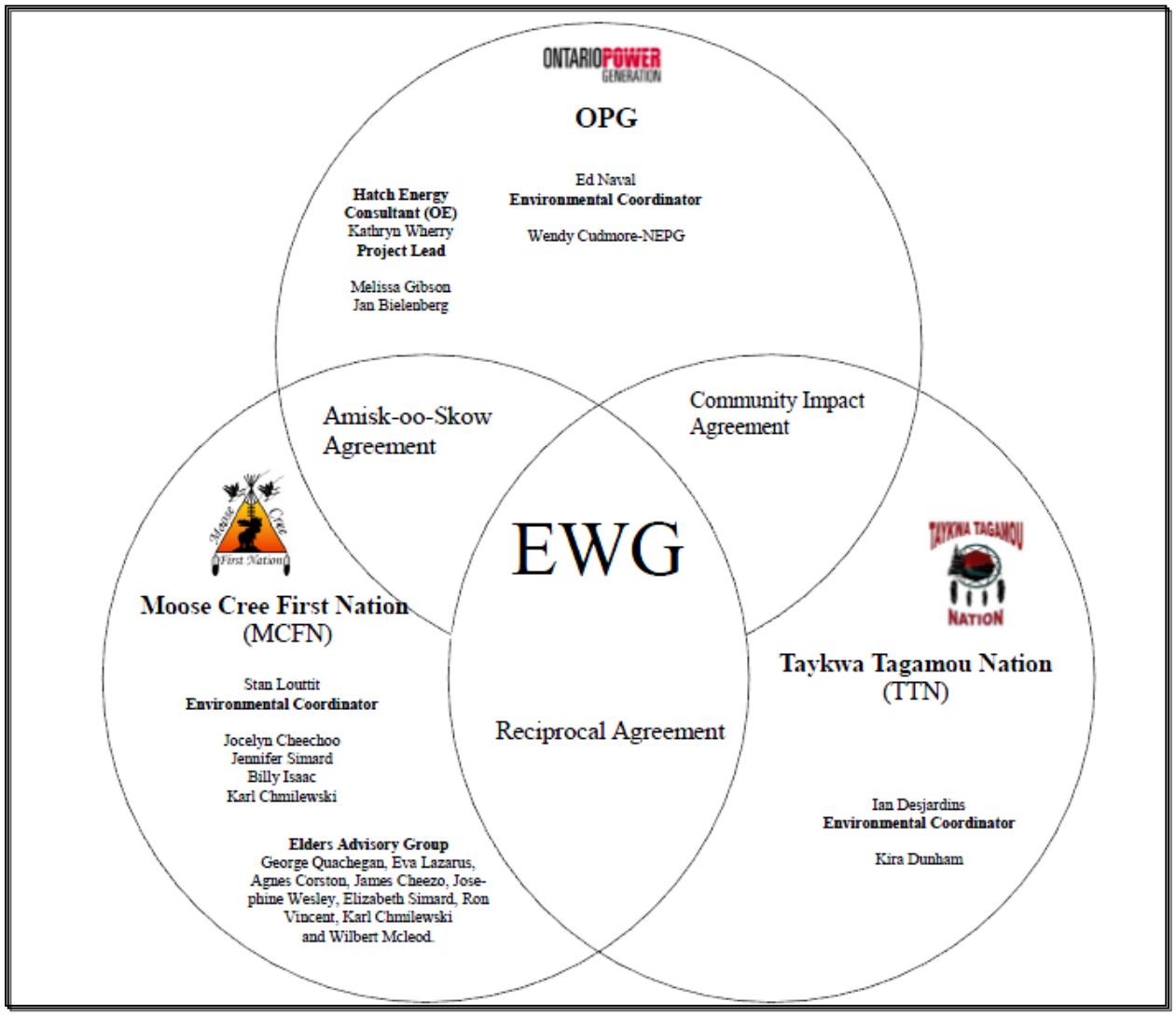
Environmental Working Group

Monthly Report

March 2014

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.
- On March 6, 2014, the EWG held a teleconference with SENES that included details of the Cultural/Archeological Assessment work conducted on the LMRP that would be presented to the MECC to assist the EWG members in preparing the MECC members.
- On March 11, 2014, OPG members of the EWG held meetings internally to initiate discussions with OPG experts in preparation for the implementation of the LMRP Environmental Effects Monitoring Plan (EEMP); this was the first of many anticipated meetings as the EEMP is being developed.
- On March 17 and 18, 2014, MCFN and TTN EWG members held a face to face in Timmins to discuss the progress made on the proposed cultural text (EA Term and Condition 2c).
- On March 19, members of the EWG attended the MECC meeting in Timmins. The main item that was discussed was a presentation given by SENES on the Cultural/Archeological Assessment work conducted on the LMRP and how they relate to complying with EA Term and Condition 2 (Heritage Resources).
- 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, 2013. 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.
- The OPG and Hatch members of the EWG continue to work on collecting additional baseline information.
- In an effort to improve the understanding of TEK, members of the EWG watch the documentary entitled "The Reel Injun", by Thomas King. The EWG is now proposing a list of TEK related documentaries that can be discussed.

ACTIONS TO BE COMPLETED in 2014

		Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
EWG Environnemental Due Diligence Audit #4													
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.													
EWG present to the MECC the results and recommendations of periodic re-evaluations (Condition 10 of EA T&Cs).													
EA T&C 3a: Visual and Aesthetic Impacts EA T&C 4b: Hydrology, Fish and Aquatic Habitat	EWG present to the MECC "Environmental Effects Monitoring Plan, Lower Mattagami Development"												
EA T&C 5b: Terrestrial Ecology EA T&C 6: Erosion and Sedimentology EA T&C 7: Mercury EA T&C 14: Permit Review and Compliance Monitoring Protocol	EWG present to the MECC "TEK - Environmental Effects Monitoring Plan, Lower Mattagami Development"												
EA T&C 3a: Visual and Aesthetic Impacts	EWG present to the MECC the results and recommendations of Little Long Rehabilitation Plan												
EA T&C 5d: Terrestrial Ecology	EWG present to the MECC the results and recommendations of Harmon Rehabilitation Plan												
	EWG present to the MECC the results and recommendations of Kipling Rehabilitation Plan												
	EWG present to the MECC the results and recommendations of Smoky Falls Rehabilitation Plan												
EWG presents to the MECC a draft of the 'Peoples of the Moose River Basin', the cultural text outlined in EA T&C 2c.													
EWG read TEK book 'The Inconvenient Indian, A Curious Account of Native People in North America'.													

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

Construction

General

- There were approximately 750 people in the camp this month. Several dorms are vacant and KAP continues to reduce the numbers further in the coming months as construction activities wind down and more units come into service. Preparations are under way to begin demobilizing dorms at the permanent camp.

Little Long

- The focus of work this month was on deficiency (i.e. punch list) remediation and completion of Transfer of Control (TOC) documentation.
- KAP issued a notice of substantial completion to OPG dated March 18. The OPG Project team is reviewing the notice and preparing a response for KAP.
- Little Long Unit was 3 (Figure 1) was declared in service on January 19, 2014.

Figure 1: Little Long Unit 3

Harmon

- With Turbine and Generator construction declared complete at the end of last month, the focus has switched to pre-operational testing and commissioning.
- The Unit was watered up mid-march and water seepage was identified, similar to what was observed at Little Long. The DB Contractor is applying the same remedial measures that were successful at Little Long (epoxy grout injection in the concrete).
- Wicket gate leakage checks, first rotation of the unit, a balancing run and a heat run were completed successfully.
- There was a delay in starting the turbine as there was difficulty removing the last stop log because it was stuck in the cofferdam sand that was pushed in front of G3 (Figure 2).
- An overspeed test was successfully completed and the post-test inspection of the discharge ring revealed no contact was made between the runner and the discharge ring.

- Backfeed was attempted March 26, and the 'A' protections failed. KAP, Hatch, and OPG have asked Hydro One for permission to connect using only the 'B' protections to allow Unit commissioning to continue while HEMI troubleshoots the cause of failure. (NOTE: On April 5, permission was granted by Hydro One to connect Harmon Unit 3's GSU to the grid on 'B' protections only to allow Unit commissioning to proceed.)
- It is forecasted that Harmon Unit 3 will be declared in service in May 2014.

Figure 2: Harmon stop log and accumulated sediment

Kipling

- Stator piling was completed this month. The core loop test was completed successfully, allowing stator winding activities to start.
- Cofferdam removal is complete and the DB Contractor has demobilized equipment used for cofferdam removal (Figure 3).
- BOP electrical component installation continues to advance on plan. The work includes welding of IPB sections, IPB duct welding, installation of instrument panels, and pulling and terminating cables.
- Scroll case soffit deficiency repairs are ongoing, using epoxy grout injection as was done at Harmon and Little Long.
- Andritz installed the wicket gates and outer head cover in the Unit.
- Runner assembly is complete. Andritz is grinding the blades to remove the lifting lugs, and preparations are under way to grind the blade tips as part of runner blade / discharge ring clearance remediation.
- It is forecasted that Kipling Unit 3 will be declared in service in February 2015.

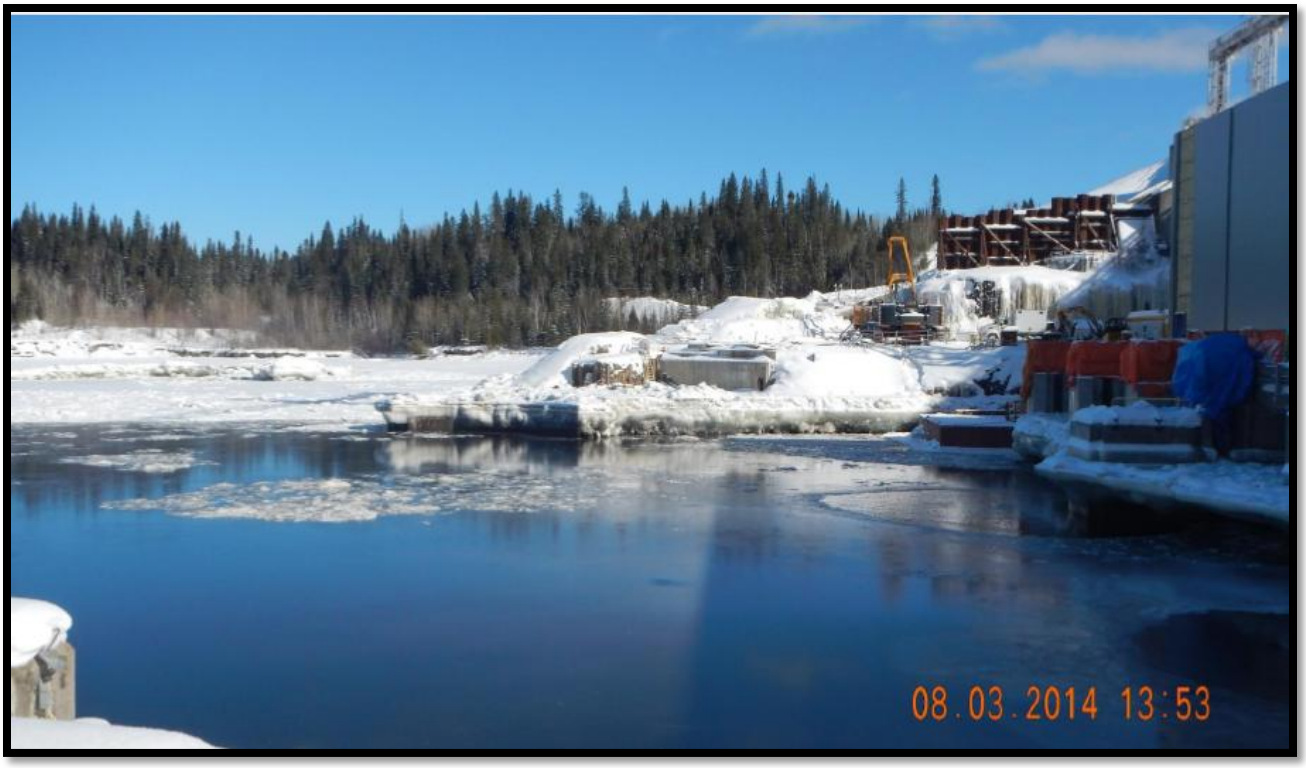


Figure 3: Kipling cofferdam removal

Smoky Falls

- 1,390 m^3 of concrete was poured this month in the service bay, and powerhouse areas, bringing the total poured to date to 142,456 m^3 of 143,056 m^3. KAP adjusted the design volume upward this month as a result of consolidating field changes into their database. The remaining concrete at Smoky Falls consists of finishing details, small slabs and walls.
- At Zone 5, drilling of anchor holes continues. Shotcrete placement is nearly complete.
- 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, the rotor was installed in the Unit and bolted to the generator shaft. Repairs of runner blade indications were completed. Oil and water piping was installed in the Unit.
    - At Unit 2, rotor assembly continues. Wicket gate installation was completed and the outer head cover was installed. The tower assembly (runner / inner head cover) was assembled and Alstom was preparing to install the tower assembly in the Unit at month-end.
    - At Unit 3, the upper draft tube cone was installed and preparations have started to weld it to the lower draft tube cone. The bottom ring and discharge ring were assembled together and installed in the turbine pit. The Unit 3 runner was delivered to site and stored inside the powerhouse.
- Deficiencies were identified with the electrical installation inside the main gate hoist housings for all three units. Canmec is correcting the identified deficiencies.
- BOP Mechanical and Electrical installation work continues throughout the powerhouse.
- KAP continues the significant preparations for watering up the forebay and tailrace(Figure 4 and 5). Installation of instrumentation, cables, and control panels for dam monitoring (once the forebay has been watered up) continues.

- It is forecasted that the in service date for Unit 1 will be in September 2014, November 2014 for Unit 2 and February 2015 for Unit 3.

Figure 4: Smoky Falls – Powerhouse and Tailrace Clean-up

Figure 5: Smoky Falls – Exposing Rock Plug

Monthly Summary – March 2014

<table>
<tr><td colspan="4">SPILLS</td></tr>
<tr><td colspan="2">No. of Spills:</td><td colspan="2">7; Spill Reports 419-425 (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 – 7 Moderate – 0 Major –0 To Water - 0
<u>MOE Classification</u>
Non-reportable - 7
Reportable to MOE
- Class C – 0
- 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>n/a</td><td></td><td></td><td></td></tr>
<tr><td colspan="3">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>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>n/a</td><td></td><td colspan="2"></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.

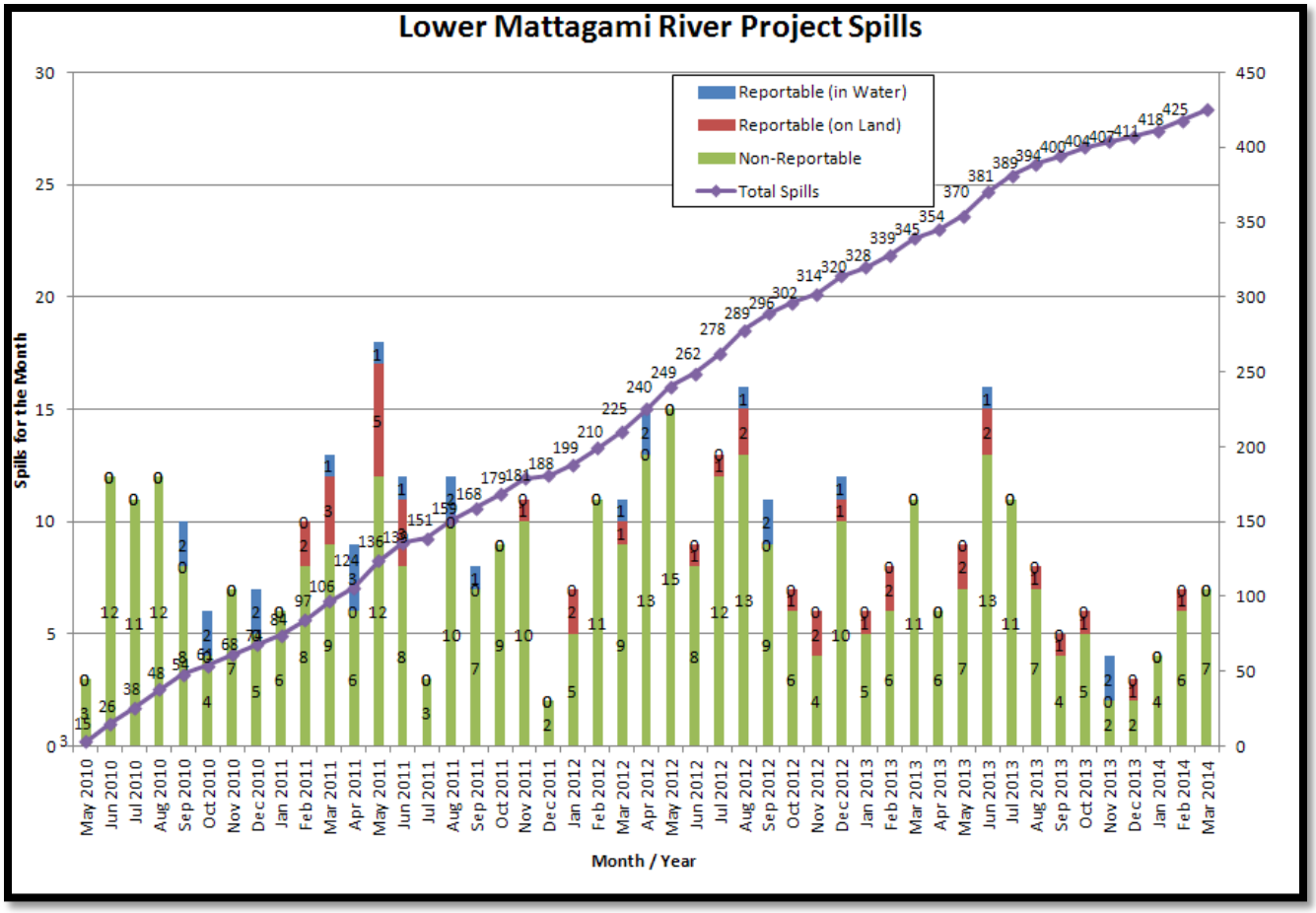


Figure 6: Lower Mattagami River Project spills

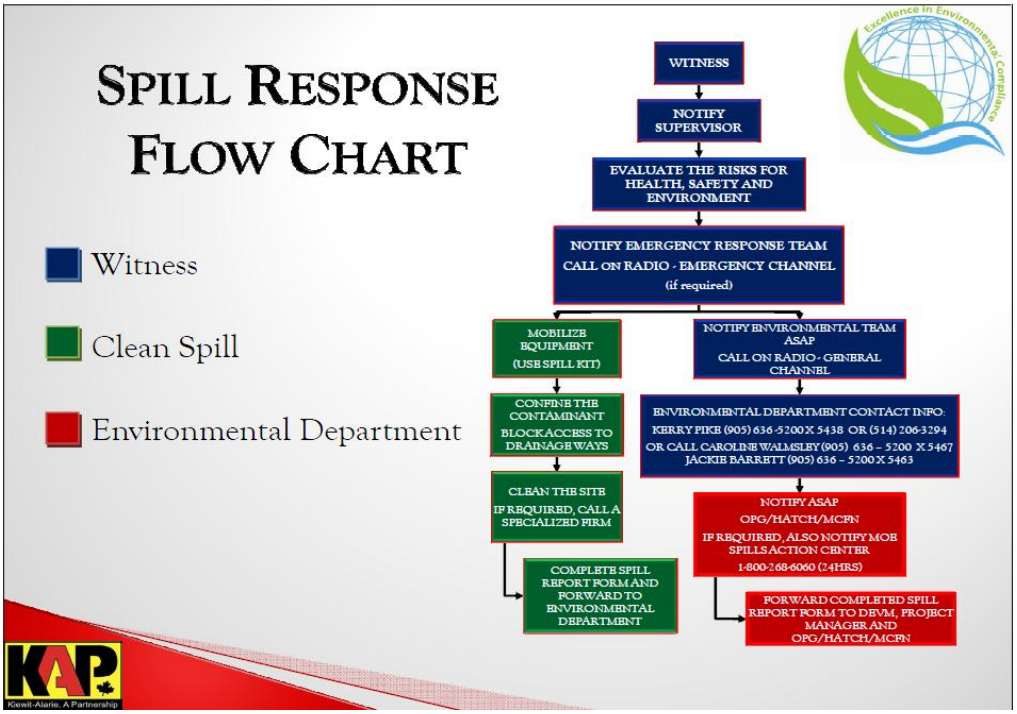


Figure 7: KAP Spills Response Flowchart

Monthly Permit and Approval Review Table

No.	PERMIT AND/OR APPROVAL REVIEW	Reviewed by EWG	Submitted to KAP
-	0	0	0

Provincial Environmental Assessment Term and Condition (EA T&C) Reports Review and Environmental Audits Table

No.	Report or Audit	Applicable EA T&C	Reviewed or Under Review by EWG	Submitted to KAP	Submitted to MECC
1	Cost Benefit Analysis of Mitigating and Reducing Spill in Adam Creek	4c	●	n/a	-
2	Mercury in Fish Flesh Summary Report	4b and 7a	●	n/a	-
3	Fish Habitat Assessment Report	4b	●	n/a	-
4	Terrestrial Habitat Restoration Downstream of Kipling GS	5b	●	n/a	-
5	Draft Environmental Effects Monitoring Plan	3a, 4b, 5b, 6, 7 and 14	●	n/a	-
6	KAP Little Long Site Rehabilitation Plan.	3a and 5	●	●	-
7	Operation Overview Report	4a	●	n/a	●
8	Waste Management Plan	19	●	●	●
9	Noise Control Plan	18	●	●	●
10	The Interim Measures Agreement as it relates to EA Term and Condition 14c (Permit Review and Compliance Monitoring Protocol)	14c	●	●	●
11	2013 Environmental Audit	14	●	●	●
12	2012 Environmental Audit	14	●	●	●

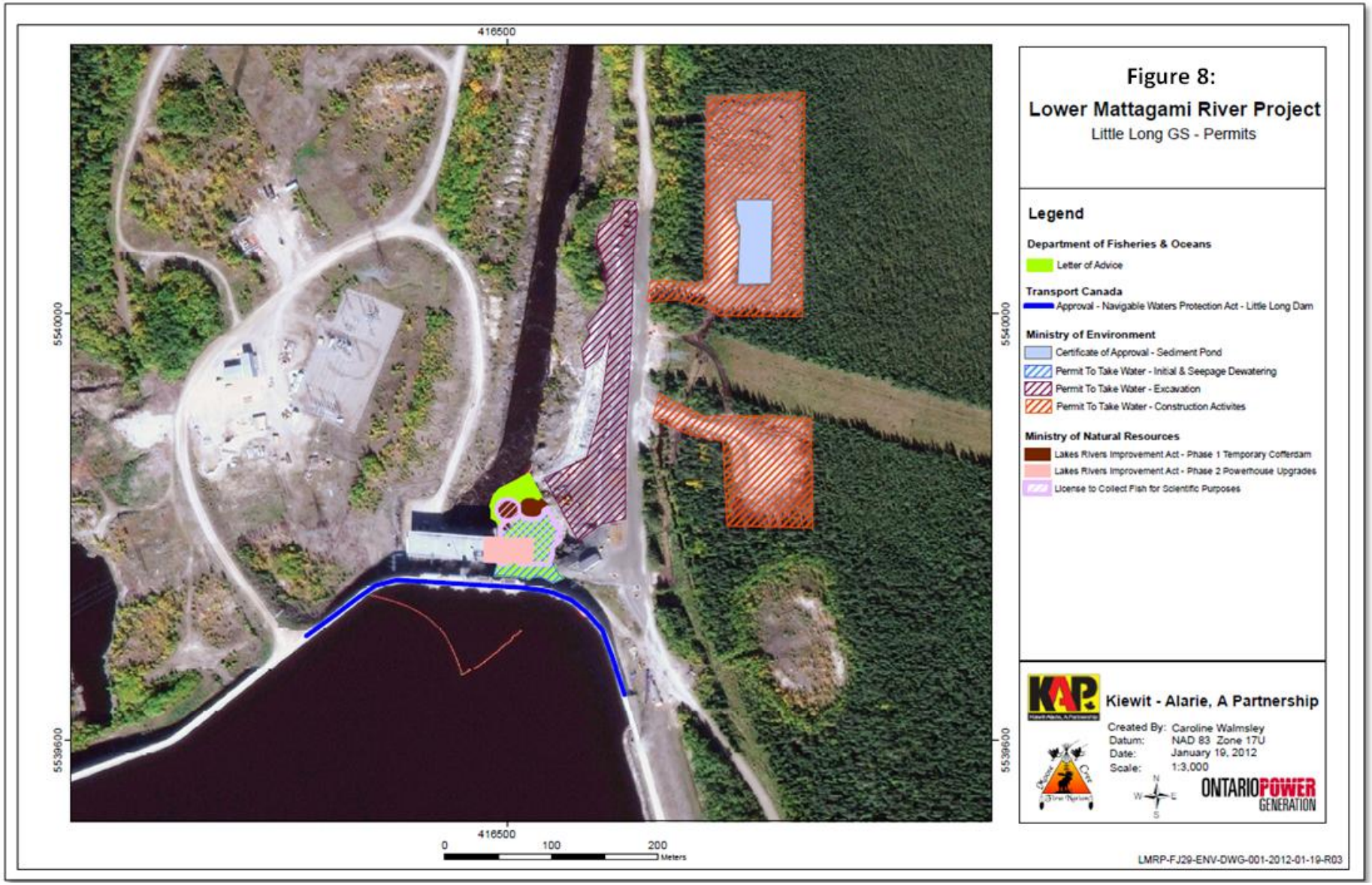

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Figure 8:
Lower Mattagami River Project
Little Long GS - Permits
Legend
Department of Fisheries & Oceans
Letter of Advice
Transport Canada
Approval - Navigable Waters Protection Act - Little Long Dam
Ministry of Environment
Certificate of Approval - 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
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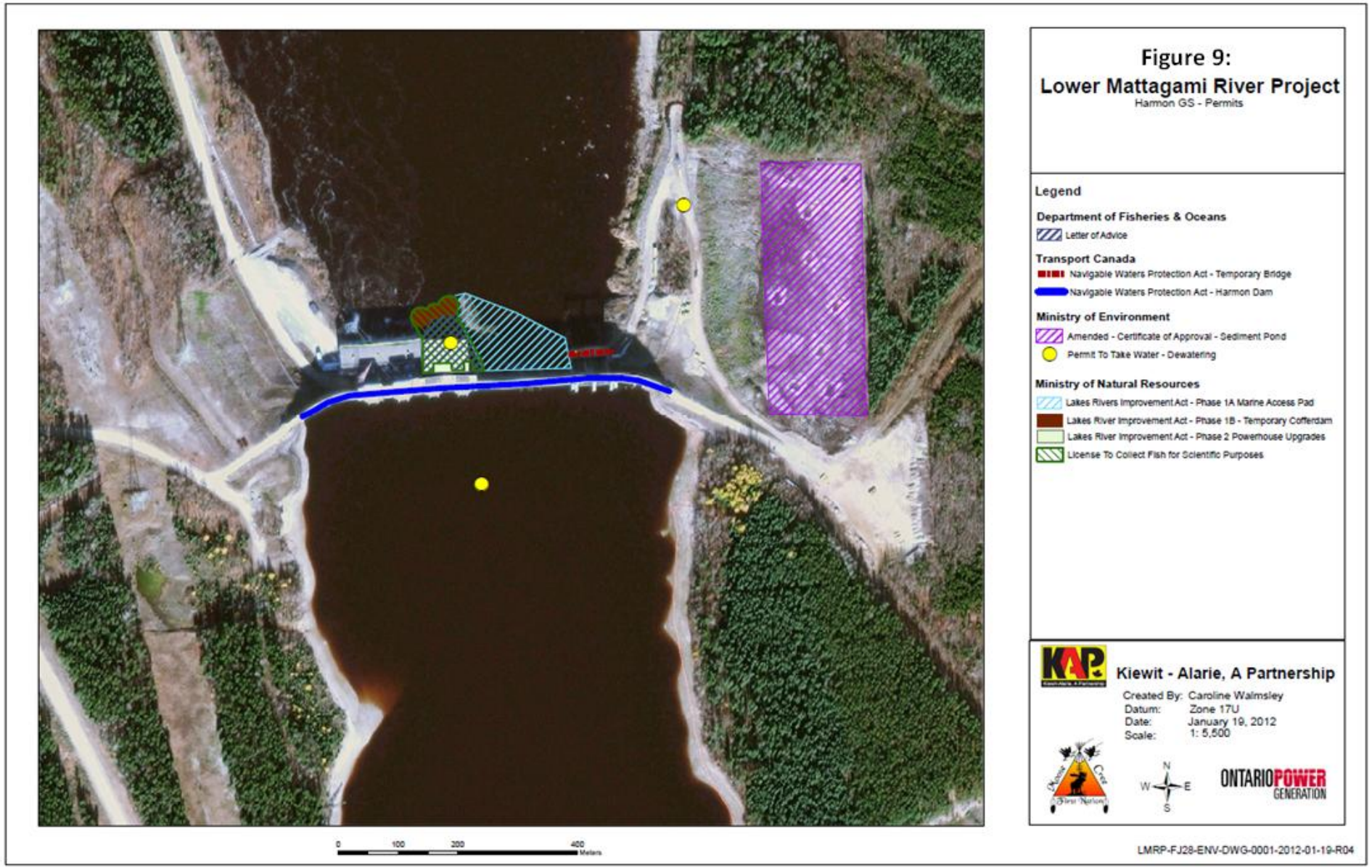
Figure 9:
Lower Mattagami River Project
Harmon GS - Permits
Legend
Department of Fisheries & Oceans
Letter of Advice
Transport Canada
Navigable Waters Protection Act - Temporary Bridge
Navigable Waters Protection Act - Harmon Dam
Ministry of Environment
Amended - Certificate of Approval - Sediment Pond
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
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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
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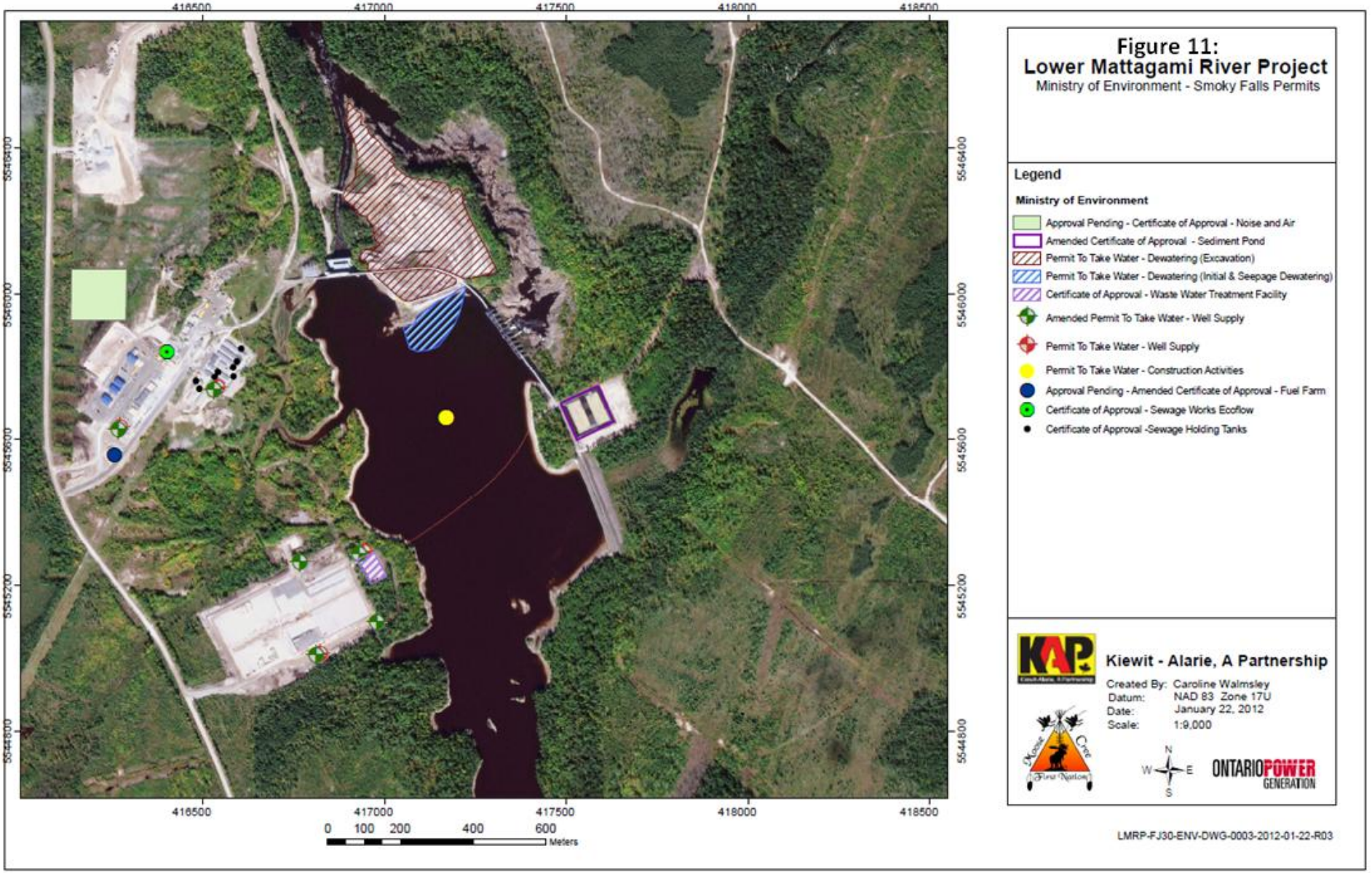
Figure 11:
Lower Mattagami River Project
Ministry of Environment - Smoky Falls Permits
Legend
Ministry of Environment
Approval Pending - Certificate of Approval - Noise and Air
Amended Certificate of Approval - Sediment Pond
Permit To Take Water - Dewatering (Excavation)
Permit To Take Water - Dewatering (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
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Date: January 22, 2012
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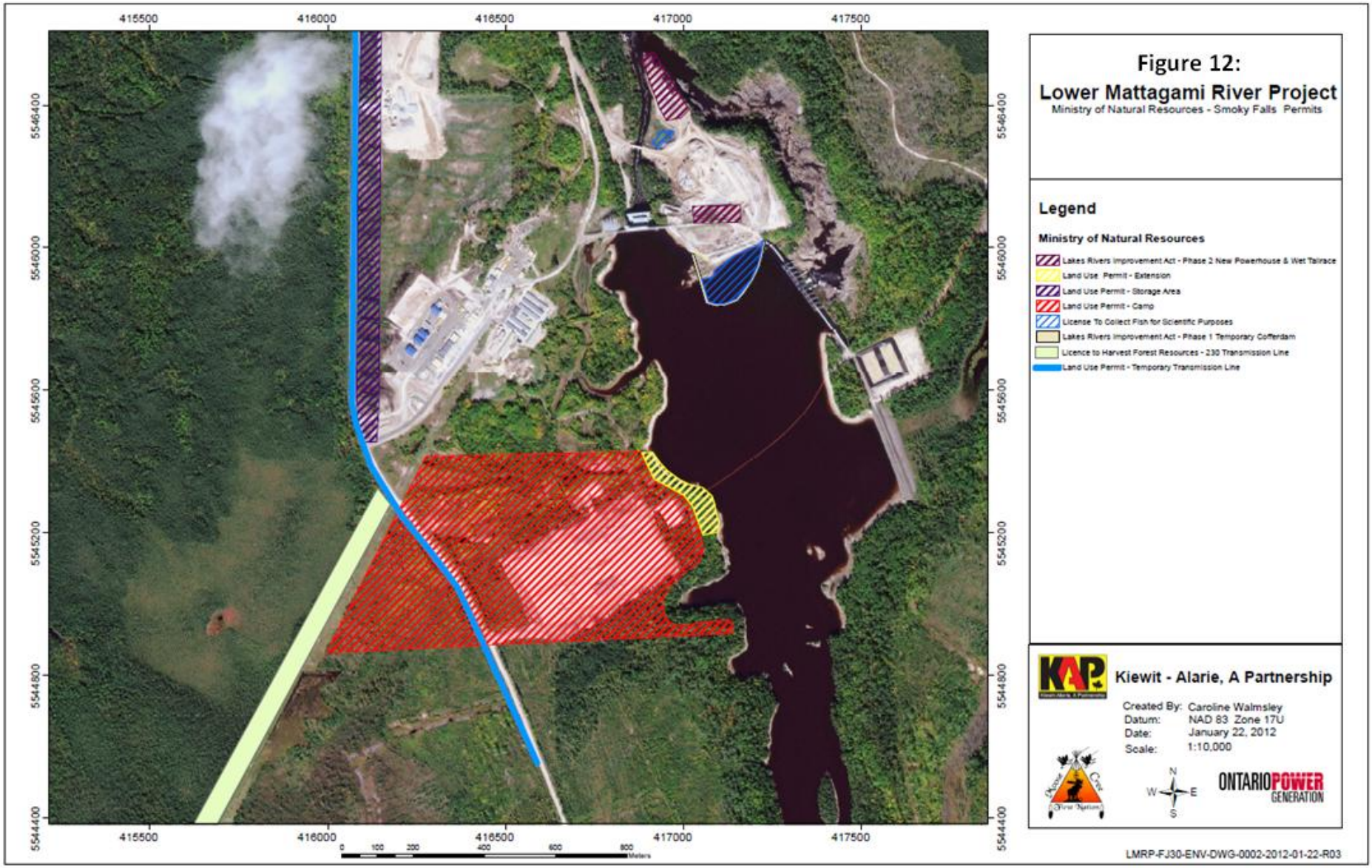
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Figure 12:
Lower Mattagami River Project
Ministry of Natural Resources - Smoky Falls Permits
Legend
Ministry of Natural Resources
Lakes Rivers Improvement Act - Phase 2 New Powerhouse & Wet Tailrace
Land Use Permit - Extension
Land Use Permit - Storage 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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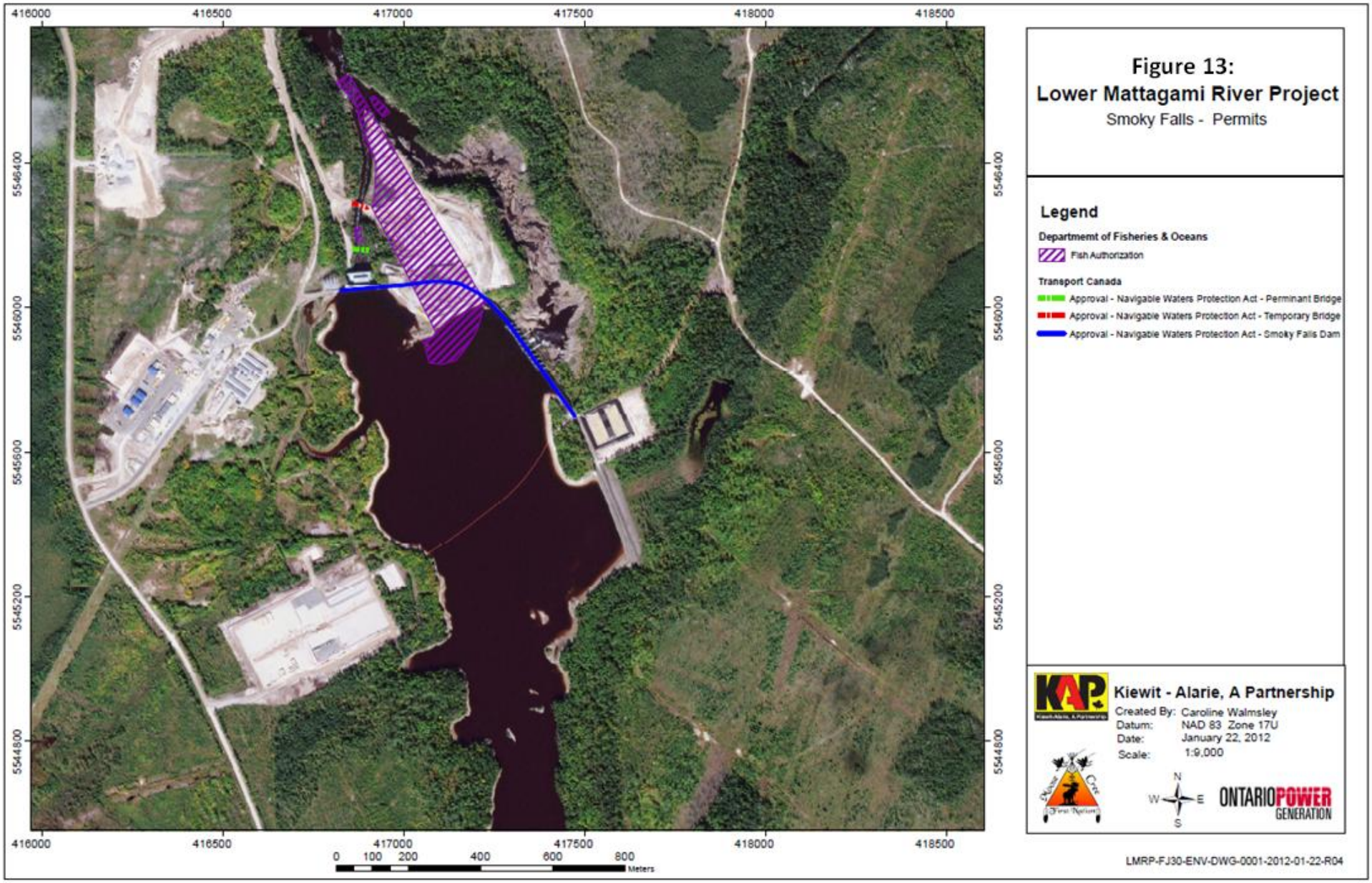
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Figure 13:
Lower Mattagami River Project
Smoky Falls - Permits
Legend
Department of Fisheries & Oceans
Fish Authorization
Transport Canada
Approval - Navigable Waters Protection Act - Perminant Bridge
Approval - Navigable Waters Protection Act - Temporary 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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Issues and Concerns

- MCFN member of the EWG was on-site and found out that there was a delay in starting the turbine as they had difficulty removing the last stop log as it was frozen at the bottom due to a sediment build-up (approximately 1 m^3). EWG members were concerned that the sediment build-up represented an in-water spill.

  Action Required: KAP explained that the sediment build-up (Figure 2) was a result of sediments collecting at the bottom of the stop logs when the cofferdam area was watered up. KAP contacted the Ministry of the Environment to discuss the situation and determine that this did not represent an in-water spill.