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**Environmental Working Group**

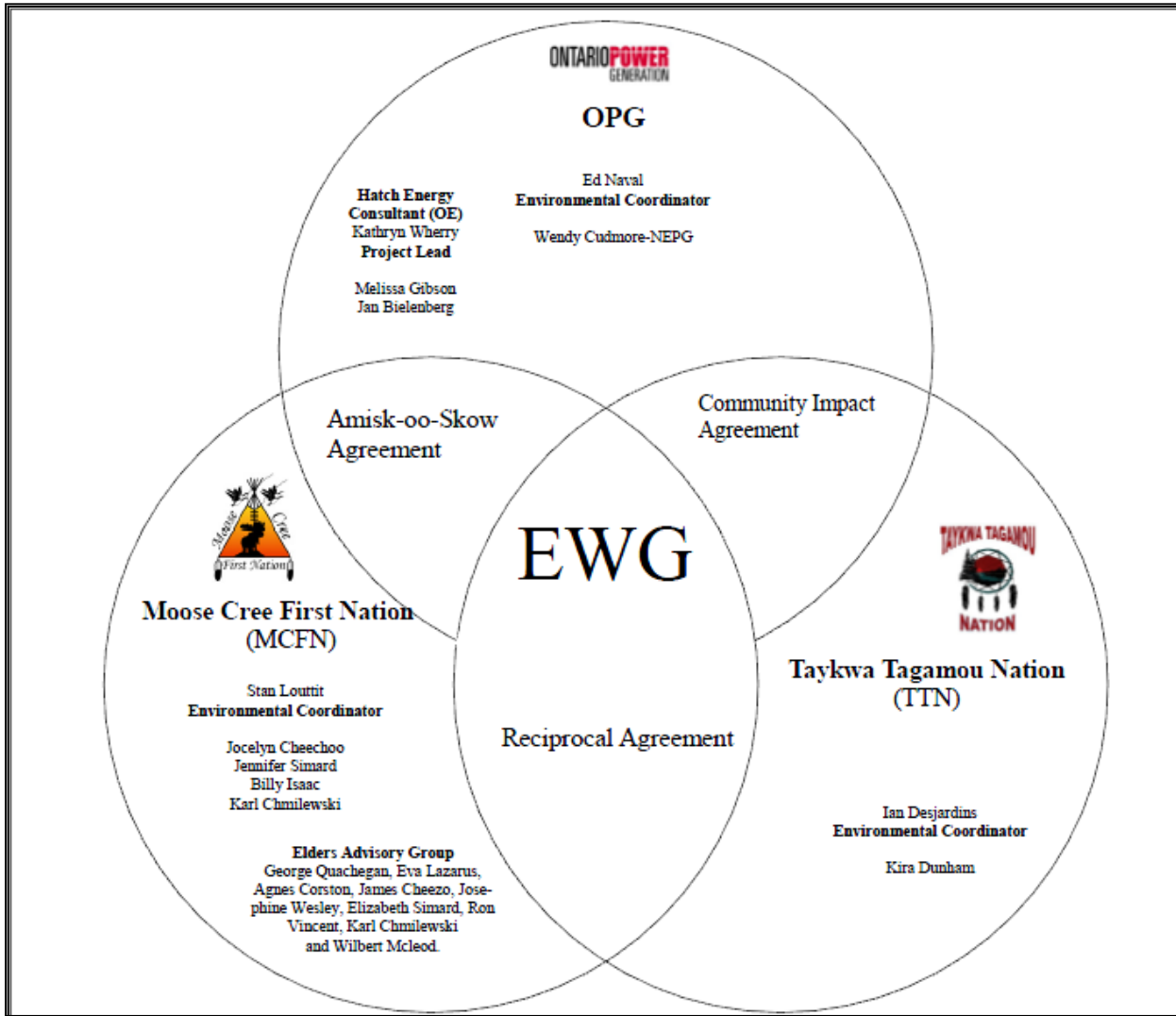
**Monthly Report**

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**February 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 February 13, the EWG held its first face to face meeting of the year in Moose Factory. Items that were discussed include the collaborative conclusion of the draft Cost Benefit Analysis for Mitigating Spill Down Adam Creek report; and the draft Environmental Effect Monitoring Plan (methods of incorporating TEK in the Plan, incorporation of comments from workshops, and comments on the draft Plan).
- On February 19, members of the EWG attended the MECC meeting in Timmins. This was the first meeting where the MECC Observers had the opportunity to meet the new MECC Chair. This was also the first MECC meeting the MoCreebec sent its MECC member (Mike Jolly alternate for Cheryl Began). Items that were discussed included; the EWGs role as a MECC Resource, updating the EA Term and Condition Priority List, additional MECC resources (support for community outreach) and the formation of the Custodial Body (still pending).
- The MCFN members of the EWG have been working with the Mocrebec MECC member (Cheryl Began) and her alternate (Mike Jolly) to help orient them on MECC and EWG work during the LMRP.
- The EWG were also notified that KAP started removing the contaminated soil stockpiles at Smoky Falls on February 26 (anticipated completion date is March 4).
- 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.
- Members of the EWG continued their work on the "Peoples of the Moose River Basin" historical text (EA Term and Condition 2c). A face to face meeting will be held on March 17 and 18, 2014.
- 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 finished reading the "The Inconvenient Indian, A Curious Account of Native People in North America", 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 Environmental 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: <span style="background-color: green; display: inline-block; width: 15px; height: 10px;"></span> Pending: <span style="background-color: yellow; display: inline-block; width: 15px; height: 10px;"></span> *Additional work still required to fulfill EA Term and Condition													

**Construction**

- There were approximately 1,000 people in the camp this month. Several dorms are empty and KAP is preparing to empty more as the number is expected to drop in the coming months as Little Long is now in-service and Harmon is expected to be in-service in Q2.

**Little Long**

- The focus of work this month was on deficiency (i.e. punch list) remediation and Transfer of Control (TOC) documentation.
- Generator floor painting was completed.
- Installation of the Permanent Fence was completed.
- The current forecast completion date for punch list item remediation is March 14.



Figure 1: Little Long Permanent Fence

**Harmon**

- Turbine and generator systems piping installation was completed.
- Pressure testing and flushing was completed for shaft seal piping.
- Measurements and adjustments of various turbine and generator components were completed throughout the month (Figure 2).
- A final inspection of the draft tube was completed and the draft tube access door way was shut.
- AFI drilled the dam concrete and injected epoxy, and installed anchor bolts to reinforce the hoist structure columns.
- Electrical work in the Unit is complete. KAP and their subcontractors worked on resolving punch list items; installing conduits, installing lighting and lighting cables; grounding; installing cables to connect the auxiliary transformer to the 13.8 kV switchgear; and finalizing instrumentation and control panels.
- A number of walk downs and pre-operational tests were completed in the month.
- Harmon construction was declared complete at the end of the day on February 28.

- At month-end, KAP had some difficulty removing the bottom stop logs from the draft tube due to silt accumulation. KAP used a bubbler to dislodge the silt and was eventually able to remove the stop logs.



Figure 2: Harmon runner blade inspection

### Kipling

- Structural concrete was completed at Kipling this month. Some minor grouting and concrete repairs remain.
- Cofferdam cell 1 sheet piles and spud piles were completely removed. Clamming of fill continues in the cofferdam footprint (Figure 3).
- KAP identified concrete voids in the scroll case soffit, and have started deficiency repairs.
- The four sections of stator frame were installed. Stacking of the stator core laminations has started.
- BOP piping installation continues, and equipment installation has started.
- The intake gate roller path installation continues. Set up of the equipment to take verticality readings has started.
- Runner assembly has started between Units 1 and 2. At month-end two blades were installed and KAP was preparing to install a third one.
- Subcontractor Moreau continued installing cable trays throughout the powerhouse.
- Alignment of the Isolated Phase Bus (IPB) sections is under way.



Figure 3: Kipling Cofferdam Removal

### Smoky Falls

- 156 m<sup>3</sup> of concrete was poured this month in the service bay, powerhouse, and intake areas, bringing the total poured to date to 141,066 m<sup>3</sup> of 141,832 m<sup>3</sup>. The remaining concrete at Smoky Falls consists of finishing details, small slabs and walls (Figure 4).
- At month-end, the chlorite seam upstream of the Unit 3 intake had been backfilled with concrete. KAP was removing safety mesh and fencing from around the West rock face.
- The final Zone 3 concrete pour was completed. Stripping of forms from other pours has started.
- At Zone 5, drilling of lower anchors continues. Shotcrete was placed over one area in the month and preparations to place shotcrete in another area are well advanced.
- 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, Stator centering was completed but the concentricity is out of tolerance. A non-conformance report (NCR) will be issued. Various system piping components were installed in the Unit this month (thrust bearing cooling water piping; wicket gate servomotor piping; headcover drainage piping; guide bearing oil filling piping; cooling water heat exchanger). KAP is also preparing to install the rotor in Unit 1;
  - At Unit 2, the bottom ring / discharge ring assembly was centred and flange bolts were tightened to secure it in place. Wicket gate installation is well advanced. The rotor rim stacking was completed, the upper rim plate was installed and Alstom has started torquing the rotor studs. Millwrights are assembling the outer head cover and cleaning the tapped holes for wicket gate bushings.

- At Unit 3, stator piling was completed and the subsequent core loop test was successful. The shipping braces were removed from the stay ring. Preparations are under way to install the upper draft tube cone.
- Canmec received the gate sections for the intake gates. Erection of structural steel, main gate hoist and housing for all intake gates for all three Units was successfully completed.
- BOP Electrical installation work continues throughout the powerhouse.
- Vipond has started installing fire alarm fixtures around the powerhouse.
- Valard completed erecting the “Structure 1” transmission tower and stringing the transmission lines between the station and the switchyard.
- KAP has started significant preparations for watering up the forebay. They are installing instrumentation and associated cables and control panels for dam monitoring once the forebay has been watered up. The majority of the upstream earthworks are complete.
- On February 26, 2014, KAP started removing the soil stockpiles at Smoky Falls (Figure 5).



Figure 4: Smoky Falls Overview



Figure 5: Removing the soil stockpiles at Smoky Falls

## Monthly Summary – February 2014

<b>SPILLS</b>			
<b>No. of Spills:</b>	7; Spill Reports 412-418 (see Figure 6 for LMRP spills breakdown).		
<b>Classification of Spills:</b>	<p><u>KAP Project Classification</u>                      Minor – 6 Moderate – 0 Major –1 To Water - 0</p> <p><u>MOE Classification</u>                      Non-reportable - 6                      Reportable to MOE</p> <ul style="list-style-type: none"> <li>- Class C – 1</li> <li>- Class B – 0</li> <li>- Class A – 0</li> </ul>		
Reportable Spills			
No.	Quantity /Product Spilled	Spill Site	Reason for being Reportable
1	Septic wastewater	Main Camp – Dorm 26	<p>Reportable on-land. During an inspection of the dorm it was determined that the main line leading from the building to the holding tank was leaking. An estimated volume is 1600 L based on the typical sewage design criteria of 200 L/person/day. Only 4 people were staying in the dorm over those previous two days. No solid material was spilled as the leak was not of sufficient size for large material to pass through. Pipe collects water from the laundry facilities, toilets, sinks and showers of the dorm. All of the water remained under the dorm and froze on top of the underlying pad.</p> <p>This connection may have cracked due to frost heaving the underlying gravel pad or frozen due to lack of use with the low number of people using the facilities causing ice to build-up inside of the elbow. The remaining dorms have a straight connection down to the pipes leading to the waste water treatment plant and are less susceptible to movement and freezing. The temporary dorms are in the process of being taken out of service so the holding tanks will no longer be used.</p>
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)			MOE Classification (see Reportable and Non-reportable Spills definition below) Non-reportable: < 100L Reportable to MOE <ul style="list-style-type: none"> <li>• Class C - Less Serious</li> <li>• Class B – Serious</li> <li>• Class A – Very Serious</li> </ul>
Sediment Pond Exceedance of Effluent Objective			
No. of Exceedance days recorded	Location	Mitigation Measures used	
n/a			

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## **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.

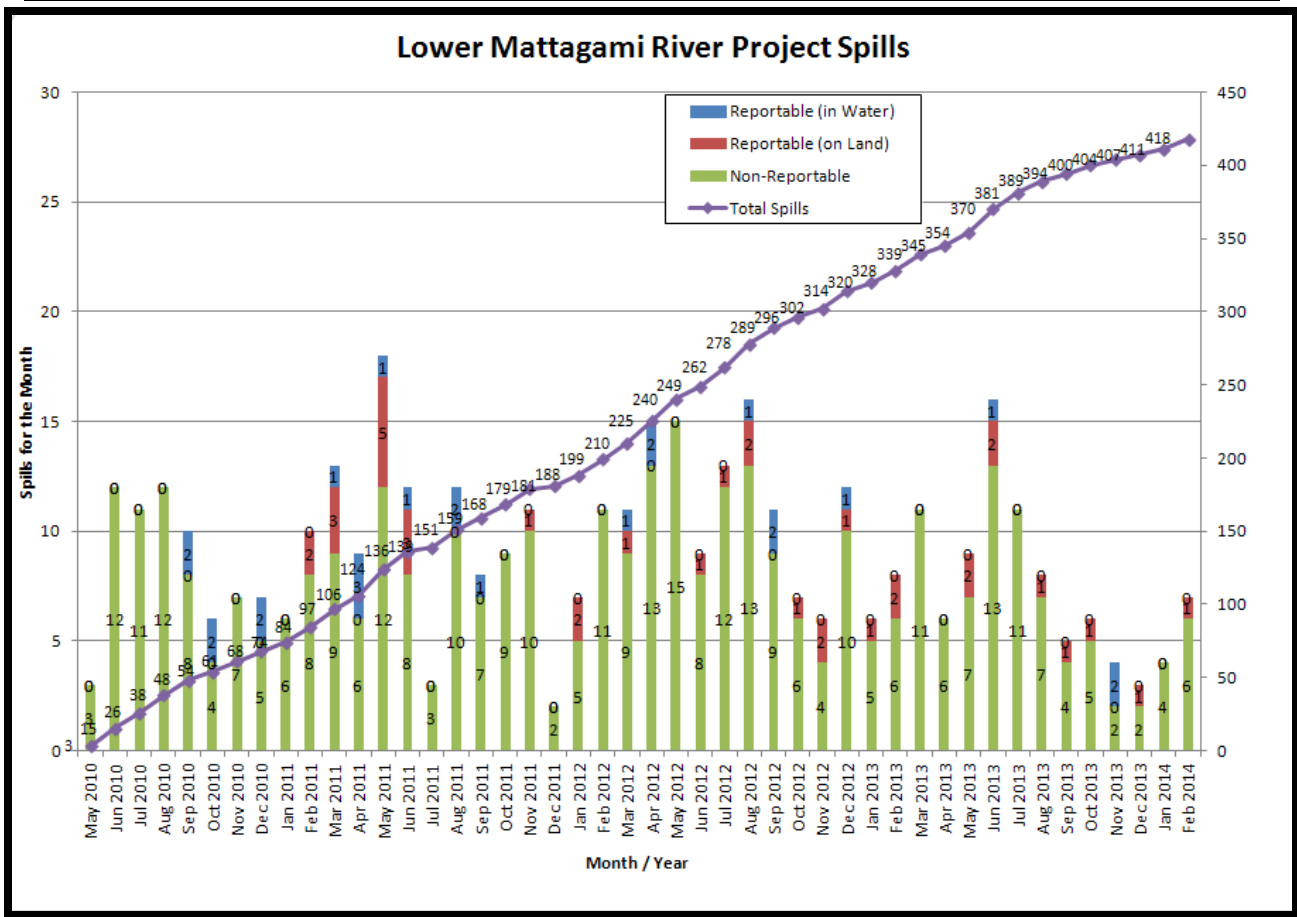


Figure 6: Lower Mattagami River Project spills

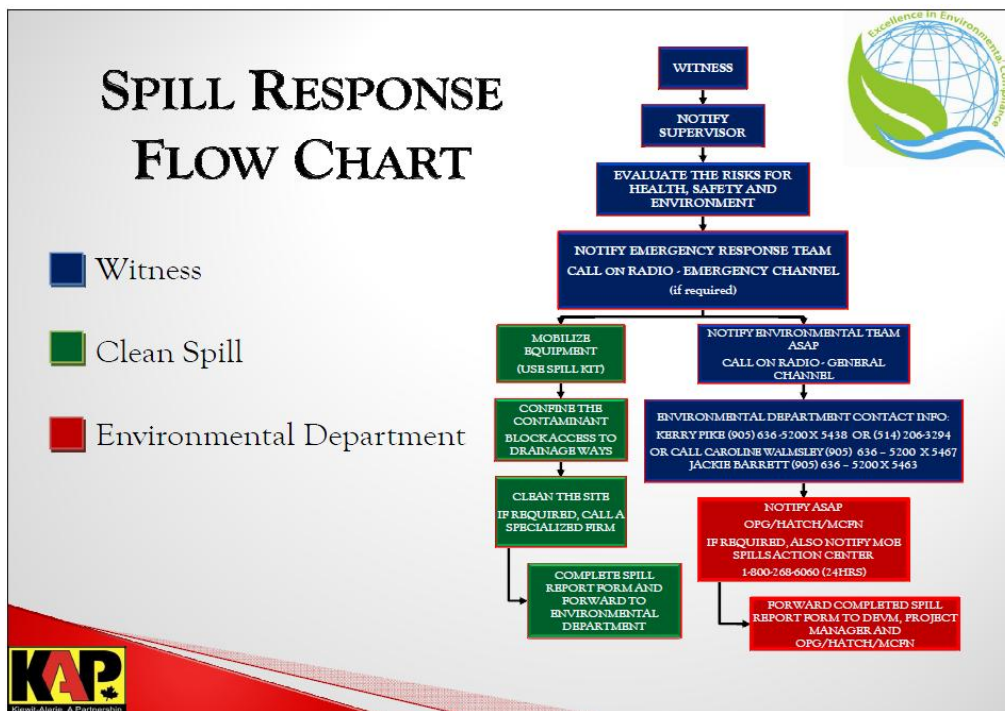
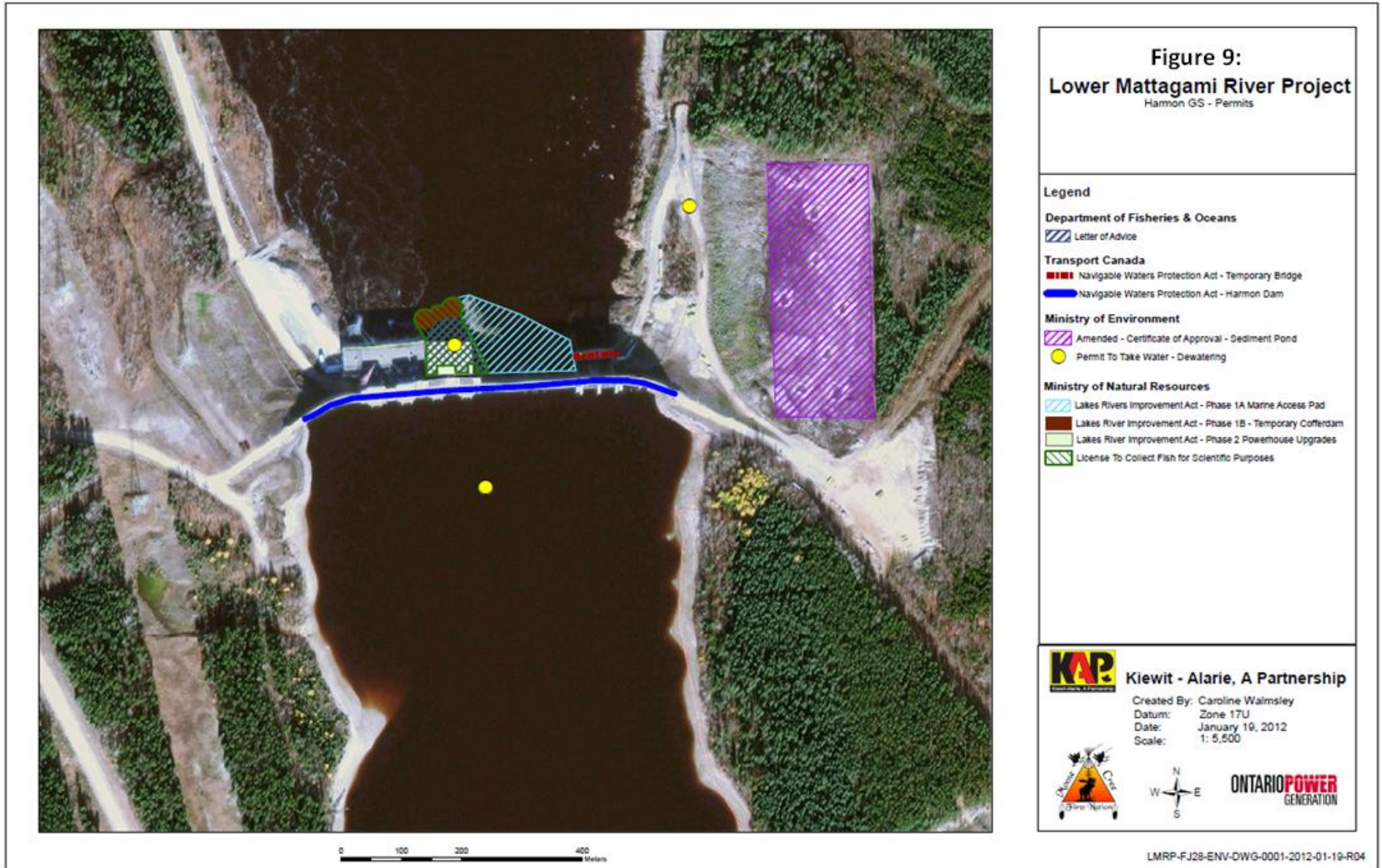


Figure 7: KAP Spills Response Flowchart

<b>PERMIT AND APPROVAL REVIEW</b>			
No. Reviewed:	0	List:	
No. Sent to KAP:	0	List:	
<b>Reports Review</b>			
No. Reviewed for KAP	0	List:	
No. Sent to KAP	0	List:	
No. Reviewed for MECC	5	List:	On-going: <ul style="list-style-type: none"> <li>• Cost Benefit Analysis of Mitigating and Reducing Spill in Adam Creek</li> <li>• Mercury in Fish Flesh Summary Report</li> <li>• Fish Habitat Assessment Report</li> <li>• Terrestrial Habitat Restoration Downstream of Kipling GS</li> <li>• Draft Environmental Effects Monitoring Plan</li> <li>• KAP LMRP Site Rehabilitation Plan</li> </ul>
No. Review Completed	4	List:	<ul style="list-style-type: none"> <li>• Operation Overview Report</li> <li>• Waste Management Plan</li> <li>• Noise Control Plan</li> <li>• The Interim Measures Agreement as it relates to EA Term and Condition 14c (Permit Review and Compliance Monitoring Protocol)</li> </ul>
<b>REQUESTS FOR INFORMATION (RFIs)</b>			
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.			







**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

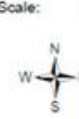
Lakes Rivers Improvement Act - Phase 2 Powerhouse Upgrades

Licence to Collect Fish for Scientific Purposes

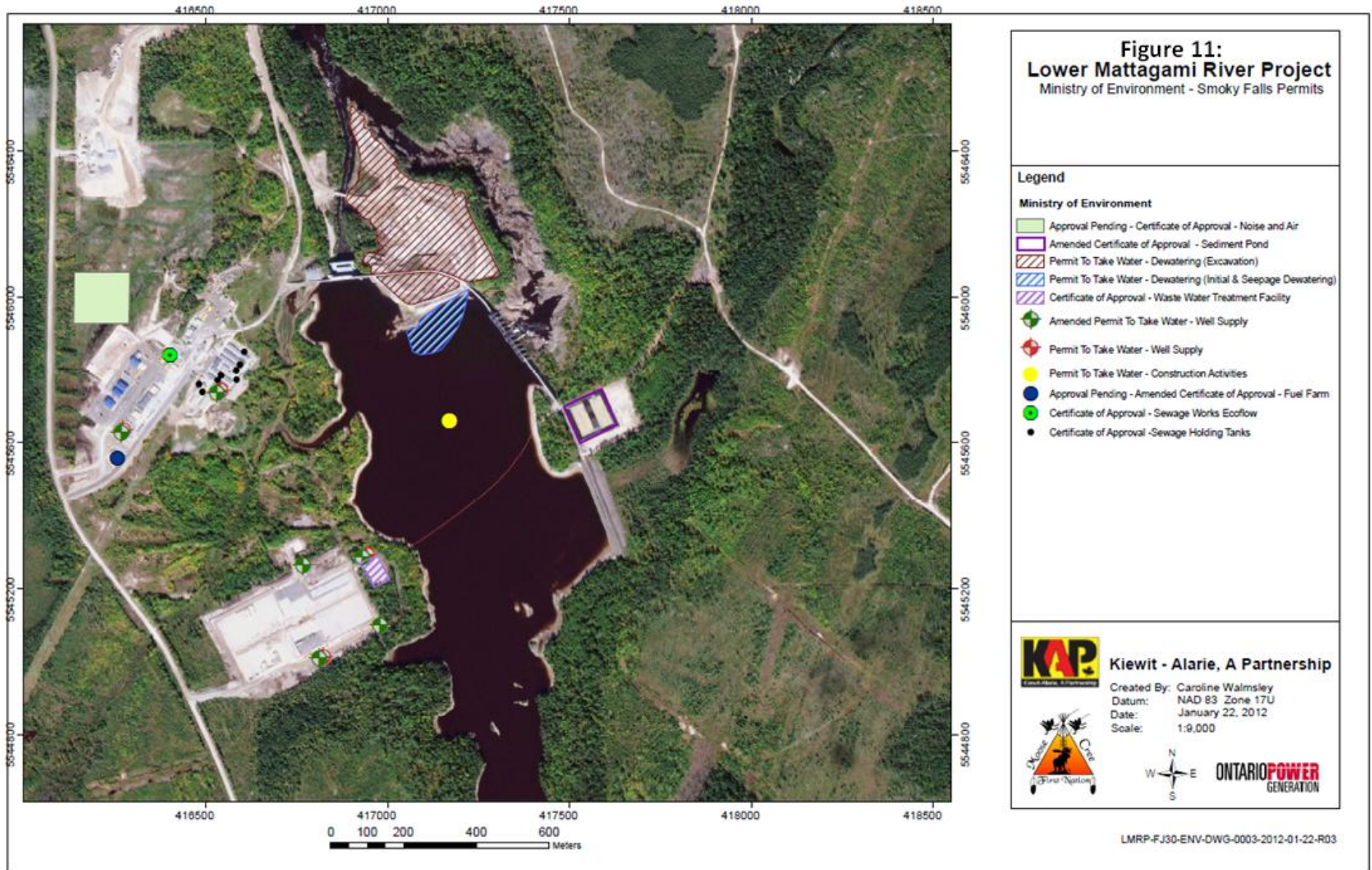


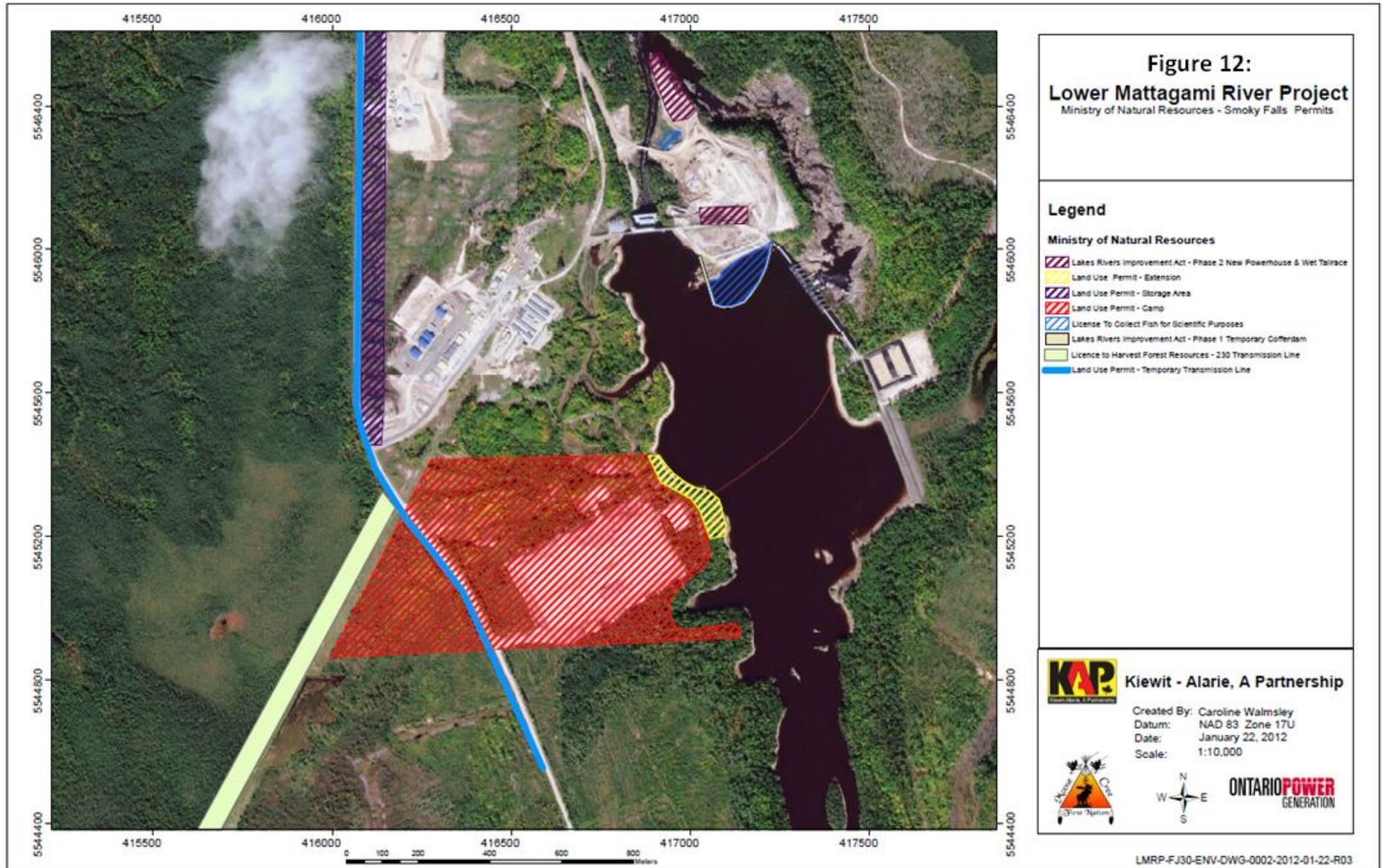
**Kiewit - Alarie, A Partnership**

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



LMRP-FJ27-ENV-DWG-0001-22012-01-19-R04





**Figure 12:**  
**Lower Mattagami River Project**  
Ministry of Natural Resources - Smoky Falls Permits

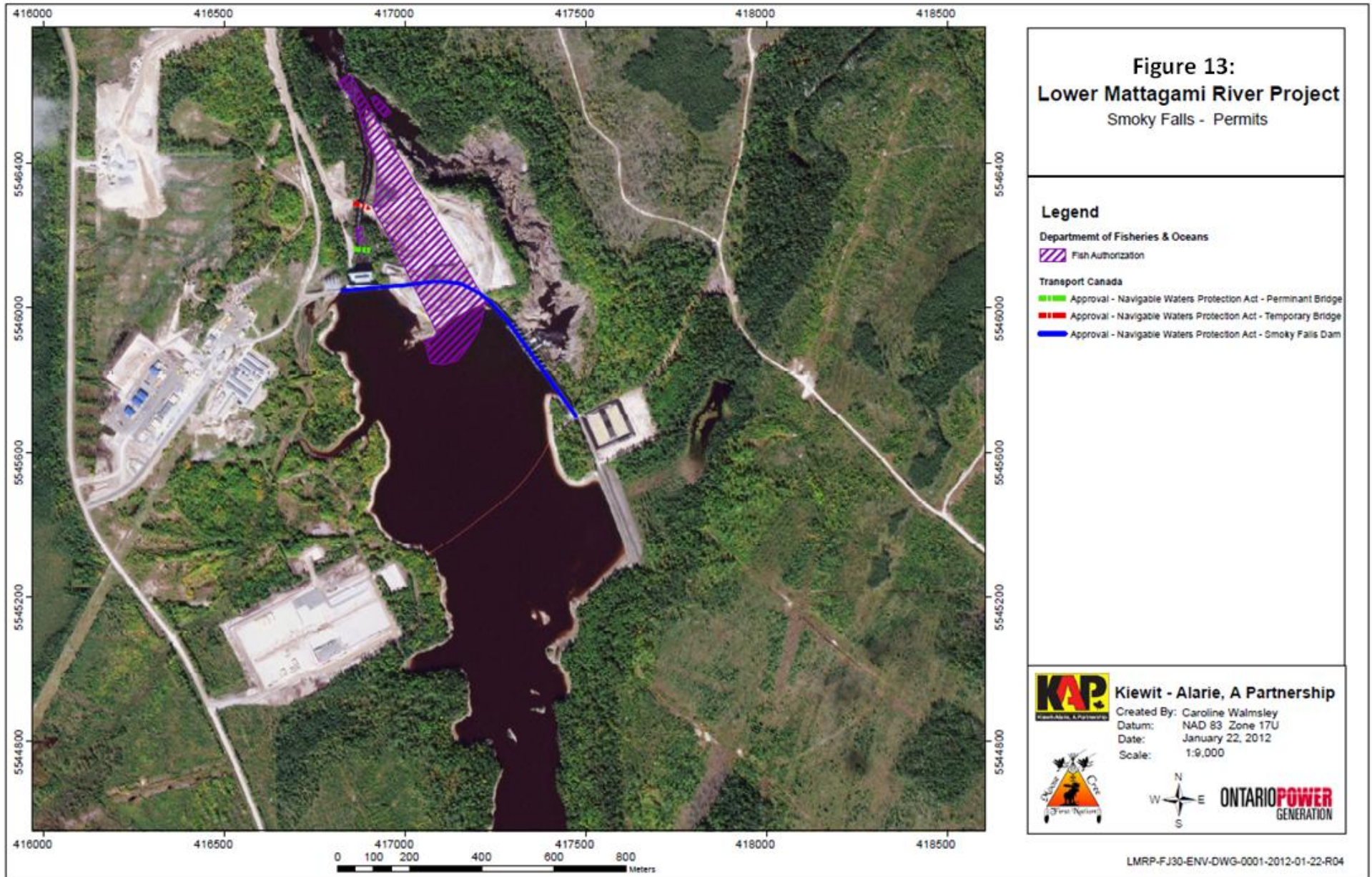
- Legend**
- Ministry of Natural Resources**
- Lakes Rivers Improvement Act - Phase 2 New Powerhouse & Wet Tailrace
  - Land Use Permit - Extension
  - Land Use Permit - Storage Area
  - Land Use Permit - Camp
  - License To Collect Fish for Scientific Purposes
  - Lakes Rivers Improvement Act - Phase 1 Temporary Cofferdam
  - Licence to Harvest Forest Resources - 230 Transmission Line
  - Land Use Permit - Temporary Transmission Line

**KAP** Kiewit - Alarie, A Partnership  
Construction & Project Management

Created By: Caroline Walmsley  
Datum: NAD 83 Zone 17U  
Date: January 22, 2012  
Scale: 1:10,000

**ONTARIO POWER**  
GENERATION

LMRP-FJ30-ENV-DWG-0002-2012-01-22-R03



**Issues and Concerns**

- EWG was concerned with the lack of turbidity monitoring data during the Kipling Cofferdam removal process (clamming of cells). At the end of January the water probes froze and data was not able to be collected for a couple weeks.

Action Required: KAP to reinstall probes and ensure data is recorded.