BC HYDRO OPERATIONS - ICE OBSERVATION REPORT #15

Flight: Thursday January 24, 2013
Report: January 24, 2013
Report by Kerry Paslawski and Martin Jasek

The responsibility for ice observations on the Peace River passes to BC Hydro from Alberta Environment and Sustainable Resource Development when the ice front is upstream of Dunvegan. That responsibility was transferred on December 27, 2012. The numbering of reports is a continuation of the Alberta Environment reports.

Flight Observations by Kerry Paslawski

A flight observation was conducted out of the Beaverlodge Airport on Thursday January 24, 2013. Air temperature at the Clayhurst Bridge was -13 ^{o}C. The skies were clear and sunny.

Ice Observations

Location of the Ice Front: The ice front had advanced 5.5 km since the last observation by a web camera and was located at **km 223.3 on Jan 24, 2013 12:34 MST**. This was approximately 73 km upstream of Dunvegan and about 59 km downstream of the Clayhurst Bridge near the BC/AB border. The average rate of advance since the web camera observation at Many Islands on January 22 was 2.2 km/day. Since the last report on January 16-17, the ice front had thermally receded downstream of the web camera at km 228.8 and advanced back upstream of it several times due to some minor consolidations that took place during the re-advancement of the ice cover. The consolidations erased the evidence of the most downstream extent of the thermal recession which occurred on Jan 19. Based on web camera images, the main re-advance past the web cam location took place in the darkness between the evening of Jan 21 and the morning of Jan 22. It is therefore estimated that the ice front passed upstream of **km 228.8 on Jan 22, 2013 00:00 MST**.

The location of the dynamic ice event that was underway during the Jan 11 flight (Report#13) was flown during this observation flight as well. The large open lead from km 236.8 to 239.0 was still in place.

Detailed Observations:

km 191	- frazil ice pan concentration of about 10%
km 197	- frazil ice pan concentration of about 15%
km 200	- frazil ice pan concentration of about 20%
km 202	- frazil ice pan concentration of about 30%
km 206.5	- frazil ice pan concentration of about 40%
km 207.5	- extent of backwater from ice front
km 213	- frazil ice pan concentration of about 40%
km 217.5	- frazil ice pan concentration of about 70%
km 219.5	- frazil ice pan concentration of about 80%
km 220.5	- frazil ice pan concentration of about 95%
km 221.5	- frazil ice pan concentration of about 100%
km 223.3	- ice front at 12:34 MST
km 223.3 to 226.5	- ice cover is juxtaposed
km 226.5 to 228.8	- ice cover is consolidated
km 228.8	- toe of a consolidation

km 228.8 to 235	- ice cover is mostly juxtaposed but has been repeatedly shifted, melted and reformed
km 235 to 236.8	- ice cover is consolidated but has been more consolidated since the last flight on Jan 11 all the way to the constriction and almost to the start of the open lead.
km 236.8 to 239.0	- open lead is still there as observed on Jan 11 flight
km 239 to 243	- some side channels that were open on Jan 11 flight have filled in and some small open leads were new since Jan 11
km 243.5	- ice cover was the same as observed on Jan 11 downstream of this location

Frazil ice pan flows at km 216. Flow direction is left to right.

Looking upstream from km 222.5 (about 0.8 km upstream of the ice front).

Looking downstream at the ice front at km 223.3.

Toe of a consolidation at km 228.8. Flow direction L. to R.. Pink arrow shows web cam location.

Web camera picture taken at km 228.8 on Jan 24 at 10:30 hrs MST.

Looking upstream at open lead at km 236.8 to km 239.

Looking upstream from km 236.

Environment Canada Temperatures (°C)			
		Fort St. John	Town of Peace River
Observed:		Max/Min	Max/Min
Tue	15-Jan-13	6.5 / 2.2	6.7 / 1
Wed	16-Jan-13	2.5 / -2.3	2.6 / -8.7
Thr	17-Jan-13	5.6 / -3.4	5.5 / -8.6
Fri	18-Jan-13	4.9 / -14.9	5.3 / -18.2
Sat	19-Jan-13	-14.9 / -20.3	-18.2 / -29.3
Sun	20-Jan-13	-17.8 / -21.6	-18.8 / -31.6
Mon	21-Jan-13	-12.5 / -18	-14 / -18.9
Tue	22-Jan-13	-12.5 / -16.5	-14.7 / -17.2
Wed	23-Jan-13	-13.6 / -16.4	-12 / -18.5
Environment Canada Temperatures (°C)			
Forecast:			
Thr	24-Jan-13	-9 / -19	-11 / -19
Fri	25-Jan-13	-3 / -11	-7 / -14
Sat	26-Jan-13	-2 / -7	-6 / -14
Sun	27-Jan-13	-4 / -5	-5 / -11
Mon	28-Jan-13	-22 / -23	-19 / -19
Tue	29-Jan-13	-15 / -23	-18 / -23
Wed	30-Jan-13	-14 / -16	-15 / -19
Normal Max/Min		-9 / -18	-11 / -21

Note: There is some indication to suggest that the cooling in the forecast on Monday could be colder than indicated above.

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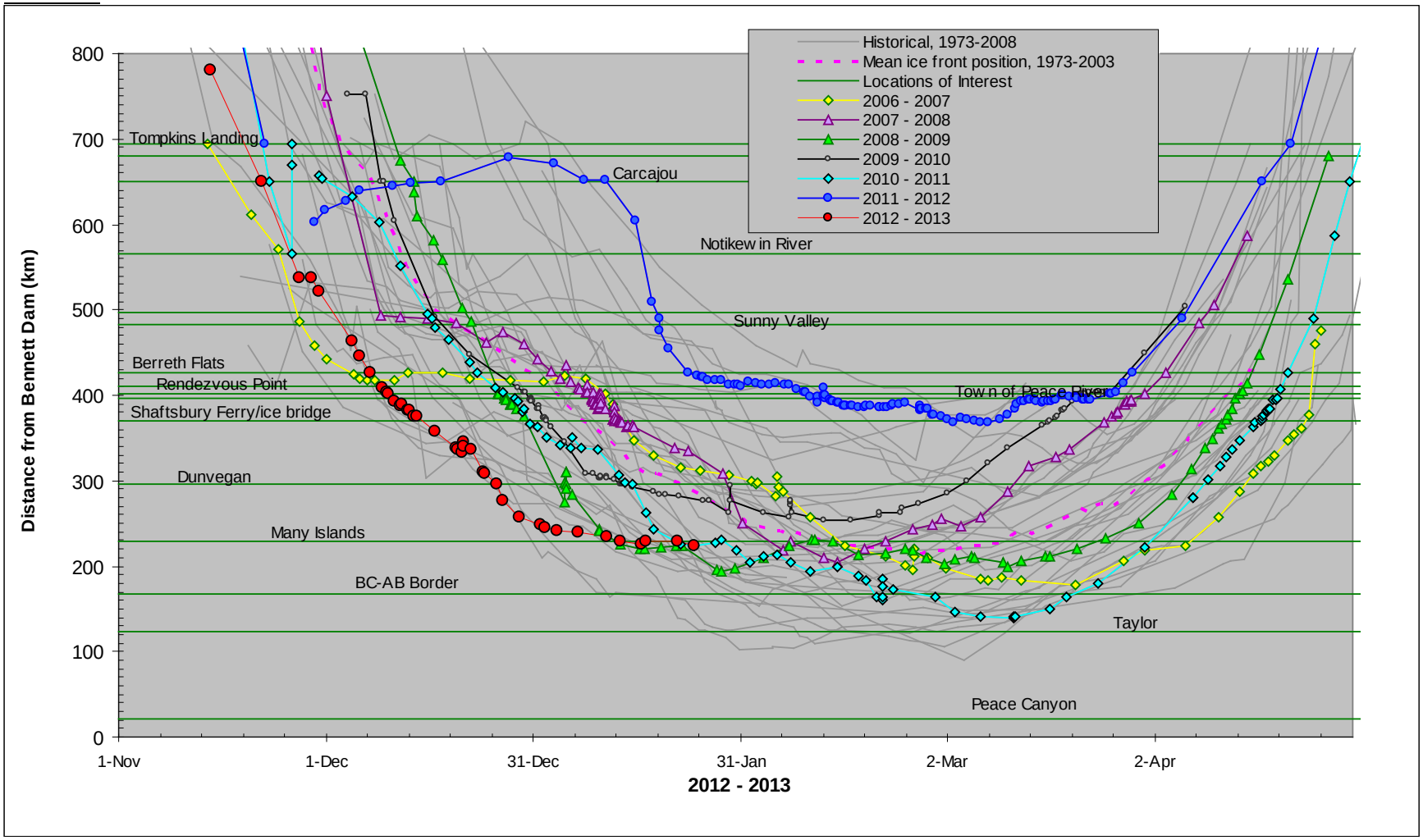
Ice Front



The next ice observation flight is scheduled for some time next week and is dependent on the weather.