Alberta
ENVIRONMENT

Environmental Management
Water Management Operations
River Engineering Team

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2008-Athabasca River at Fort McMurray
Observation Report No. 2

On Friday April 11, 2008 Alberta Environment conducted an observation flight of the Athabasca River basin. The flight proceeded from Edmonton to the Barrhead area where the Pembina River ice cover was observed to its confluence with the Athabasca River. The Athabasca River was followed past Fort McMurray to the Suncor Plant.

Pembina River

The warmer seasonal temperatures experienced by the basin throughout the last week has begun to melt the snow in the fields. Snow cover in the fields now ranges from 70% to 30% coverage in the vicinity of Barrhead. The ice cover near Barrhead to Dapp is showing sign of melt; the ice cover is darkening and water can be observed pooling on the ice cover and near the banks. The ice cover is similar from Dapp to Jarvie, with just over half of the snow on the ice cover having melted already. Downstream of Jarvie to the confluence, the ice cover is weak. Most of the snow on the ice cover has melted and water can be observed pooling on the ice and near the banks. Near the confluence, the snow in the fields is almost completely melted.

Athabasca River

The river is beginning to show signs of melting as the ice cover is getting dark and water is beginning to pool on the cover and near the banks. The ice cover over top of rapids are beginning to open up and open leads are developing in the reaches downstream. Alberta Environment is continuing to monitor breakup along with the Regional Municipality of Wood Buffalo.

Observation Details:

- From the Pembina River confluence to the Lesser Slave River confluence – The ice cover is beginning to darken and show signs of thermal deterioration. Small open leads are beginning to form in a few reaches. These open leads are less than 1 km long. The snow on ice coverage has decreased to less than 20% in this reach.
- Lesser Slave River confluence to the Town of Athabasca – 20% to 40% snow on ice coverage. Numerous open leads have developed within this reach and the ice cover is deteriorating. Water can also be observed along the banks and pooling in certain locations or flowing onto the ice cover downstream of open leads.
- Town of Athabasca to the Calling River confluence – 20% to 40% snow on ice coverage. Water can be observed on the ice near the banks of the channel in certain places. The open lead that routinely develops downstream of an outfall has increased in length from 25 km to approximately 34 km. The open lead continues to range in width from roughly 15% to 90% of the channel width though it typically occupies half of the channel width.
- Calling River confluence to Pelican Rapids – The snow on ice coverage ranges from 20% to 40% in some areas to 40% to 75% in others. The ice cover is appears to be weak in

some areas and a few short open leads have developed. The open lead at the Pelican rapids has increased in length to just over 2 km.

- Pelican Rapids to Grand Rapids – The snow on ice coverage is roughly 40 to 50%. The ice cover is opening up at Stony Rapids and at the Rapides du Joli Fou. The ice cover appears weak and water can be observed pooling on the cover and along the banks.
- Grand Rapids to Crooked Rapids – The 5 km open lead that had developed downstream of Grand Rapids has not increased in length, however the ice cover in the area appears to be weak. The ice cover is continuing to weaken and to open up at Boiler, Middle and Long rapids. Small open leads are beginning to develop downstream of the rapids sections.
- Crooked Rapids to the Clearwater River confluence. – The ice cover is continuing to open up at Crooked, Rock, Little Cascade and Cascade rapids. The snow on ice coverage now ranges from 20 to 50%. The ice appears to be deteriorating and water can be observed on the cover and along the banks. Mountain and Moberly rapids are still partially ice covered.
- Clearwater River to Suncor Plant – The ice cover is weakening and water can be observed pooling on the cover and at the banks. The snow on ice coverage is from 40 to 50%. The ice cover in this reach is still intact.

The next observation flight is scheduled for Sunday April 13 or sooner if conditions change.

The most current information with interactive maps and photos is posted on the web site at http://www3.gov.ab.ca/env/water/ws/RiverIce/Index.html under the heading of River Ice Reports.