Marsh Lake
Winter Storage Concept

May 2011

Research Update

With spring finally here, Yukon Energy would like to update you on our research work into the possibility of enhanced winter storage on Marsh Lake. This newsletter provides a summary of what we've learned so far plus a list of studies planned for 2011. It also gives information about how you can be involved in the discussions about this concept.

The studies so far indicate that this is a viable energy option. However we are still about a year away from being able to confirm our preliminary findings. We ask that you keep an open mind until we complete the studies and analyze the data. We are committed to regular and meaningful discussions with you.

We hope to schedule a public meeting in your community in a couple of weeks. Please watch for details via your email, media ads, posters, and on our website and blog. We are also now on Facebook. Our contact information can be found on the second page of this newsletter.

Measuring water levels at the Lakeview Marina.

Background

Yukon's energy demands are quickly outgrowing our clean energy supply. As much as possible, we want to avoid burning diesel to meet the demand, as it is increasingly expensive and has a greater impact on the environment.

Yukon Energy is committed to finding new energy that is affordable, reliable, environmentally responsible, and flexible enough to meet the changing needs of the territory. To this end we are looking at a number of potential options, including one at Marsh Lake.

The Marsh Lake Concept proposes to raise the controlled maximum level (known as the Full Supply Level) by about 30 centimeters to approximately 656.534 meters above sea level. The additional water would be released over the winter months, giving Yukon Energy the ability to produce more power at our Whitehorse plant during times of greatest energy demand. This could be done without any new infrastructure.

The concept could contribute approximately six to eight gigawatt hours per year of extra winter generation. It would displace between 1.6 and 2.2 million litres of diesel fuel and reduce greenhouse gas emissions by up to 5,600 tones a year. That's equivalent to all the Marsh Lake residents going 'carbon neutral'.

2010 Studies Completed

The baseline studies listed below were done in 2010. Yukon Energy will provide copies of all the studies to the Marsh Lake and Tagish Local Advisory Councils.

A brief summary of most of the 2010 study results was included in a newsletter the energy corporation distributed in December 2010. That newsletter, along with this most recent one, can be found on Yukon Energy's website.

Last year's studies included:

- Southern Lakes hydrology
- Lake ecology, including water quality, temperature, plankton and invertebrates
- Chinook salmon passage, spawning and rearing
- Marshland connectivity analysis
- Shoreline birds, aquatic mammals, amphibians and rare plants
- Vegetation (wetlands and marshes)
- Groundwater monitoring at Marsh and Tagish
- Erosion prone areas at Marsh, Tagish and Bennett Lakes and at Tagish River

2011 Studies

The studies planned for 2011 include:

- Continue the groundwater-monitoring program and identify infrastructure that could be affected by higher lake levels in the fall
- Collect inventory of infrastructure potentially affected by higher lake levels
- Erosion and ice cover formation, stability and scour
- Aquatics—studies to confirm how fish use Yukon River tributaries; lake trout spawning survey on Marsh Lake
- Wetlands—characterization of Lewes Marsh; survey of how fish use shallow areas in early spring
- Additional surveys of the connected wetlands identified in 2010
- Additional information on recreational, commercial and subsistence use

What We Heard

Yukon Energy met several times in 2010 with local residents, interested stakeholders, and local governments. We heard the following key concerns related to the proposed Marsh Lake Storage concept:

- Effects of higher lake levels on shoreline erosion and erosion of property
- The relationship of lake levels to groundwater levels, and the implications for property owners and infrastructure
- Flows in the Yukon River downstream from the Lewes control structure
- Fish and waterfowl use of wetlands around Marsh Lake
- Trout spawning in Marsh Lake
- Potential changes to ice on the lake in relation to winter activities
- Ice formation and stability in relation to winter use on the lake
- Potential changes to wetland vegetation and related effects on aquatic and land species

Yukon Energy takes your concerns seriously and is working hard to plan/design a project that will address significant concerns and interests.

Groundwater monitoring at California Beach

Contact Us

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