

Concerns

Why are lake levels falling?

Traditional and scientific knowledge agree that lake levels are falling in the Flats. A study of Landsat satellite images from 1973 to 1999, done by Laval University researchers, shows that the surface area of the lakes has decreased by 3% over this period with the largest change occurring in the late 1980s. Satellite images show some changes in lake margins but do not give accurate information on lake depths where a lot of the differences may occur first. Recent local knowledge indicates that in some areas of the Flats, such as Little Flat, lake levels remain high.

Traditional and scientific knowledge agree that the process is complicated and not all bad. For instance, moose and waterfowl often benefit from lakes becoming shallower and willow growth invading new shorelines. The effect of increased temperatures on permafrost is one of the key factors in the “dry up” since the lakes are maintained by permafrost underneath. It melts and they drain away; they drain away and the permafrost returns; the permafrost returns and the lakes begin to fill up, or as Stan Njootli would say “Like that and like that.” People have also observed lake levels falling when a stream channel cuts, i.e. erodes, into the edge of the lake causing it to drain.

Is the ecosystem in balance?

Traditional knowledge is very sensitive to the connections of all life in the Flats. When people trapped, fished and hunted extensively there, a certain balance was created and maintained. When people left the Flats, an imbalance was created but it can be assumed that natural adjustments are taking place. The Flats and immediate surroundings are carved up into several jurisdictions (Vuntut Park, VGFN lands, and Old Crow Flats Special Management Area) and the community sees that these jurisdictions must manage the area as one ecosystem if a balance is to be maintained. In recognition of this need, the VGFN Final Agreement, the Old Crow Flats Special Management Area identifies one of the guiding management principles for the Yukon government and VGFN to strive “to maintain the integrity of the area as one ecological unit” (Chapter 10, Schedule A, section 3.1.1).

Solution Keep track of rate of change.

Monitoring the rate of climate change on the Flats is essential to managing this area for the future because the status of all life there will be strongly influenced by this. It would be fruitless to keep track of fish and wildlife and not be able to understand whether changes in their status were a natural consequence of the Flats drying out and vegetation changing or whether it is something humans are locally causing and can be altered.

Save important lakes.

Some lakes may be subject to natural drying out but their importance to the people of Old Crow is so great that the community would like these to be saved.

Keep Old Crow Flats ecosystem healthy.

Right now the whole area may be considered as a healthy ecosystem. It is therefore important to document what the system consists of if its health is to be maintained.

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Actions

Responsible parties, Time line

CWS/VGFN

PC

2001/02

Look into climate monitoring (permafrost study).

Since the role of permafrost is so basic to the water regime of the Flats it may be best to keep track of permafrost there. Such work is being done in the Mackenzie Delta. Parks is considering what aspect of climate change should be tracked and, in the interests of cooperation and coordination, there should be joint discussions with the partners about this. [2001-NY-AI-6]

CWS

2001/02

Continue satellite study of Old Crow Flats.

Satellite imagery of the Flats is an ongoing program and contributes greatly to the understanding of what is happening out there with respect to changes in the lakes and vegetation. Periodic presentations of this information would be appreciated. [2001-NY-AI-7]

VGFN

2001/02

Check dam at Drown Lake.

This is a lake of particular importance to the community and steps were taken to protect it with a dam. The effectiveness of the dam needs to be re-evaluated. [2001-NY-AI-8]

NYRRC

VGFN

2003/04

Produce an "Old Crow Flats status" statement.

The Flats is presently considered to be a healthy ecosystem. If this is to be maintained or to naturally evolve, it is necessary to establish now, what the major ecosystem components are plus how they function and interrelate for reference as a baseline for comparison and actions. [2001-NY-AI-9]