

PARLBY CREEK - BUFFALO LAKE WATER MANAGEMENT PROJECT

ISSUE NO. 4

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PHASE V - BUFFALO LAKE STABILIZATION COMPONENT

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BUFFALO LAKE LEVEL STABILIZATION ZONE

While the Environmental Impact Assessment (EIA) was under preparation and review, many comments or questions about the proposed lake level stabilization zone were received. We were asked how the zone was derived. Some believed the zone was too wide. Others expressed concern that it may be too narrow. Concern was also expressed about the potential negative impacts of lake levels at the higher end of the zone on waterfowl habitat, recreational facilities, agricultural activities and roads.

The proposed zone of 780.5 to 781.0 meters above sea level (ASL) was derived through a public consultation process carried out in the early 1980's.

Mean monthly water levels for Buffalo Lake from 1965 to mid 1991 are shown in the graph on the back of this page.

Water levels have fluctuated by up to 2 meters over this time period. Hydrologists estimate that the water level fluctuated over twice this

amount, almost 4 meters, since the early 1900's. Note that the proposed stabilization zone is within the natural range of fluctuations for Buffalo Lake.

The objective of lake stabilization is to reduce or minimize the amount of time that lake levels are above or below the selected zone. This will be done by regulating the flow of water from the Red Deer River through the conveyance route to Buffalo Lake and by operating the outlet structure on Tail Creek.

Why is the stabilization zone so broad? There are two reasons:

1. It would be very difficult, if not impossible to control lake levels to a range of only a few centimetres. Not all sources of water coming into the lake can be controlled (for example, rainfall on the lake, runoff from surrounding lands and groundwater flow into the lake). In addition, a narrower stabilization zone would require a higher degree of automation of the pumping system from the Red Deer River. This would increase the capital and operating costs of Phase V.
2. Plants and animals inhabiting the shallow areas, and adjacent lands have adapted to fluctuating water levels. A wide stabilization zone will create conditions necessary for the survival of these organisms.

It is possible to operate the diversion system in a manner that minimizes the likelihood of lake levels being at the higher or lower end of the stabilization zone. This can be done by varying the guidelines for turning the diversion pumps on and off. In the EIA, three operational scenarios were examined:

Scenario	PUMPS ON WHEN BUFFALO LAKE AT ELEVATION (W.S.C.)	PUMPS OFF WHEN BUFFALO LAKE AT ELEVATION (W.S.C.)
1	780.50 m	780.65 m
2	780.60 m	780.75 m
3	780.70 m	780.85 m

(* W.S.C. - Water Survey of Canada)

Hydrologists estimate that lake levels would be at the higher end of the stabilization zone (at or above 780.9 meters), approximately 15, 20 and 30% of the time for scenarios 1, 2 and 3, above, respectively. Lake levels would be at the lower end of the zone (at or below 780.7 meters) approximately 50, 40, and 10% for scenarios 1, 2 and 3, above, respectively.

The preferred option from a water quantity perspective is scenario 2, since the lake level will not likely decline below the minimum level of the proposed stabilization zone. Water levels will likely fall below the minimum stabilization zone under scenario 1, while outflow to Tail Creek will likely be higher with Scenario 3.

Before the operational guidelines can be fine-tuned, the operators need a few years experience operating the Buffalo Lake stabilization works. We also need your

continued input!

BUFFALO LAKE MANAGEMENT TEAM

On August 6, 1991, the Honourable Ralph Klein, Minister of the Environment, announced the establishment of the Buffalo Lake Management Team. The management team was a key recommendation of the EIA Review Board.

Nine individuals with varied backgrounds and extensive knowledge of local issues and concerns were appointed to the Buffalo Lake Management Team. The team members appointed are:

Angus Braseth (Chairman)

Angus Braseth was born and raised on the north side of Buffalo Lake. He has been farming in this area all his life. He also works with the Indian Agricultural Lending Corporation and has been involved with the Elks Lodge Community Organization for 30 years. Mr. Braseth is past President of the Agricultural Society in Bashaw and past President of the Recreation Board in Bashaw.

Neil Miller

Neil Miller has been a district agriculturalist with Alberta Agriculture for over 31 years. He has been in the Lacombe area since 1969 and has been associated with this project since his arrival. He is particularly interested in aspects relating to multi-use of low lands.

Francis Sargeant

Mrs. Sargeant is actively involved on the family farm and has been interested in this project since the early 1950's.

Roy Willard

Roy Willard is President of the Pelican Point Community Association and owns Willard's General Store. Mr. Willard has had a summer cottage in Bashaw since 1980 and has been living in the area on a permanent basis since summer 1990.

Linda Walton

Mrs. Walton is a Councillor for the County of Lacombe and has held her position since 1986. Linda is particularly concerned with the activities of the farming community and tries to ensure that issues affecting the farmers are looked after. She is actively involved with the Red Deer Regional Planning Commission and is interested in land use issues and the effects it has on the farming community. Mrs. Walton is a mother of two grown children and takes pride in working on the family farm. Mrs. Walton raises dairy and limousine cattle and has been a resident of this area for 25 years.

John Lund

John Lund is a retired farmer and has lived around the lake most of his life. He has been living in Alix for about 3 years and previously resided in Bashaw. Mr. Lund now assists in running Senior Citizen's Programs involving home renovations.

Adrianne van Nieu Kirk

Adrianne van Nieu Kirk is serving his 4th year on the Village of Mirror's Council. As Mayor of the Village of Mirror he has concern's about Mirror's water supply and consequently has been actively involved in the Project.

Karl Grollmuss

Karl Grollmuss is known to be a "very energetic" person and does a good job, in whatever he is involved in. He was an electronics teacher at SAIT for many years and is now involved with electronics in the private sector. He spends a lot of time at his home in Rochon Sands.

Ray Kerber

Ray Kerber is the Regional Administrator, Water Resources Administration for the Red Deer River region. Mr. Kerber has been with Alberta Environment for 11 years working in the water management area.

The Buffalo Lake Management Team will be responsible for providing advice to Alberta Environment on the following:

- o implementation of the construction phase of the project;
- o development of an operational plan to reflect the multiple-use nature of the project;
- o the type and timing of mitigation measures;
- o on-going monitoring;
- o planning to respond to unpredicted events;
- o establishment of a land use, surface water-shoreline plan to optimize the natural resource use, reduce potential conflicts and ensure adequate public access.

HISTORICAL RESOURCES IMPACT ASSESSMENT

Alberta Environment (the proponent) has hired Rebecca Balcolm, an archaeologist, of Environmental Management Associates (EMA)

to undertake the historical resources investigation.

Rebecca began her fieldwork in the Buffalo Lake area at the beginning of September, 1991.

HOW TO KEEP IN TOUCH

Establishment of a project office in the Village of Alix is underway. The office will contain space for project displays, Buffalo Lake Management Team meetings and construction management staff.

If you have any suggestions, questions or concerns, please call or write to the Buffalo Lake Management Team or the Project Manager of Phase V of the Project. Names, addresses and telephone numbers are on the back of this sheet.

BUFFALO LAKE MANAGEMENT TEAM

Angus Braseth, (Chairman) Box 208, Bashaw, Alberta, T0B 0H0, 372-3662.

Neil Miller, Alberta Agriculture, Bag Service #47, Lacombe, Alberta, T0C 1S0, 782-3301.

Francis Sargeant, Box 208, Mirror, Alberta, T0B 3C0, 788-3785 or 788-3087.

Roy Willard, Box 28, Bashaw, Alberta, T0B 0H0, 372-2115.

Linda Walton, RR1, Tees, Alberta, T0C 2N0, 788-2211.

Adrienne van Nieu Kirk, Mayor, Village of Mirror, Box 117, Mirror, Alberta, T0B 3C0, Village: 788-3011 or Home: 788-3077.

Karl Grollmuss, 8003 Huntington Street N.E., Calgary, Alberta, T5K 5B8, 275-7762.

John Lund, Box 34, Alix, Alberta, T0C 0B0, 747-2438.

Ray Kerber, Water Resources Regional Administrator, Alberta Environment, 3rd Floor, Provincial Building, 4920 - 51 Street, Red Deer, Alberta, T4N 6K8, 340-5310.

-or-

PROJECT MANAGER - PHASE V

Cas Lukay, Project Manager, Phase V - Parly Creek - Buffalo Lake Water Management Project, Alberta Environment, 8th Floor, 9820 - 106 Street Edmonton, Alberta, T5K 2J6, 427-6140.