

NEWMAN LAKE EQUIPMENT AND LAKE LEVEL OPERATIONAL PARAMETERS

LAKE LEVEL MANAGEMENT

Follow the Policy and Procedures Manual, "Newman Lake Level – Goal Elevations" chart, for lake level adjustments:

- Minimize lake level changes when ice is on the lake to avoid dock damage;
- Start to bring the lake level up when Snotel snowpack depth measurements, in correlation with the HSPF Runoff Forecast Model Tables (in the Policy and Procedures Manual, Appendix E-3), indicate that the necessary snowpack depth remains in the watershed to adequately fill the lake;
- In the absence of on-the-ground snowpack depth measurements, utilize National Weather Forecast Predictions, again, in correlation with the HSPF Runoff Forecast Model Tables (in the Policy and Procedures Manual), to determine when to begin bringing the lake elevation up; and,
- Start to bring the lake level up earlier than the Goal Elevation chart when it appears that snowmelt runoff and/or forecasted precipitation indicates that it may be difficult to reach peak lake level (per Goal Elevation chart) by June 1.

ALUM SYSTEM OPERATION

- Ice is off the lake, but may be present in some of the bays. Outlet gate management to include only opening the gates to 1 foot each, or less, while alum is being injected into the lake (excluding during a flooding emergency), provided that it does not cause violation of LAKE LEVEL MANAGEMENT section above (i.e. not prematurely filling the lake).
- Forecasted overnight low temperature is predicted to stay above 25°F for the following week;
- *Lake water temperature differential at mid-station, top to bottom (over a lake depth of approximately 10 meters), is near, or less than, 4°C; and,
- In the absence of current lake water temperature data, when ambient air temperature is below average (i.e. average being a daytime high of 55°F and an overnight low of 41°F), but ice off condition is met, alum system will be turned on typically by mid-April each year.

OXYGEN SYSTEM OPERATION

- Ice is off the lake;
- Lake water temperature differential at mid-station, top to bottom, exceeds 4°C (i.e. the lake shows evidence of stratification);
- *Dissolved Oxygen (DO) at mid-station, 1 meter from lake bottom, is below 7 ppm; and,
- System remains in operation until these conditions cease to exist (lake has begun to mix again).

DITCH/CHANNEL** OPERATION

- The ditch/channel should hold water as much as summer weather permits, taking into consideration, 1) the desire to keep dike (peat) material wet, 2) irrigation needs are considered, and, 3) timing of release through the roll/channel considers the potential for mosquitoes; understanding, however, that the area west of the maintained east and west sumps is specifically delineated for flood control of the lake.

*If volunteer community members can take data samples, as noted below, then the data readings will be incorporated into the decision-making process for equipment management. Data samples shall be taken, at a minimum, at the mid-lake station, one meter below the surface and one meter above the bottom (over a lake depth of 10 meters), for temperature and DO as follows:

- Early April to end of April or until temp differential is 4°C or more; and,
- Mid-August to end August or until temp difference is 4°C or less or DO exceeds 6 ppm.

**Ditch/channel area, that water is contained / controlled within, is defined as the area between the outlet gate at the southeast end of the lake, and roll gate, which is east of Starr Rd and roughly in line with West Newman Lake Drive (extended to the east).

Typical expected operational dates:

ALUM

ON mid-April

OFF mid- to end of May

ON mid- to end of August

OFF mid- to end of September

OXYGEN

ON mid- to end of May

OFF mid- to end of August