

0002

SUGGESTED WATER LEVEL CONTROL
FOR
THE WINNESAGO POOL

1. Reduce water levels to spillway level by December 31st to reduce the amount of ice forming in the marshes.
2. Gradually draw down in February to a low in March to make room for spring run-off. Gradual reduction in February would have a minimal impact on ice fishing—if this is a factor to be considered.
3. The low in March should be below 1.0 ft in order to provide sufficient storage for spring flows. Water level rises in April due to spring run-off can then be tapered off to allow submergent vegetation to start growing earlier before peak water levels are attained. This is based on the assumption that light is a limiting factor in deep water which prevents vegetation growths from starting. Once the vegetation has started growing and if the water level rise is gradual, vegetation growth will keep pace with it.
4. Water levels should be up to spillway level by April 10th rather than April 1st. This would be a compromise, assuming spillway level by April 1st is still desirable from the fishery stand-point.
5. Water levels close to spillway level in April will reduce the detrimental effects of ice action during the break-up period. Lifting action of large masses of ice in the bog area would therefore not be a factor during the break-up. Ice in the bog would be minimal and should quickly melt out since the black bottom soils, which would be partially exposed, would absorb solar heat and cause faster melting.
6. Gradual rises in water level during May to peak summer level in June will allow submergent vegetation growths to keep pace with water level increases. The latter part of April, May, and the first part of June is probably the most important period for plant growth. Sufficient light is essential if plants are to begin growth. Deep, turbid water does not provide conditions required for growth. If we can hold water low during the early period in April when plants are very short and just beginning to grow we may obtain a response which will result in increased areas of submergents. By the end of May plants are sufficiently tall so that deep water will no longer be an inhibiting factor.
7. After summer water levels peak in June there should be no further rise from June into August if desirable submergents are to have maximum fruit production. A long slow decline in water levels during this period would be desirable. Plants seem to set seeds better under conditions of declining water levels. Wild celery does not flower until the end of July. If the water should suddenly rise at this time celery plants might not be fertilized. Since flowers rise above the surface for pollination, if they were inundated pollination might not occur. Wild rice begins to erect the first part of July and any sudden rise in water levels during this period could tear the plants loose. By the end of August growth is more or less completed for all forms of vegetation and plants are going into senescence.
8. A rise in water levels in September and October brought about by fall

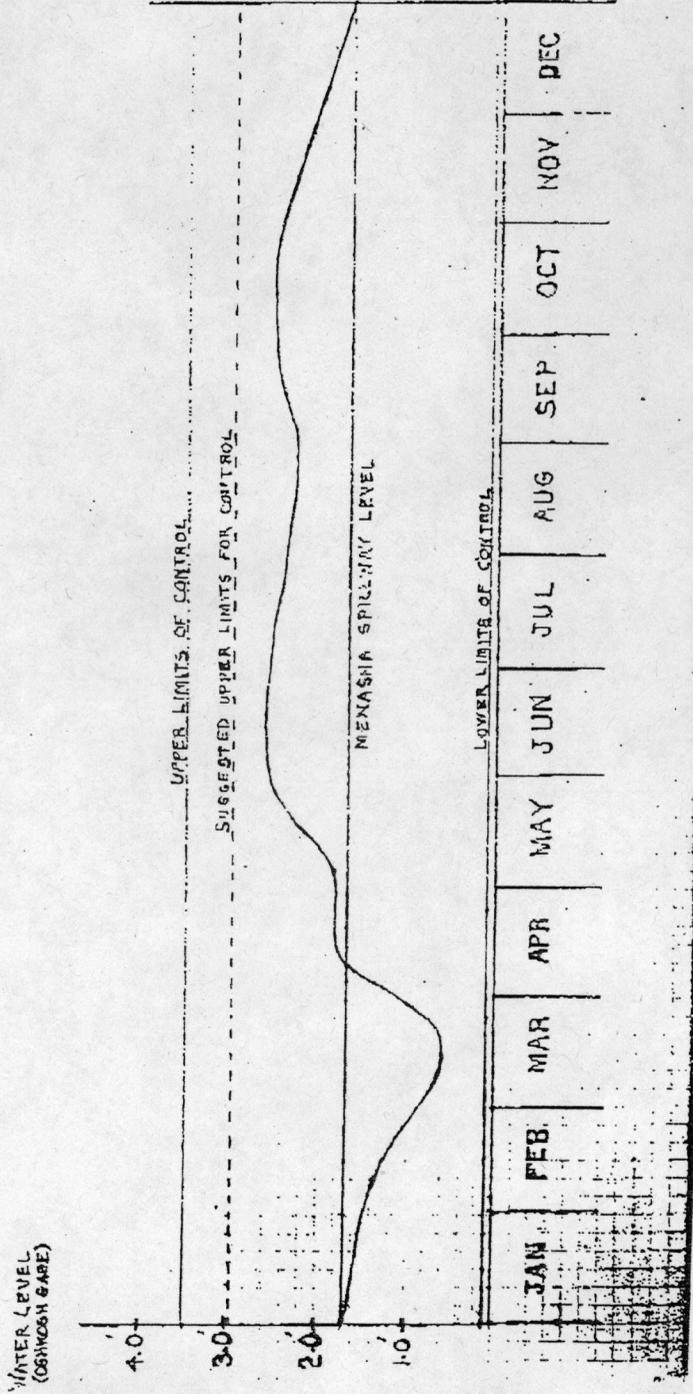
rains would provide better conditions for waterfowl hunting and boating.

9. Sudden or abrupt rises in water level should be avoided at all times because of its damaging effect on vegetation. Water levels should decline from the fall high beginning in the latter part of October or the first of November and be at spillway level by December 31st.

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SUGGESTED WATER LEVEL REGIME FOR
WINNEBAGO POOL



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