

BEFORE THE

PUBLIC SERVICE COMMISSION OF WISCONSIN

Application of Sawyer County for a
Finding and Determination of the
Problem of What Constitutes the
Normal Water Levels of Round and
Little Round Lakes in Sawyer County, }
2-WP-513

FINDING AND ORDER

On December 6, 1940 Sawyer County filed an application with the Commission requesting it to determine and find the normal water levels of Round and Little Round Lakes in Sawyer County and make such further finding or order as may be necessary for holding said lakes at such normal water elevations.

Upon receipt of said application the Commission fixed a time and place for a public hearing thereon, of which due notice by publication and mailing was given. The hearing was held at the court house in the city of Hayward on February 4, 1941 at 10 o'clock in the forenoon before Adolph Kanneberg, examiner.

Appearances:

Sawyer County by

- ✓ James H. Wilson, chairman, Sawyer County Board
Hayward
- ✓ Adolph Sandstrom, county clerk, Hayward
- ✓ Henry C. Brandt, chairman, county conservation
committee
- ✓ Carl Hanson, member, county conservation committee
- ✓ Arthur Goucher, member, county conservation
committee
- ✓ Ralph Steller, district attorney, Hayward

The following riparian proprietors on Round or Little Round Lakes appeared either in person, by agent, or by attorney:

- ✓ Lester MacDonald (in person)
- ✓ Clarence E. Wood (in person)
- ✓ James McSweeney (in person)
- ✓ Fred Paulson (in person)
- ✓ Rev. Kalaneyk (in person)
- ✓ J. C. Davis, personally, and as attorney for:
Mrs. Lillie Paulson
Mrs. Lewis Williams
John C. Herschfield
✓ Mrs. Agnes Frisch (in person)

Hildred Richardson (in person)
John E. Moreland (in person)
A. M. Ryerson, personally, and an agent for:
William Raschke, Oak Park, Illinois
Frank D. ensbler (in person)
Jack M. Franks, by
Fred Paulson
H. Ewig (in person)
O. F. Meier (in person)
James Ryan, by
James McSweeney, agent
C. J. Wood (in person)
Steven Kobsy, by
J. O. Moreland, agent
Miss Mable Morrow and Miss Beatrice Baxter, by
C. E. Weed, agent
Frank Hamblin (in person)
Jennie Kohn, by
J. C. Davis, attorney
B. J. Cressy (in person)
Ed. Wilkes (in person)
Mamie Gobler, by
H. Gobler, agent

Conservation Department, by

Col. A. H. Smith
Madison

Of the Commission Staff:

K. C. MacLeish
Senior assistant public service engineer

A petition requesting the Commission to fix a normal level not to exceed 76.6 feet was filed with the Commission. The petition was signed by Marie H. MacLean, et al. in The problem of determining and finding the normal elevations of Round and Little Round Lakes calls for the solution of another problem, namely, how the normal levels as determined and found by the Commission may be maintained, or, more specifically, how an abnormal rise in the water elevations can be prevented during abnormal floods or freshets or during successive wet years. This case is quite unusual in this, that whereas water can be released into Round Lake to compensate for losses by evaporation and seepage, Round Lake contains no outlets through which water may be discharged if and when abnormal rainfall and

runoff causes the lake to exceed its normal elevation. The necessity of providing an outlet and control works for Round Lake is so intimately connected with the finding of what the normal level is, that it would be impracticable to find and determine the normal level without also providing the means of maintaining such normal level.

Round Lake is rather well developed for resorts and summer homes and great damage would be caused if the lake should rise greatly above the normal elevation fixed by the Commission.

While we do not agree with the contention of the applicant that the normal level of Round Lake is at 79.00 feet, Public Service Commission datum, nor with the contention of a few riparians that the normal level of the lake is as low as 75.00 feet, we believe that the elevation which we find to be normal, as hereinafter provided, will not only be generally concurred in but will be almost universally approved, provided an outlet is provided which will enable Sawyer County to prevent the lake from rising above the normal elevation.

For a better understanding of the problems involved, it is deemed desirable to set forth a brief statement of the facts in this case.

On February 25, 1937, in docket 2-WP-255, the Commission authorized Sawyer County to construct a dam across the north fork of the Chief River in the southeast quarter of the southeast quarter of section 16, township 41 north, range 7 west, Sawyer County, for the purpose of creating a large pond for recreation, the restoration of lake levels, and to "eventually supply surplus water to raise Round Lake from its then low water stage to normal."

On February 3, 1937 Sawyer County requested permission to divert surplus water from the north fork of the Chief River to Round Lake for the purpose of restoring Round Lake to

its normal elevation. It was proposed to cause such diversion as soon as the dam authorized in docket 2-WP-255 was constructed. However, before such diversion could be accomplished, it was necessary to construct four diversion canals to connect the various lakes between the Tiger Cat pond and Round Lake, namely, Canal No. 1 from the Tiger Cat pond to Burns Lake; Diversion Canal No. 2 which would lead the water from Burns Lake to Placid Lake; Diversion Canal No. 3 which would conduct the water from Placid Lake to a natural depression or slough on lot 1, section 19, township 41 north, range 7 west; and Diversion Canal No. 4 to lead the water from the slough to Round Lake. A head spillway and control dam were constructed at the outlet of Diversion Canal No. 4 to regulate the amount of water to be diverted into Round Lake. A permit upon said application was issued to Sawyer County June 21, 1937.

Round Lake is a large navigable lake located in township 41 north, ranges 7 and 8 west, in Sawyer County. It embraces about 5 square miles.

Little Round Lake lies to the south of Round Lake. It was formerly a part of Round Lake. It is now separated from Round Lake by a low, swampy area several hundred feet wide. County trunkhighway B runs between the two lakes. The water level of Little Round Lake is somewhat lower than that of Round Lake. In 1914 an outlet stream flowed from Round Lake to Little Round Lake. County trunk highway B crosses this stream on a wooden bridge. The stream was of sufficient size to permit the floating of boats in the same. The bridge was later taken out and a solid fill put across the swampy area and in the channel itself.

About 1/2 mile southeast of Little Round Lake lies Squaw Lake. Squaw Lake is round in shape, having a diameter of somewhat less than 1/2 mile. Squaw Lake is located mainly in the northwest quarter of section 1, township 40 north, range

8 west. It has an outlet which flows into the Court Oreilles Lake, a tributary of the Chippewa River.

The evidence indicates that Round Lake formerly had an elevation of approximately 83 feet and that at this elevation a stream flowed from Round Lake to Little Round Lake, thence into Squaw Lake and thence into the Court Oreilles chain. Navigation seems to have been carried on from Round Lake to Lake Court Oreilles during the early history of the State. However that may be, a survey made during the summer of 1941 by Cecil Noyes, county surveyor, shows that Squaw Lake is about 2,600 feet distant from Round Lake by way of an old natural water course or depression. This is the water course that was later obstructed by a road fill. At the time of the survey, Squaw Lake was at elevation 74.8 feet; Little Round Lake was at elevation 75.05 feet, and Round Lake was at elevation 75.6 feet. The profile on the map prepared by Mr. Noyes shows that the ground surface along the natural depression rises on a fill at the old trail to elevation 82.36 feet. Except for this fill, the ground surface varies from 77.71 feet in a gradual slope to elevation 76.05 feet. According to Mr. Noyes it will require the removal of approximately 1,200 cubic feet of dirt to provide an outlet from Round Lake when the water in that lake is at elevation 77.00 feet. The problem of providing an outlet from Round Lake will be greatly facilitated with a water level in Round Lake at an elevation above 76.00 feet.

Sawyer County spent \$75,000 to build the Tiger Cat Dam and \$10,000 to construct the diversion canals. The diversion canals were completed in the fall of 1939. The gates in the dam (stop-log) were opened in September or October 1939. From a survey made in September 1935, it appears that Round

Lake was at elevation 72.76 feet. (WPA Report, March 1936, docket 2-WF-255) This low elevation followed a marked decline in rainfall for the years 1929 and 1930. The total for the 5-year period ending 1930 showed a precipitation 16.2 inches below normal. The years 1931, 1932, 1933, and 1934 all showed a pronounced decline in rainfall. The total for the 4-year period showed 17.6 inches below the normal rainfall. (See precipitation record attached.)

At the time of the hearing February 4, 1941, Round Lake had raised to elevation 76.60 feet. October 28, 1940 the gates in the control dam were closed. Round Lake was then at elevation 76.30 feet. November 10, 1940 Round Lake had dropped to 76.20 feet. On the same day the gates were opened and by November 15 the lake had risen to elevation 76.60 feet. The gates in the dam remained closed from November 10, 1940 until the inspection was made by the Commission May 13, 1941 when the water had an elevation of 77.00 feet, or 0.40 feet over its elevation on February 4, 1941. This rise occurred without any release from the Tiger Cat flowage. Round Lake continued to rise and on July 29, 1941 it reached an elevation of 77.9 feet on the staff gage attached to a concrete post in a small dredged bay at Kaiser's resort. The staff was set according to the datum of Public Service Commission bench mark No. 899A, consisting of a spike in a white pine tree on the Ewig property on the east shore of Round Lake, elevation 82.58 feet (Tiger Cat datum). It should be stated that until the staff gage was established sometime after May 13, 1941 all elevations herein were referred to the gage on Kaiser's bridge at the Kaiser resort, which was also set according to the datum of Public Service Commission bench mark No. 899A.

On the establishment of the staff gage on the concrete post the gage on Kaiser's bridge was abandoned.

On June 26, 1941 elevations were run by W. A. Muegge from bench mark No. 899A to the water's surface and from the water's

surface to the staff gage at Kaiser's resort. There was a strong inshore wind and the water surface at Kaiser's resort showed an elevation of 76.77 feet, while the staff gage across the lake registered the water surface at 76.50 feet. Thus, while the staff gage and the bench mark checked within less than 1/2 inch, we are of the opinion that on a calm day a lake level of 77 feet on the gage will be at an elevation of something lower than elevation 77.00 feet when referred to the Commission bench mark No. 899A.

The elevations in the order herein will be referred to the staff gage on the Kaiser resort property, and at a later time the exact difference in elevation between the gage and the bench mark will be determined.

The evidences concerning water elevations at Round Lake in the past may be summarized as follows:

Olaf Treland, chairman of the town of Round Lake, testified that in 1914 or 1915 there was a wooden bridge across the channel between Round and Little Round Lakes in Highway B and that you could go through the channel with boats, and that during high water the water ran through the swamp between Little Round and Squaw Lakes.

Sam Ahrenhiel testified that in 1913, 1914, and 1915 water was always running out of Little Round Lake through the big swamp, and that there was a ditch from Little Round Lake to Squaw Lake.

Reverend Clarence E. Weed testified that in 1921 and 1922 the water in Little Round Lake had an elevation of approximately 2 inches lower than the elevation on September 5, 1940, the latter elevation being 76.50 feet.

Frank Haublin testified that in 1935 or 1936 the lake reached an extreme low elevation and that he measured with a carpenter level and found that the water was 7 feet 6 inches from the high watermark; that the high watermark referred to was about 2½ feet above elevation 76.6 feet.

John E. Moreland testified that the water on the day of the hearing was 2 $\frac{1}{2}$ to 3 feet lower than it was when he built his boathouse on Round Lake 23 or 24 years previously.

Bert Whitten said that in 1913 the water was 2 or 3 feet higher than on the day of the hearing, and that in 1920 or 1921 the lake was higher than on the day of the hearing but not as high as in 1913.

O. F. Keier testified that he lived on the shore of the lake since 1909; that when he first settled there, there was no such thing as a bathing beach. "You stepped from the shore into 2 feet of water right away and about in 1913 I left there and was gone for 3 years, and during that time the water started to go down, but after 6 years it started to come back. In 1920 it was much higher than it was on the day of the hearing."

Fred Paulson purchased his property in 1927 and found the water level to be about the same at that time as on the day of the hearing. He said that it was about 1 $\frac{1}{2}$ feet higher in 1928. "There was no beach at all. It was about the same as now. When you raise the water now I have no beach at all."

J. C. Wood testified that the water was higher in 1919, and F. R. Nash testified that the water in 1913 was higher.

An examination of the shore of the lake made by the examiner on July 29 and 30, 1941 and reported to the Commission shows that the water elevation of Round Lake was at 76.9 feet on the staff gage at Kaiser's resort. All large trees of saw-log size were standing approximately 3 feet above the water surface. All trees 20 years old or older were standing at an elevation which would indicate that the water level on the day of the inspection was not above normal. The trees could thrive and reach maturity even though the water had been constantly at an elevation of 77.0 feet or higher. Perhaps this is best illustrated by trees along the flowage of the lot owned by Reverend Clarence E. Weed. A Norway pine about 16 inches in diameter stood on the shore at an

elevation of about 4 feet above the water. A white pine about 20 years old 18 feet from the water's edge grew on land approximately $2\frac{1}{2}$ feet above the elevation of the water. A white pine about 16 years old 12 feet from the water's edge was about 1.75 feet above the water. Another Norway pine 16 years old about 7 feet from the water's edge stood on land approximately 1.75 feet above the water surface. At other locations around the lake there were large trees 50 or 100 years old, all of which were approximately 3 feet or more above the water surface. The water level, as already stated, was at elevation 76.9 feet. The timber line along the shore indicated that the water level was normal rather than abnormally high.

Findings

THE COMMISSION FINDS:

1. That the normal elevation of Round and Little Round Lakes is at 77.0 feet, when referred to the staff gage at Kaiser's resort on Round Lake.
2. That the highway fill in County Trunk Highway B in the channel between Round and Little Round Lakes constitutes an illegal obstruction to navigation in the channel between Round and Little Round Lakes; that in order to afford reasonable navigation between the two lakes it will be necessary to construct a bridge in County Trunk Highway B over the outlet stream of a width of not less than 8 feet and an overhead clearance of not less than 3 feet, so that the bottom of the girders underneath the bridge will be not lower than elevation 80.00 feet.
3. That in order that the normal elevation of Round and Little Round Lakes may be maintained, it will be necessary to construct an outlet canal not less than 10 feet in width from Little Round Lake to Squaw Lake, the high point of which shall

be at an elevation of not more than 75.25 feet, and which should contain a control works to regulate the water levels of the lake.

Order

IT IS THEREFORE ORDERED:

1. That Sawyer County construct a bridge in County Trunk Highway B over the outlet in Round and Little Round Lakes of a width of not less than 8 feet and an overhead clearance of 3 feet above the normal elevation of the lakes.

2. That Sawyer County construct an outlet channel from Little Round Lake to Squaw Lake of the capacity to discharge 150 c.f.s., with a dam and control gates whereby the water level in Round and Little Round Lakes may be controlled.

3. That Sawyer County shall maintain Round and Little Round Lakes at the normal elevation of 77.00 feet at all times when a sufficient water supply exists and during freshets and heavy run-off to prevent the water levels from rising above elevation 77.25 feet. These elevations are referred to the staff gage at Kaiser's resort.

4. That the plans for the bridge in County Trunk Highway B and for the outlet canal from Little Round Lake to Squaw Lake, including the control works, be submitted to the Commission on or before December 1, 1941.

5. That the bridge in County Trunk Highway B, the outlet canal, and the control works therein be constructed and ready for operation by July 1, 1942.

IT IS FURTHER ORDERED:

That until the bridge and the canal and control works have been constructed and placed in operation that no

water shall be diverted from the Tiger Cat flowage into Round Lake when the water in Round and Little Round Lakes exceeds elevation 76.0 feet.

Dated at Madison, Wisconsin, this 29th day of September 1941.

PUBLIC SERVICE COMMISSION OF WISCONSIN

R. M. Peterson

Chairman

Robert A. Rippe

Commissioner

W. F. Whitney

Commissioner