

Lindenwood - Ravenel Lake - The Heart of the Highlands Biological Station

**By Bryding Adams
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Highlands Biological Station properties surround Lindenwood Lake, which was chosen in 1931 to be the best location for the laboratory at that time. The property around the lake had been divided into lots by T. Peden Anderson and surveyed by J. Q. Pierson completed on May 10, 1924. This is the story of the land, the lake and the people who secured it for the Laboratory.

Lindenwood Park History

The Ravenels, S. P. Sr. (1822-1902) and wife, Margaretta A., (1833-1912) obtained a grant from the state of North Carolina to build a toll road from Cashiers to the Shortoff community. The Cashiers toll road was constructed by their son, S. P. Jr. and completed in 1902, the year his father died. At this time S. P. Sr. and his wife owned 30,000 acres from Satulah to Sagee which most likely included Lindenwood Lake. Sunset Rock, located across from the Station, was donated to the Town of Highlands in 1914 by the Ravenel descendants in memory of their parents.

The Ravenels had been acquiring land in Highlands since 1886. In 1890 the Ravenels build a carriage road to the top of Satulah, owned by the Macon Land Company.

In 1893 the Ravenels decided to create a lake by building a dam to hold the water from the five creeks which still come into the lake.

On Oct. 9, 1895 the *Franklin Press* reported "Lindenwood Park has been much improved this year. Shrubbery and plants have been seen out on the border of the lake. Rare water lilies are blooming in pools made to receive them; and rare fish can be seen moving in the little ponds, so constructed as to be seen by the visitor. A boat house was built in a lovely nook, in which are floating when not in use, two pretty boats: one a lory, the other a keel or round bottom boat, built in Spring Lake, Michigan. Lindenwood Park is an enclosure of hundreds of acres, with winding paths, and hard and smooth roads to drive over, with grand and varied scenery. This beautiful park, through the generosity of the owner, S. P. (Samuel Prioleau) Ravenel, Jr. (1868-1940) is open to the public."

The newly elected, incorporated Board of Trustees of Highlands Museum and Biological Laboratory was already thinking about a laboratory at their first meeting on August 23, 1930- "it was decided that the most imperative need was a laboratory". And a letter of September 26, 1930 between Trustees, Clark Foreman and E. E. Reinke, gives us our introduction of T. Peden and Minnie Pearl Anderson and the land and lake they owned.

“I received a letter from Mrs. Anderson as to the possibility of our securing some land from them. As regards to this acre of land you would like to acquire for a site for a laboratory there is a possibility we can do something about it.”

Photo people on lake showing boat house.

People boating from postcard Shaffner 346

R. Henry Scadin Photo, “Lakeside Road in Lindenwood Park 1897-1898” UNC-A Page 91 Shaffner

R. Henry Scadin photo 1907-1908 Lindenwood Lake p 346 Shaffner

T. Peden Anderson’s Development of the Lindenwood Lake Property

Thomas Peden Anderson (1884-1935) probably purchased the property around Lindenwood Lake in early 1924. He was born in Westminster, Oconee County, S.C. and attended Davidson College. He was a banker and land developer and later served as business manager of Oglethorpe University in Atlanta. He moved to Florida in 1925. He was married to Minnie Pearl Hutchinson (1884-1964) on July 17, 1905 with whom he had 5 children.

S. P. Ravenel, Jr. and his wife, Helen Sewell Anderson, kept 1/3 interest for themselves and gave 2/3 interest in a spring on Lindenwood Lake to Anderson as written in a letter by Jones and Jones Attorney, Franklin, N.C. to Frank B. Cook on April 9, 1931.

T. Peden Anderson’s map of the Lindenwood Lake Property, Highlands, NC. was surveyed on May 10, 1924 by J. Q. (John Quincy) Pierson. From this map, individual properties were sold to many people, the names of whom follow listed in “The Lots”.

About 1930 a committee from the Board of Trustees of the Highlands Museum and Laboratory began to obtain donations to purchase the land around the lake. Lindenwood Lake, some five acres, was purchased on May 7, 1931. The cost was \$1,500 with a special gift \$1000 from Clark Williams of New York.

T. Peden Anderson’s Lindenwood Lake Property, Highlands, NC. Survey Completed May 10, 1924 J. Q. (John Quincy) Pierson

1937 Map of owners around the lake here

HBS Documents and Newspapers Stories relating to Purchasing first Property for the Laboratory and Lindenwood Lake

Clark Foreman, Dr. Ivey Lewis, Dr. E. E. Reinke and Dr. L. R. Hesler represented a group from the Board of Trustees looking for an appropriate, affordable property to build a Laboratory. Dr. Lewis felt strongly that should be on a lake because biological

experimentation requires water. They determined that Frank Potts' property on Lindenwood Lake was the best site. They began negotiations with Potts in early 1931 and by May were in the process of building the laboratory.

Frank Potts wrote to Clark Foreman on January 19, 1931 noting "that property owners around the lake have swimming & fishing privileges, otherwise we have control of the lake. For Lots 23 and 24 will make you a price of \$2500."

On April 8, 1931, *The Highlands Maconian* reported "Lindenwood lake property has been selected by officials of the Highlands Museum and Biological Laboratory for the site of the experiment station to be erected here within the next few months. Although actual transfer of the property has not yet been made, agreements have been reached which practically assure sale of the property for the site."

"Between 2 to 3 acres are being purchased from F. H. Potts and the building will be erected there. Title is also being secured for a narrow strip fringing practically the entire circumference of the lake, giving the station virtual control of the lake, which covers approximately seven acres."

On April 17, 1931 Albertina Staub, insurance and real estate broker in Highlands and secretary/treasurer for the Laboratory, wrote to E. E. Reinke:

"As soon as the deed of trust, signed by Dr. Lewis, is returned to me, we will consummate the purchase of the Lindenwood Lake property. Frank Potts has secured the peninsula and the quitclaim deed to the lake area and is buying back the two lots (23 and 24). These with the land between the dam, 6th Street, Lindenwood Drive and Calathea Street, have been incorporated in one deed from him to the (Station). It is very important that the Museum close this transaction with the least possible delay."

By June of 1931, Clark Foreman was writing to the Mayor of Highlands, William S. Davis, touting the notoriety that the Laboratory will be for Highlands and asking the City to furnish water and electricity. The City agreed to help.

The August 1931 Financial Statement for the Board of Trustees confirms this purchase.
Ravenel Lake - first payment to Frank Potts \$1250.
Expenses on purchase of Ravenel Lake \$191.75
Ravenel Lake - Second payment and interest, due April 1932 \$1325

Lindenwood Lake Name Change August 29, 1931

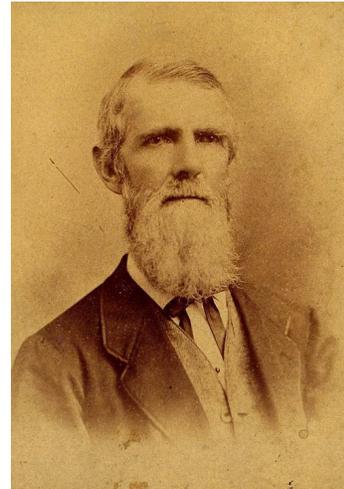
The Samuel T. Weman Memorial Laboratory was built between June and July of 1931 and dedicated on August 29, 1931. (See Notes From the Archives, December 2024). At the Annual Meeting of the Station, on August 19, 1931, Clark Foreman presented the motion that the name of the lake be changed from Lindenwood to Ravenel, "this being but a logical and proper recognition of the family by whom the lake was developed. Dr.

Reinke noted that the Ravenel name is also famous in the history of Southern biology. Reinke was referring to Henry William Ravenel, whose fondness of natural history had made him the leading nineteenth century expert on American fungi.

The Highlands Maconian reported on the name change on Sept 9, 1931, noting “Henry William Ravenel (1814-1887) was born in South Carolina. Self-taught, he devoted himself to botany with enthusiasm and success. He critically studied flowering plants, mosses, lichens, fungi, and algae and his knowledge of cryptograms flora of the Southern States was unsurpassed. He was Agricultural Editor of the *Charleston Weekly News and Courier* and botanist to the S. C. Department of Agriculture. Ravenel was best known for his *Fungi Caroliniani Exsiccati* in five volumes 1852-1856, each containing 100 meticulously prepared and labeled dried specimens of fungi found primarily in South Carolina.” With only 30 copies produced, the compendium was the first major effort to document the fungi of North America since the work of Lewis David von Schweinitz and formed the nucleus of what is now the National Fungus Collection. (Digitized versions of the volumes are available online.)

His name is also preserved as Raveneliaceae, rust, fungi, a genus of Uredinales and by many species of Cryptograms, and is one of the largest genera of the order *Pucciniales* with more than 323 species described and found worldwide.

Ravenel was ruined financially by the Civil War, but he continued his research and work to the end of his life.” The University of North Carolina gave him the degree of LL.D. in 1886.



The name of the lake was changed back to Lindenwood in 2005. There are no Board minutes that tell us why. But it is thought that the change was made to avoid confusion with Lake Osseoga, being named Lake Ravenel, at the Cullasaga Golf Club. The linden tree, *Tilia heterophylla*, basswood, grows naturally in Highlands, although not as abundant today.

The Dam

Soon after Lindenwood/Ravenel Lake was purchased by the Station there were problems with the dam.

The first on Dec 17, 1931, with a bill from Frank B. Cook, including: Labor bill on Lindenwood Lake Dam and saved bog totaling \$4.25. A letter of December 17 to Robert L. Foreman from Cook noted: “Heavy rains the first of this week threatened the dam causing two or three very bad looking leaks. It was a matter in which I did not have time to get advice from the authorities and took the “BULL” by the horns on my own initiative.” It was paid in full on Dec 21, 1931.

On November 20, 1936 a Mr. Pidgeon, Acting Regional Forester in Atlanta, inspected the dam and submitted a report which included narrative about the dam and a map of problems.

“The dam impounds a body of water containing approximately 3 acres. The dam is an earth dike and has a spillway through a natural rock spur. The main spillway is approximately 20 feet wide.

The earth dike is approximately 175 to 200 feet long with maximum height from 15 to 19 feet with log cribbing and earth. The crest of the dam is only from 1 1/2 to 2 feet above the water surface.”

Mr. Pidgeon determined that the log cribbing was failing. Main seepage at about 50 gallons a minute, “D” with washing at the downstream side at “E”. He suggested draining the lake to construct a clay blanket to provide imperviousness and stability and suggests constructing the dam higher.

Pidgeon Drawing of Lake and Report

It seems no action was taken on this problem until 1940 when in August the dam broke sending a wall of water down Mill Creek that washed out the bridge over Highway 26, the Cashiers Road.

On September 4, W. C. Coker wrote to Wm. Lippincott, Chairman of the Board, asking “to consider whether or not the dam is to be replaced and if so how it is to be constructed.” It gave Coker, Reinke, Frank Cook, Thelma Howell and Louis Edwards the power to act if the decision was made to replace the dam.

Coker wrote to Clark Foreman on September 30, 1940 that he had Duke Power come check dam and advise on replacing. Duke suggested replacing the planks on both sides of earth dam - 50 to 75 yards which would cost \$3000.

Then on October 8, 1940 Clark Foreman wrote to Coker that they wanted to replace the dam, but he needed Coker to raise money possibly from Illges and Harkey and R. L. Foreman. Clark still had to raise money to pay off the museum debt.

It was not until Feb 23, 1942 that Coker reported to Clark Foreman - Mr. Harkey, contractor for the dam, has completed about 70 percent and is asking for half of the contracted amount. Please send check made out to L. Riddle and Company for \$1,637.50 and send it to Mr. J. H. Harkey, Highlands.

The August 1942 Trustees meeting reported the dam had been restored - six inches higher than before - costing \$3,304.29, half of which Coker paid.

The minutes further reflect the erection of a gate to identify the property properly and discourage trespassers. The gate was designed by Museum Director, Tom Fitz Patrick, with a sign "Weyman Memorial Laboratory."

(See Photo)

Signs were made and placed at strategic points, prohibiting use.

(See Signs)

The Sept 3, 1942 issue of the *Franklin Press and the Highlands Maconian* reported that Dr. Coker said "the rebuilding of the dam near the laboratory, which has brought back beautiful Lake Ravenel to its original state, was made possible through gifts by friends of the laboratory. The lake is not merely another one of Highland's beauty spots, but is an experimental site for the study of aquatic life. A handsome, new entrance gateway has been erected at the north end of the dam."

In August of 1988 as noted in *The Highlander*, Dr. Richard C. Bruce, Director of HBS, revealed concern about "a small leak in the dam which might reduce the lake water and flood nearby property." A dam inspector was summoned and said the leak was from a drainage pipe which had opened. They further determined that the dam was not in danger of washing away, but a repair would have to be made in the future.

Nine years later in 1997, the replacement of the dam became a reality. In the HBS Annual Report by Bruce reported "in the late fall of 1997, Lake Ravenel dam was replaced, necessitating draining of the lake." The tall rhododendrons around the dam and down the dam wall were all removed and the dam was built to Federal regulations.

(See photos.)

(See story by James Costa, Director, on recent activity at the dam.)

Lake Maintenance, Supervision and Usage

On Aug. 10, 1942, the Trustees agreed to stock Lake Ravenel with brook trout provided adjacent property owners cooperate with the following fishing regulations:

1. A Lake Supervisor be appointed.
2. The Supervisor determines the number of fishing days and creel limit.
3. The following shall be eligible for fishing. Founders, Patrons, Life Members, Trustees, Annual Members, Property Owners and persons on scholarship at the Laboratory. The lake is being patrolled throughout the year provided money is raised for the patrolman. Property owners will be approached about contributing to necessary dam and lake supervision.

By June of 1944 Thelma Howell, Summer Director of HBS, had become Supervisor of Ravenel Lake and issued to all eligible fisherman the following:

“In cooperation with the State of North Carolina Department of Conservation and Development and the Lab, a program for Biological improvement has been underway for some time. This was necessary in order to maintain research of a special kind at the Laboratory.”

By August of 1944, she gave this unhappy report at the Annual Meeting.

“Protection of the dam and lake is closely connected with the protection of the laboratory building and surrounding grounds. During the past winter hunters were responsible for breaking of window panes and vandalism, the removal of one of the bridges and defacing the entrance to the dam. All summer hikers have been a nuisance as they have wantonly cut or broken shrubbery and torn rocks from the dam.” A patrolman was recommended.

Catch Report of 1944

There were 47 fishing permits issued and the creel report is as follows:

288 fish 7-8.9 inches

12 fish 9-10.9 inches

2 fish 11-12.9 inches

Total weight 51 pounds, 7 ounces.

Does not include report from property owners who have not given information.

(Photo of Fishing Permits)

At the July 13, 1946 Trustees Meeting the use of the Lake for swimming was discussed resulting in no swimming due to the work being done by the scientists in the laboratory.

“Funds were expended for a new bridge over the auxiliary spillway under construction by Mr. Henry Wright. This bridge, built by the engineers that constructed the dam, was damaged on June 17, 1947, when 5 guest of Highlands Manor congregated in a small area to watch a tadpole. The span nearest the Laboratory gave way. (Thelma) Howell immediately had barricades placed and the carpenters said a defective sill had been used the engineers. Three of the casualties came by the Laboratory and expressed apologies for their lack of consideration in allowing 900 pounds to be assembled at one small area. I accepted their apologies and expressed our interest in their accident, and stated we were glad they were not hurt.”

The lake and dam required further maintenance as revealed by Howell, Resident Director, at the July 20, 1947 Buildings and Grounds Committee.

In 1948 the bridges and northeast end of the dam were crested. An early summer flood tested the spillway and dam and no damage was noted.

T. Peden Anderson's Lindenwood Lake Property, Highlands, NC. Survey Completed May 10, 1924 J. Q. (John Quincy) Pierson

(1924 map/survey of lake here.)

(1937 Map of owners around the lake here)

The Lots

The detailed ownership of the lots around the lake is given not only to show the long and complicated work done to acquire the properties, but also the devotion to the project, particularly by the W. C. Coker, Frank C. Cook and the Foreman family. (The Property Titles were derived as accurately as possible by reading deeds and historical documents. The author is not a Title Attorney. Corrections to this listing are welcomed.)

Lots 1, 2, 3 Not HBS

Lot 4

T. Peden Anderson to
1/27/1925 Town of Highlands for a park to
8/10/1961 HBS for Botanical Garden, 99 year lease

Lot 5 Not HBS

Lots 6, 7, 8, 9, 10, 11 Location of Nature Center

T. Peden and Pearl H. Anderson to
9/1/1925 Julius E. E. and Susie M. Berndt to
12/15/1936 HBS for \$1000

On March 13, 1934, Albertina Staub wrote to E. E. Reinke -

"Mr. Berndt has authorized me to sell his Ravenel Lake lots at a more moderate price than they have ever before been offered. On account of the bathing, boating and fishing rights in the Lake, I did not offer to "outsiders" until those interested in the biological value of the lake had had a chance, so I wrote to Clark Foreman and Dr. Coker."

Clark Foreman offered to buy Lots 6, 7, 8, 9, 10, 11, all owned by Berndt, in the interest of the laboratory. Funds were raised from 10 people totaling \$1050 to reimburse Foreman.

Photo of List of Contributors

Lot 12 Not HBS

Lot 13, 14 Effie Park Tract

6/3/1924 T. Peden Anderson to Robert L. Foreman to
Clark and Mairi Foreman

May 21, 1962 Clark and Mairi Foreman to HBS
In memory of Clark Foreman's mother, Effie Park Howell Foreman (1870-1943)
"to be preserved in natural state"

Lots 15 - 17 Lower Lake Road Side of Lake

All sold to HBS for \$1.00

Samuel P. and Marguerite A. Ravenel to Eleanor D. Speer
8/5/1919 Speer to Robert L. Foreman

Lot 15

T. Peden Anderson to
6/3/1924 Robert L. Foreman to
Joan Foreman Klakow (1938 -) and husband, Dietrich Krakow - Berlin, Germany (Clark
Foreman's daughter) to
5/24/1962 HBS

Lot 16

T. Peden Anderson to
6/3/1924 Robert L. Forman to
2/26/1953 Shelagh Alexandra Foreman Wolf (1935-) Dr. David E. Wolf (Clark
Foreman's daughter) to
5/24/1962 HBS

Lot 17

T. Peden Anderson to
6/3/1924 Robert L. Foreman to
Clark and Mairi Foreman to
5/21/1962 HBS

"Trustees in June, 1962 recorded as being grateful to Mr. R. L. Foreman, Jr. and Mr.
Clark Foreman for their quiet and forceful negotiations in aiding the Station for Lots 13-
17."

Lot 18 Not HBS Property

Lot 19

7/15/1961 Robert and Rosalie Mason White of Malibu, Ca, gave his mother's lot, (Mrs.
Pacidia White of Thomasville, Ga.) to HBS

Lot 20 Not HBS

Lot 21

Became Part of Pierson/Valentine Property
7/2/1975 James P. Valentine (son) sold to
6/26/1981, HBS (State of North Carolina)

Lot 22

Fred D. and Lillian P. Alexander to
9/3/1937 W. C. and Louise V. Coker, gift to
10/22/1937 HBS

Lots 23 and 24 and Dam, Lake, and Lake Edge

T. Peden Anderson to Frank Potts to
4/10/1931 HBS

Lots 25 to 39

Not on Anderson's Survey.

Lot 40 Not HBS**Lot 41 Not HBS****Lot 42 Illges Property**

4/1/1920 S. P. and F. L. Ravenel to Jennette G. White and Rebecca S. White
4/2/1924 Whites sold to T. Peden and Pearl H. Anderson
9/1/1925 Anderson sold to Julius E. E. and Susie M. Berndt
4/12/1926 Berndts sold to James R. and Mamie A. Sullivan
10/6/1932 Sullivans sold to Ruth Hull Lummus
12/28/1937 Lummus sold to John P. Illges
11/21/1950 Illges gave 3/5 to HBS and 2/5 to the Highlands Community Hospital
1/19/1956 HBS agreed to pay \$3,600 to buy the Hospital share of the property. The bill was paid in full on May 31, 1958.

Lot 43 Not HBS**Lot 44 NOT HBS****Lot 45 NOT HBS****Lot 46 NOT HBS****Lots 47 and 48**

T. Peden Anderson to
8/8/1931 W. C. and Louise V. Coker

Part of Lot 48 became the Coker Rhododendron Trail

Part of property of T. Peden Anderson to
8/8/1931 W. C. and Louise V. Coker to
6/14/1954 HBS

In 1975 a new trail on east and north sides of Lake was created, linking the Botanical Garden with Rhododendron Trail.

Lot 49 Not HBS

Today the Complete Property of the Highlands Biological Station, Inc.

On 2/11/1976 all of the Station property, approximately 16 acres, was transferred to the State of North Carolina in 1976, now under the auspices of Western Carolina University. In 1981 one of the final pieces of property on Horse Cove Road next to the Nature Center was sold to HBS.

Gift of Valentine House Property which included Lot 21 with a Photo Studio

1881 E. E. Ewing to
12/1936 S. Porter Pierson to
5/14/1945 J. Manson Valentine to
7/2/1975 James P. Valentine (son) sold to
6/26/1981, HBS (State of North Carolina)

Photos

“View of Village of Highlands from Biscuit Rock” 1883 - 1885
R. Henry Scadin
Earle Young Collection via David Young

“Lakeside Road in Lindenwood Park 1897-1898”
R. Henry Scadin
Earle Young Collection via David Young
UNC-A
Page 91 Shaffner

“Lindenwood Park” c. 1910
R. Henry Scadin
HBS Photo
Gift of Mrs. W. W. Edwards
(Photo people on lake showing boat house.)

“Boating on Lake Lindenwood” c. 1910
R. Henry Scadin
Highlands Historical Society

“Lindenwood Lake” c. 1907
R. Henry Scadin
Postcard p 346 Shaffner

Lindenwood Lake
Gift of Porter S. Pierson dependent of John Q. Pierson (1881-1956)

December 1958 2021.019.0149

Lake with Weyman Building

Lindenwood Lake Road, stamped Scadin on back.
(Henry Scadin 1861-1923, came to Highlands to photograph area in 1883.)

Samuel T. Weyman Laboratory Sign on Lindenwood Lake spillway
Taken by Tom Fitz Patrick, Director of the Highlands Museum, 1942

View of Lindenwood Lake with Weyman and Coker Lab Buildings, August 1961

Lindenwood Lake drained for report of dam 1997

No Trespassing sign

Contributors to Brendt property

Lake Permission to Fish form

1937 Map of owners around the lake