Public Sewers – Where We Are Today

SEWER DISTRICTS AROUND CHAUTAUQUA LAKE

Legend
- South District (Shaded)
- Center District (Shaded)
- North District
- Chautauqua Utility District
- Private Districts
- Rt. 86 (Rt. 17) Southern Tier Expressway
- Chautauqua Lake

Note: Figure initially created by SCCLSD
## Basic Lake Sewer Districts Information

<table>
<thead>
<tr>
<th>DISTRICT</th>
<th>WWTP DATE</th>
<th>NO. USERS</th>
<th>OTHER INFO</th>
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<tbody>
<tr>
<td>NCLSD</td>
<td>1979 (2010 upgrade)</td>
<td>1300</td>
<td>11 pump stations</td>
</tr>
<tr>
<td>SCCLSD</td>
<td>1980 (some areas old)</td>
<td>5000</td>
<td>11 major pump sta. Grinders &amp; Vacuum 150 miles of line</td>
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<tr>
<td>CUD</td>
<td>1978 (est. 1934, ind. 1979)</td>
<td>1300</td>
<td>3 pump stations 10 miles of line</td>
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<tr>
<td>CHSD</td>
<td>1973</td>
<td>151 condos</td>
<td>Oper. By Tn. of Chaut. since 04</td>
</tr>
<tr>
<td></td>
<td></td>
<td>18 villas</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>+ golf club</td>
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There are an estimated 1000 lakeshore dwellings with individual septic systems.
Today’s Public Sewers – How We Got Here

Two Lakeshore House-to-House Studies by County

1. **1964 Survey**
   - Done by County Department of Planning
   - Cooperation by NYS Department of Health
     - (prior to county health dept. in 1965)
   - House-to-house around north end of lake
     - present NCCLSD plus adjacent areas
   - Preliminary info:
     - name of property owner
     - diagram of property from tax map
   - In-person interview at property:
     - sketched house location on map
     - water well, disposal system on map
     - put dye in toilet
     - observed for dye in lake, ditch, stream, etc.
   - Results reported to Planning Department & NYSDOH
Some Things Have Changed
On The Shoreline Since 1964

e.g. today’s  Camp Chautauqua used to be two youth camps, and before that it was Sylvan Park

**Sylvan Park, early 1900s**
Pictured here are passengers disembarking from a Chautauqua Traction Co. trolley car for a day of recreation at the park. In the background is one of the large groves of trees for which the park was named. Some of these trees are still standing today.
(Source: Randall L. Swanson)

**Camp Twa-Ne-Ko-Tah, circa 1930**
This photograph shows an overview of Camp Twa-Ne-Ko-Tah in its early years after Sylvan Park closed in 1926. Near the lake is the former trolley park pavilion that had been converted into the central camp activity building. There are many more trees on the property today.
(Source: Roger Anderson)
But Some Things Have Not Changed!

N. Harmony map courtesy of Town Supervisor Sally Carlson
Today’s Public Sewers – How We Got There

2. 1982 Survey

- Conducted by the County Health Dept.
- Covered Center Chautauqua Lake Sewer District plus east side of South District (Ellery, Ellicott)
- I had contract with county and hired 4 college students
- Used same methods as 1964 survey
- Received much publicity
1982 Survey Publicity - Before

Health Department To Test Sewer

By ROBERT DeMARZO

residential sewers in the South and
Chautauqua Lake Sewer Dis-
t will be tested this summer to
timate the extent of groundw
lake pollution. About 2,000 resi-
ces are hooked to septic systems
n the South and Center District
ect was stopped before it was
survey was approved last night
n Chautauqua County Health
e study will be conducted by the
Health Department’s environ-
mental services division, headed by
Steven Johnson. He told the board the
study will be completed by the end of
the summer and a report will be made
on the results in September.

Johnson, who is devising the study,
said he will hire about five summer
employees to conduct surveys of pri-
ivate homes in the lakeside sewer
districts’ communities.

William Parmenter, health board mem-
ber and county public works director, is
a proponent of construction of a public
sewage system in the two districts. He
strongly urged the Health Board to
agree to commission the study last
night at a meeting in Fredonia.

"People are not convinced of the
sewage problems. We are concerned
with the local ordinance (human waste)
entering the lake and the contamination
of ground water in areas with water
well supplies," Parmenter said during a
half-hour discussion concerning the sur-
vey.

"It would behoove the Health Board
to clean up the lower lake and protect
the ground water." Parmenter said, not-
ing the state and federal governments
are holding $10 million in grants for the
sewer districts.

Residents of the area defeated a plan
last July to increase the spending limit
in order to complete construction of a
public sewer system. Another referen-
dum is expected this fall.

The surveying team will attempt to
visit each home in the two sewer
districts to compile information about
the type of private sewer system each
home has and test for violations of the
public health codes. The Health Depart-
ment has already identified 44 homes
that were in violation of health codes,
and the owners have had to install
septic tanks.

Johnson admitted there are many
more violators in the two districts who
have not been identified.

Health Board members agreed that
the purpose of the survey is to demon-
strate the need for a public sewer
system in the South and Center Dis-
ticts by determining how many homes
discharge sewage directly into Chau-
tauqua Lake or into lagoons from which
it seeps into the ground water.

Many of the violations have not been
forced to comply with health codes by
installing a septic system up to this
time because of the pending public
sewer project. "My people are
solutions, and the
the sewage away
the low-lying area
system would
able," Johnson said.

The Health De-
ices with an art
prepared by Ma-
the sewer sys-
picted in July. It
has money in it
to pay for the surve

JCC Professor, 3 Students
To Study Residential Sewers

By ROBERT DeMARZO

MAYVILLE — A college professor
and three college students have been
hired by the Chautauqua County Health
Department to study residential sewers
in the South and Center Chautauqua
Lake Sewer District.

Steven Johnson, Health Department
environmental health services director,
told the Health Board last night that
Dr. Thomas Erlandson and three stu-
dents will do the study for $10,500.

Erlandson is an associate professor
of biology at Jamestown Community
College. He will be assisted by three
students who will be asking South and
Center Sewer District residents to allow
them to conduct water-and-dye toilet
tests. Results of the eight-week study
are expected by Sept. 1, Johnson said.

No Septic System, No
Permit, Owners Told

By ROBERT DeMARZO

MAYVILLE — The owners of a coffee-shop turned restaurant-nightclub in

Letters to the sewer district residents
will be mailed soon telling them that
the survey team will be in the area.
The letters also ask for the cooperation
of the residents in allowing the survey-
ors into their homes.

The professor and students will be
mapping out their strategy this coming
week and are expected to begin the
door-to-door survey during the first
week of July.

Plans to have interns within the
Health Department conduct the survey
were scrapped to ensure that the study
is performed by an independent group,
Johnson said.

"These surveyors will not have any
bias toward, the sewer system, and
their mission is not to identify violators
but to identify the sewer problems in

POST-JOURNAL, Jamestown, New York — Friday, May 20, 1982
**People Drinking Own Sewage**

By MATTHEW SPINA

MAYVILLE — Sixty-six of 146 private wells in the South and Center Chautauqua Lake Sewer Districts contain fecal coliforms and other types of bacteria making water from them unfit for human consumption, according to a study released today.

The study was conducted for the Chautauqua County Health Department this summer by an area biologist and four undergraduate science students. It includes other results, which, county officials say, demonstrate the need for completion of sewer projects in those districts.

"The study indicates that some septic systems are not working and that people are drinking their own sewage," said County Public Works Director William Parment, also a member of the county Health Board.

"My hope is that this will give credence to a collection sewer system to eliminate the presence of fecal coliforms in ground water." The researchers found:

- 106 dwellings are either directly or indirectly discharging sewage into Chautauqua Lake and several multiple dwelling sewage systems are inadequate.

- In some areas, drainage ditches and pipes leading to the lake are contaminated. All samples taken from 19 ditches and pipes were highly contaminated with total coliform and fecal coliform.

- All of 12 samples of groundwater from areas in Yukon, Belvue, Martha's Vineyard, Greenhurst and Sunny-side were found to be highly contaminated.

"As a biologist, I must conclude that the results of our study expose some very serious environmental health problems within the South and Center Chautauqua Lake Sewer Districts," Dr. Thomas Erlanson said in the report.

"It is not healthy to have 106 homes discharging sewage where people are exposed to it and disease-carrying insects and vermin can get at it," he said.

Erlanson compared the conditions to London and Venice during the Renaissance. But he said "at least they had the Thames and the tides to carry their sewage away."

In their study, Erlanson and the students conducted tests at 800 dwellings — 639 of 913 dwellings in the South District and 361 of 800 in the Center District.

To determine the flow of sewage, they added dye to toilet water and checked for its presence in bodies of water outside. To get at ground water, they dug 30 holes to depths of at least 32 inches. Only 12 of those holes, however, produced water sufficient for testing, the report said.

They were trying to determine the

66 Wells In Area Contaminated

**From Page 1**

adecuity of individual sewage systems, the source and purity of the water supply, ground water information and information about ditch and pipe drainage.

However, the study does not establish a firm link between residential sewage and the presence of fecal coliforms found in wells, ditches and groundwater, Erlanson said.

"It's easy to say that the contamination may come from the septic systems, but that would be a tough thing to prove," said Erlanson, who is a resident of the South District.

Even so, the study was interpreted today by county officials as an indication of inadequate septic systems in the area and concrete proof that some regional sewer system is needed.

"To me, the study is a pretty clear indicator that fecal coliforms are present because of inadequate septic systems," said Environmental Health Director Steven Johnson. "I don't think that there is any other feasible explanation."

Johnson said the presence of fecal coliforms in drinking water is serious, because such bacteria can transmit grave diseases. But he said the report will not stimulate a new search for septic system violators. The Environmental Health Unit of the county Health Department will wait for the Health Board to discuss the report at its meeting Sept. 23, he said.

Erlanson, a biology professor at Jamestown Community College was to unveil the report at a press conference today at JCC.

The sewer construction project has been put on hold since July 14, 1981 when an overwhelming majority of residents, frustrated by years of construction cost overruns, decided to stop the project. The residents voted down a referendum to again raise the cost of the project.

Since then, county officials and involved citizens have searched for sewage collection alternatives and how to best use $19 million in state and federal grants earmarked for a sewer project.

An ad-hoc committee of the County Legislature is reviewing a report by the engineering firm of Malcolm Pirnie as it prepares to recommend alternatives to the legislature.
THE POST-JOURNAL, Jamestown, New York—Thursday, September 16, 1982

Study Points Out Need For New Regional Sewage System

By MATTHEW SPINA

The study released yesterday on pollution problems in the South and Center Chautauqua Lake Sewer Districts again demonstrates the need for a regional sewage system in those areas. County Executive Joseph Gerace said today in his first public statement on the findings.

Gerace, who recently returned from a conference of the State Association of Counties at Greensburg, said he was not surprised by the report.

"If you go up in some areas, you can see the stuff right on the ground," he said.

The "stuff," is sewage seeping from 106 homes in the area into ditches, streams and Chautauqua Lake. Fecal coliforms, a term for sewage bacteria, has turned up in groundwater, pipes, drainage ditches and water wells. Researchers found that 66 of 148 private wells sampled contained fecal coliforms and other bacteria making water from them unfit for human consumption. Residents who tap water from those wells have been advised to boil it or use bottled water.

At a press conference yesterday, county Environmental Health Director Steven Johnson said fecal coliforms and other bacteria in water wells have been a source of disease for some time. But he said he is unsure of just how long the problem has existed or to what extent the public's health has been affected.

"It's safe to assume that people have become sick" with diseases that may have been transported through their contaminated water, he said.

At one time, many lake-side areas were inhabited only during the summer. But when those areas began to support year-round residents, sewage problems grew worse in areas such as Vukote, Shore Acres and Martha's Vineyard.

Those areas seem to have the most severe pollution problems, said biologist Dr. Thomas Erlanson, who, with four undergraduate science students, collected the data from 806 dwellings.

The study does not state the source of the contamination, but contaminated water and leaking septic systems seem to be more than coincidental, county officials said.

The sewer construction project was stopped July 14, 1981 when an overwhelming majority of residents in both districts, frustrated by years of construction cost overruns, decided to halt the project. They voted down a referendum to raise the costs of construction.

Since then, county officials and involved citizens have searched for sewage collection alternatives and how to best use $19 million in state and federal funds earmarked for a sewer project. A ad-hoc committee of the County Legislature is reviewing an engineer's report and is preparing alternative recommendations to the full legislature.

Board Of Health Urges Completion Of Sewers

By ANN E. WEIDMAN

MAYVILLE - The Chautauqua County Board of Health last night took steps to begin de-politicizing the South and Center Sewer districts.

Based upon state law and an environmental health study conducted this summer, the board established a strong policy signaling its intent to persuade residents of the districts, a legislative ad hoc committee and various municipal officials to support the Malcolm-Pirnie plan, "pay the referendum and resolve the problem permanently."

The strongest argument, as noted by new board member Dr. John Forbes, is the conclusion reached in an eight-week study this summer by Dr. Thomas Erlanson, professor of biology at Jamestown Community College, several undergraduate students and David Palmer and William Steenberg of Jamestown.

The report states: "As a biologist (Dr. Erlanson) must conclude that the results of our study expose some very serious environmental health problems within the South and Center Chautauqua Lake Sewer districts. It is not a healthy situation when 48 percent of the homes surveyed are supplied with contaminated drinking water. It is not healthy to have 106 homes discharging sewage where people are exposed to it, and where disease-carrying insects and vermin can get at it. It is not healthy to have ditches and pipes contaminated when one doesn't even know the source of contamination. It is not healthy to have entire neighborhoods living with contaminated ditches along the street and pipes discharging fecal bacteria into surface water. It is not healthy to have the very ground water contaminated with fecal bacteria so abundant that one cannot even count colonies in a culture plate."

Dr. Erlanson's conclusion added that "it is true that some sections of the two sewer districts are more environmentally healthy than others. Yet now, in the last quarter of the 20th century, there are those among us living with sanitary conditions reminiscent of medieval Europe. In fact, early London and Renaissance Venice were better off - at least they had the Thames and the tides to carry their sewage away."

"The question to be answered by district residents is this: do we accept these conditions, or do we try to change them?" the study asked.

With residents unhappy about projected costs of completing the sewer projects, Dr. Robert Berke, health commissioner, said last night that the county must also be concerned that, without sewers, sewage will be dumped into the lake.

Forbes responded, "What you're saying is that for the price, you're ending up with a dump. If there is evidence of gross pollution in the districts, the board of health has no choice but to take a non-politicized stand."

Berke said that what faces the board is how to present the case for health against the kind of vocal, loud groups that break up meetings. "We have to be prepared. This is a complicated issue."

Board member Henry Weiler Jr. added that the spadily or inertia which cause people to vote no must be overcome.

In other business, Berke reported on a program being used in the Jamestown primary schools to teach all aspects of good health habits and preventive medicine, including drug and alcohol abuse.

The health commissioner said the only obstacle to incorporating the program in all school curriculums is funding. The board asked that a representative of the Jamestown program attend a meeting to explain the program and its results.

Berke also reported that the state is about $250,000 in arrears for funded health programs, for which the county has already paid.
Sewage Problem Must Be Resolved

Results of a study of sewage flowing into Chautauqua Lake and of contaminated wells make it imperative that local officials and citizens push plans forward to finish a system that will serve a section of a regional sewer system or local treatment in the South and Center Chautauqua Lake Sewer Districts. The extent of pollution is so massive that there will be no cheap solution, but the longer the delay, the more expensive it will be.

Construction of a sewage collection system was stopped more than a year ago when residents refused to approve a cost increase. The resounding defeat of the proposal to increase the spending limit by $18 million so the system could be finished was understandable to the extent that the original $8.8 million cost ballooned to an estimated $45 million. Without resuming the long and sorry history of the project, it is suffice to say residents had had enough, and many felt they simply couldn’t afford the cost.

But the vote put an end to the much-needed cleanup of the sewage problem. Pipes that had already been put in the ground in some areas have not been hooked to the treatment plant at Celoron, and pumping stations already built have been mothballed. Study results announced last week show that pollution of the lake and of groundwater is as bad as ever. Of 146 weekly water tests, 69 of them are so loaded with fecal coliforms and other kinds of bacteria that it isn’t fit to drink. All 12 samples of groundwater taken from both sides of the lake were highly contaminated. Sewage from 106 dwellings and from several multifamily dwellings is running directly or indirectly into Chautauqua Lake.

It is high time the ad hoc committee appointed by the Chautauqua County Legislature met with its recommendations on alternatives. It has been more than two months since the engineering firm of Malcolm Pirnie released a report on a plan to finish all portions of the South and Center Sewer Districts and to rehabilitate some existing sewers for $21.3 million — that will put the total cost at $48.3 million. The plan includes using vacuum sewers in 92 percent of the district, and serving the remaining areas with grinder-pump systems and standard gravity sewers.

User fees in areas in the South District already hooked into the system would decrease from $206 to $162. A user fee of about $317 would be levied on residents in the South and Center District whose homes are not hooked in yet. Those South District residents are now paying $50 a year, and the Center District residents are paying $136.

Because of the costs, residents are likely to have a hard time swallowing any plan, but they will have to face the fact that the problem cannot be ignored forever. The longer completion of some sort of a sewer system is held up, the more expensive it will be.

Report On Contaminated Wells Spurs Officials To Resume Work On Chautauqua Lake Sewers

By JIM FOX

JAMESTOWN—The revelation here Wednesday afternoon that many private septic and water systems in the South and Center Chautauqua Lake Sewer Districts pose “a very serious environmental health problem” has spurred new efforts by county officials to get work restarted on those sewer systems.

At a press conference at Jamestown Community College here Wednesday afternoon, Dr. Thomas A. Erickson, a biologist on the faculty who was commissioned to survey the two districts, concluded that upwards of 44 percent of the private wells contain “water unfit for human consumption.”

County public works director William Parmenter said that the results of the survey “do not surprise me.”

He said that with $3.5 million in hand from settlement of the county’s suit against an engineering firm and the Environmental Facilities Corp., plus $1.5 million in federal funds, it now makes sense to make work on the sewer projects.

However, there must be a referendum to the question of whether or not to continue and this could prove a problem. Voters once before declined to sanction continuation of the work.

How much Dr. Erickson’s findings will be on the public’s consciousness could not be immediately determined.

In his press conference, Dr. Erickson noted that 1,713 occupied dwellings were to be checked in the two districts — which run roughly from Slow Baxus Point south to the borders of Jamestown. For various reasons, he said, only 809 of the dwellings could be served, or about 48 percent of the total.

The residences were checked for type and adequacy of individual sewage systems, source and purity of water supply, and ground water data and ditch and pipe drainage in the area.

“The most important health information,” he told reporters, “is the status of individual water supplies in the two districts.”

It was found, he said, that of 146 private wells surveyed, 69 were found to have “water unfit for human consumption — a contamination rate of 46.4 percent.”

Bacteria counts showed total coliform, fecal coliform and fecal streptococci organisms, all of them harmful to humans.

What it amounted to, Mr. Parmenter noted, was that the residents were “drinking their own sewage.”

Dye tests turned up the fact that 106 or 13.3 percent of the dwellings had inadequate sewage systems which resulted in violations of ecological standards and were dumping unacceptable levels of sewage into the lake, canals, ditches and streams.

In some areas of the districts, Dr. Erickson said, contaminated ditches and pipes were found but the dwelling or dwellings serving as a source of this contamination could not be found.

“The results are disturbing,” he said. “All of the samples taken from 19 such ditches and pipes were highly contaminated with total coliform, fecal coliform and fecal streptococci bacteria.”

He added, “The results of the survey are very disturbing.”

To obtain these samples, his team drilled 30 holes to depths of at least 32 inches. Of these, only 12 produced water sufficient for testing, but, he pointed out with concern, all 12 of these were highly contaminated with the three most common types of highly dangerous bacteria.

“As a biologist, I must conclude that the results of our study expose some very serious environmental health problems within the districts. It is not a healthy situation when 65 percent of the homes surveyed are supplied with contaminated drinking water.

It is not healthy to have 106 homes discharging sewage where people are exposed to it and disease-carrying insects and vermin can get at it.”

“It is true,” he conceded, “that some sections of the two districts are more environmentally healthy than others. Yet now, in the last quarter of the 20th Century, there are those among us living with sanitary conditions reminiscent of medieval Europe.”

He concluded, “The questions to be answered by residents of the districts is this: Do we accept these conditions, or do we try to change them?”

Presumably, this is the basic question on which the issue of continuing the sewer work or dropping it will be fought out between now and sometime early next year, when a referendum is likely to be held.
Lakeshore Lot Sizes re Well Contamination

N. Harmony map courtesy of Town Supervisor Sally Carlson
Introduction

During the summer of 1982 an environmental health study was conducted within the South and Center Chautauqua Lake Sewer Districts. The primary purpose of the study was to determine the state of environmental health within the two Sewer Districts. In order to accomplish this primary purpose, information about four major subjects of public health concern was obtained:

1. type and adequacy of individual dwelling sewage systems
2. source and purity of the dwelling water supplies
3. ground water purity
4. ditch and pipe drainage

In addition to fulfilling the primary purpose, the study also obtained information about subjects of secondary interest to the County Health Department, for example, the property use category and the history of the sewer system.

The survey type study was funded by Chautauqua County under the overall supervision of Steven Johnson of the Chautauqua County Health Department. The study team was led by Dr. Thomas Erlendson, professor of biology at Jamestown Community College, and included three full-time and one part-time undergraduate science students: Tetyana Eckstrand and Amy Lindquist from rural Chautauqua County, and David Palmer and William Steubing from Jamestown. The data-gathering phase of the study began June 20 and ended August 20. During that eight-week period the study team worked a total of 1261 hours and drove 4439 miles.

Methods and Materials

The study began with two days of "classroom" and field training for team members. Various types of individual home water supplies and sewage disposal systems were studied from diagrams and by actual on-site examinations. The techniques and results of dye testing were observed and practiced, the method of taking water samples was demonstrated, and the visual and olfactory evidence of surface discharge of sewage was observed. Gil House and Dean Temple of the County Health Department were instrumental in the training effort. An auto tour of the two Districts was taken to familiarize team members with the boundaries and byways of the study area. Team members were introduced to Health Department personnel and facilities in both Mayville and Jamestown, with particular emphasis on the laboratory where water samples would be analyzed.

Prior to going into the field for the actual interviews, certain basic information about each residence was required. From the County Tax Map Office and Computer Center we obtained a printout of all property owners paying "sewer taxes" within the two Districts, listed in numerical order according to
The Most Important Survey Findings

- Data here are for South District
- Note column headings
- Sewer violations range 0-41%
- Well contaminations range 0-100%
- 819/1713 contact success = 48%
- 66 of 148 sampled wells were contaminated = 44.6%
- 106 homes (13.3%) had sewage violations
- 19/19 ditches/pipes contaminated
- 12/12 GW samples contaminated

The Question Asked Then: Do we accept these conditions or do we try to change them?
The Question Asked Now: What conditions exist in the still-unsewered areas around Chautauqua Lake?
The Issues Are:

• Ecological Health of Chautauqua Lake
• Public Health in the Lake Watershed

impact on county economic health

Any Quick Questions?