



HAMLIN LAKE HANDBOOK

Hamlin Township
Mason County
Ludington, Michigan

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Sharing a Very Special Place

We are not the first to appreciate this special place. It has supplied previous visitors with sustenance and nourishment. This place has survived through periods of clear-cutting, mining of its soils, and resettlement by the latest group of visitors. It continues to offer a wide range of potentially competing activities and human adaptations. All who call this the "homestead" the "summer cottage" or the "campsite" appreciate what a special place it is.

As users we do alter the lake. Some ways facilitate better and more widespread use of the lake. The long-term splendor and health is threatened by some uses.

The future of Hamlin Lake depends on how well we share this special place. More than a few lakes and watersheds in our state have become little weed-choked ponds. No one set out with that as a goal, but it happened. On other lakes the residents must spend tens of thousands of dollars annually in order to remediate damages inflicted in order to enjoy their special place. On many lakes residents have adopted cooperative behaviors that will assure enjoyment by future generations.

A key to which outcome prevails appears to be well informed residents and users. To that end, this publication was developed as a group project by the Hamlin Lake Preservation Society to promote greater knowledge and understanding of lake issues. Many HLPS members contributed to this project. Special contributions are noted where appropriate. In addition the assistance of elected and appointed officials who reviewed the text for accuracy and completeness is acknowledged and appreciated.

We hope you will read and keep this as a resource. The book is presented in a manner that we hope will inspire the reader to be a positive contributing member of the Hamlin Lake watershed community. It offers some background and history. It outlines threats to our lake. It offers strategies for enhancing the value of your property and ways to contribute to the long-term viability of this very special place.

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Preface

Located near Lake Michigan on the west side of Michigan's Lower peninsula, Hamlin Lake has sustained and enhanced human activity for thousands of years, from the Paleo-Indian who, since the last Ice Age, hunted along its shores to modern folks who spend time fishing, boating, and swimming.

Because of two major factors:

1. The natural progression of lake succession (whereby lakes gradually "fill in"), and
2. The acceleration of that process due to the impact of human civilization – preserving and sustaining the lake will require wise and engaged stewardship by the local community in the years ahead.

Without such efforts, Hamlin Lake will become an impenetrable plant-infested bog.

It may come as a surprise, but there is no external institution formally charged with managing or "taking care of" Hamlin Lake. While people often assume that government agencies – such as the Michigan State Department of Environmental Quality (MDEQ) or The Department of Natural Resources (DNR) – are monitoring and managing such natural resources, that is simply not so. With over 11,000 inland Michigan lakes, the Great Lakes, and other pressing needs to address; our state government and agencies have almost no resources to support managing any single lake. So it is up to the local community to do that.

What is now available for you to enjoy at Hamlin Lake is due, in large measure, to the past efforts of neighborhood volunteers. Hopefully, this handbook will help you and others to sustain similar endeavors, thereby passing along this wonderful natural resource as our shared legacy to those who follow.

The Watershed

Hamlin Lake is part of the Big Sable Watershed which includes all the land areas that drain into Hamlin Lake. (We won't try to resolve the variations of spellings on maps of the area--Big Sandy, Sauble, and Big Sauble--but it makes its own interesting history.) The Big Sable Watershed extends east

into Lake County and includes several other tributaries to Hamlin Lake, e.g., Gurney Creek, Dennis Creek, Freeman Creek, and Black Bass Drain. About 90% of Hamlin Lake's water enters from the Big Sable River. The watershed has a total drainage area of 185.6 square miles, about 23 times larger than Hamlin Lake.

Hamlin Lake is in portions of Grant, Victory, and Hamlin Townships of Mason County. There are various reported measurements of its size. The total surface area exceeds 5000 acres. Upper Hamlin Lake is best described as a drowned-river valley with 1647 surface acres and a maximum depth of 34 feet. Lower Hamlin Lake is a dune-impounded lake of 3359 surface acres and a maximum depth of 79 feet.

Hamlin Lake has a combined perimeter of over 35 miles. The mean depth is 17.7 feet with 213 acres (<5%) exceeding a 50 foot depth. Hamlin Lake has a flushing rate of 0.6 years; that is, the water is theoretically exchanged 1.7 times per year. By agreement with the State of Michigan the lake level is lowered during the winter by two feet to ameliorate ice damage to the shore and structures. The mean elevation is 594 feet above sea level. The lake does not usually turn over (invert colder water to the surface) in any season. It has been classified as a mesotrophic lake or middle aged lake and is considered to have good water quality.

The Big Sable Watershed enters Lake Michigan at Ludington State Park and becomes part of the Great Lakes Watershed.

A New Name and a Series of Dams

The Europeans who visited the area in the 1600's recorded their travels using words, pictures, and maps. On the earliest maps of this area our lake is labeled Sauble Lake or Big Sauble Lake (from the French meaning sandy). Those maps served natives, explorers, traders, and trappers well until a need to mark farm settlements and lumber holdings became more significant. Maps of the last 150 years use either Lake Hamlin or Hamlin Lake. Since Mason County is rich in Civil War names--Lincoln River and Lincoln Lake, and Sheridan, Meade, Grant, and Victory townships, for example--it is logical to conclude that Hamlin Lake was named to honor Abraham Lincoln's first-term Vice President, Hannibal Hamlin.

The earliest lumbering operations in the Ludington area were on or near the rivers and the earliest export points for the timber were small piers or wharves built at the mouth of

rivers along the Lake Michigan coast. Impeding development at the mouth of the Sauble River was the fact that it was held by the U. S. Government as a future lighthouse site. From the lumbermen's view this was preventing development of their business. There were magnificent trees to harvest, and a river to float them, but no sawmill, and no port or loading facility and no good place to build one. So a coalition of lumbermen and shippers sought to have the federal government give up the claim to the mouth of The Sauble in order to construct a dam, sawmill, and wharf.

Hannibal Hamlin, an influential Senator from Maine, had oversight authority for the lighthouse construction program. A coalition of local lumber interests went to Washington and promised to name the resulting improved lake and the surrounding township for Senator Hamlin if he could expedite permission to build a dam, sawmill, and wharves on the federal lands at the mouth of the Sauble River. He did. The first dam was in place by late 1857, Sauble Lake was renamed Hamlin Lake and Hamlin Township was organized in 1859. A formal act of the Legislature made it official in 1861. Hamlin later served as Vice President from 1861 to 1865.

The written lake history from about 1860 to 1900 is a little murky and conflicting. There are documented accounts of two different dams; some claim there were three. But in any event all of them were of lumber and earth construction holding back between four and eight feet of water which in turn was used to provide mechanical power for a series of sawmills located in what is now Ludington State Park. Trees were floated down the Big Sandy River, penned in Lower Hamlin Lake, sawed to lumber below spillways on the Sauble River, loaded on barges and sailing ships at the Lake Michigan shore, and used for construction from Cleveland to Chicago. Small settlements existed in the immediate area during this period, but the city of Ludington, five miles to the south, became the center of government and commerce.

At least two dams washed out with considerable loss of life and property. When the white pine and black spruce disappeared or was too far away to use the Sauble as a pathway, there wasn't any use for the dams, the sawmills, or the wharves. By the late 1880's the mills were closing, the wharves began to wash away, and the last Dam was allowed to deteriorate.

As we entered into the early 1900's there was no dam on Hamlin Lake. It was a much smaller and shallower lake. In

comparing a plat map of Hamlin Township from 1904 with those of today there are some obvious contrasts: In 1904 there are perhaps only a hundred parcels in the entire Hamlin Township compared to the 3,500 or so listed today. In 1904 there were fewer than 20 different riparian owners on the entire lake. It is riparian ownership, not lumber, which foretold the next Hamlin Dam.

Imagine being a land owner of several hundred or even thousands of acres of land denuded of its forest. You've got sand dunes, gravel ridges, and a shallow lake. Tourists are starting to come to the area to avoid summer heat in the crowded cities of Chicago, Milwaukee, and St. Louis. You could sell off the land to those tourists except for one major problem. Most of the lake is really just a river bottom with the stumps and snags and mud flats left from the lumber operations. In many cases you have to traverse several hundred feet of bog to even reach the lake. A pristine lake with competing resort property was certainly more appealing.

In 1912 the next generation of businessmen came up with a successful plan. They sold shares for \$25 to raise money to construct another dam on the Sauble River. This dam would be of high quality and according to the engineers of the day "would be expected to withstand all nature's forces for fifty years or more." Government gets into the act when the Hamlin Township becomes the single largest stock holder in the venture. The dam was completed in 1913 which extended Hamlin Lake another three miles to the east. The North, Middle, and South Bayou became navigable. The area that became the Lost Lakes at the State Park was created. Most significantly twelve more feet of water now covered the mud flats and acres of stumps. This dam extended the river valley all the way back into Grant and Victory Townships was flooded. The water levels came all the way back to higher, buildable sites; no more crossing the bogs and fens to get to the lake was required. Twenty-five, forty, and fifty foot lots sold for as little as two dollars down. For almost two decades it was a roaring time on Hamlin Lake and an especially booming time for those land developers in the Hamlin Dam Association.

All this joy and prosperity was brought up short in the early 1930's by The Great Depression. The prime real estate had sold, but there sure wasn't much of anything selling by 1933. Stockholders of the Hamlin Dam Association didn't want to keep up with costly maintenance, so in 1934 the company dissolved and returned the \$25 share price to investors. The State of Michigan was consolidating tax-forfeited lumber lands

into the state park. In accepting the deed to the Hamlin Lake Dam the state assumed responsibility for maintaining the dam and regulating the summer and winter water levels. In 2007 federal and state grants funded a major rehabilitation and upgrade of the dam.

--- Kent Gage

Topography

Hamlin Lake is an artificial lake created by the backup of the Big Sable River by the Hamlin Lake Dam. The lake

1. covers 4,990 acres (20.2 km²),
2. has two distinct sections connected by the Narrows,
3. Lower Hamlin Lake is five miles long and 1.5 miles wide.
4. Upper Hamlin Lake is.

The lake is great for swimming during summer months as it is typically much warmer than Lake Michigan

Geological

About 10,000 BCE the glaciers that covered this area began to melt away. In that process they produced torrents of runoff water and loose sediment that created lakes in the deeper depressions. Slower streams and rivers carried finer sediment to the west. These soils allowed plants and eventually trees to establish new coverings on the land scraped clean by the glaciers. The prevailing winds and currents built and moved huge dunes of sand which would block easy access of Sable River waters to Lake Michigan. A long, narrow dune impounded lake (a smaller version of what we now call the Lower Lake) running north and south developed behind the dunes of the Lake Michigan shore. Most of the area east of The Narrows remained a river valley with a slow moving stream surrounded by many acres of marsh, bog, and swamp.

In these wetlands white cedar, spruce, maple, and ash thrived. Beech, maple, oak, and pine stands tended to claim the poorer, drier soils of the uplands. The balance that developed tended to be mutually beneficial. Runoff was slowed by the trees. The sediment of the glacial rivers was more readily trapped by vegetation which in turn provided a wider variety of plant life. This plant life acted as a giant filter to clean and purify the waters. The clean waters supported trout and a variety of other native fish.

Hamlin Lake Preservation Society

The Hamlin Lake Preservation Society (HLPS) is a non-profit organization that represents riparian owners and interested friends of Hamlin Lake.

Organizations of riparian owners have been around in one form or another since the 1930's. They were not known by the name 'Hamlin Lake Preservation Society', but by a variety of other lake association names. The name "Hamlin Lake Preservation Society" came to be in the 1980s. It was organized to be a nonprofit 501c3 organization. The prior name of HLPS, "Hamlin Lake Association", is now a political action organization with the purpose of protecting the lake and the surrounding environment when legal action is required. Today there are only the two organizations; "HLPS" and "HLA".

Activities

Social: One thing HLPS is known for is the fireworks display. Besides that, we also do some fun things like ice cream socials and annual dinner meetings with featured speakers. HLPS also sponsors sailboat races on Saturdays during the summer. To keep our membership informed we publish a newsletter 3 times a year named The Currents.

Educational: Originally the main purpose was to educate riparian owners on such things as:

1. The advantages to shorelines of rip-rap and natural borders next to the water's edge,
2. The disadvantages of planting lawns up to the water's edge which require fertilizers,
3. The necessary required maintenance of septic systems,
4. The nature and presence of invasive species of aquatic plants like Eurasian milfoil and marine life such as zebra mussels and what can be done about them
5. Nuisances such as swans and swimmers itch.

Scholarship Fund: HLPS offers a yearly \$1000.00 scholarship to anyone one in our area who is planning to major in environmental aquatic studies.

Today our purpose has changed to become more actively involved in maintaining and improving the quality of the lake.

Fish Quality:

HLPS has been actively working closely with the DNR to improve the fishing and also by supporting the Mason County Walleye Association.

Aquatic Studies

HLPS sponsors studies by West Shore Community College and environmental firms in conjunction with Hamlin Township in order to understand and control invasive species. Volunteers sample the lake multiple times during the summer measuring clarity, phosphorus, chlorophyll, e-Coli, oxygen, temperature, and zebra mussels. These results are shared with the Cooperative Lakes Monitoring Program. CLPMS then collects and publishes this data for comparison with many other lakes in Michigan.

Two major concerns on Hamlin Lake over the years have been weed growth and algae blooms in the lake. These problems have been evident and with the lake since the 1930s as many old reports show.

A result of global warming will increase lake temperatures in the summer which in turn will increase weed growth and algae blooms an example was the summer of 2012 where weed growth was very heavy and algae blooms were constant .

One bloom was analyzed to contain blue-green algae which can be toxic.

HLPS funds the testing using volunteers which take the samples. These samples are then tested by the state and other testing labs to monitor the quality of the water. Presently the overall the water quality is good to excellent, when compared with other lakes, but we are seeing a downward trend in the clarity and an upward trend in phosphorous. These are indicators that the lake is being stressed and that future weed growth and algae blooms are likely.

One method to combat this trend is to minimize the amount of nutrients entering the lake. HLPS is increasing the studies

being done on the lake so that a program can be developed to reverse the present trend.

Watchdog Activities

HLPS has also been active in programs such as:

1. Prevention of slant drilling under Hamlin Lake for oil and gas production.
2. Prevention of key-hole development from taking place on Hamlin Lake.
3. When there was a very immediate need to upgrade the Hamlin Lake Dam, HLPS was instrumental in getting the state to proceed with the necessary repairs.
4. HLPS also worked with the DNR to establish guidelines for raising and lowering the lake level each year.

Fracking is a concern on the horizon that needs to be watched closely.

--- Wayne Disegna

Hamlin Lake Association

Ethel and Nor Stephens, parents of Norval and John Stephens, and several other long-time seasonal owners and one or two year-round residents started the Hamlin Lake Association. The date was either late in the 70s or early 1980s. We have a memento in our cottage of an award the group gave my parents for starting the association.

The objective was the improvement of the lake and keeping it as beautiful and quiet as it was. The association lobbied to get Nurnberg Road serviced more often, to tackle the weed problem, to get some agreement on when the Lake went up and down, among others. My folks spent six months on Hamlin Lake save for the six weeks they went back to Chicago to let my brother and me and our families have three weeks apiece. So, I would hear of the meetings, but they were never when John and I were there.

In 1989, my mother died. Dad turned the operation of our Hamlin Lake home over to his two sons. My brother got involved in the lake more than I because I travelled on business and could be gone for extended trips. It became clear to him that we needed a non-profit umbrella organization to which we could all donate and get a tax-deduction. This required legal work to establish the purpose and identify what activities could be legitimately be tax-deductible. The Hamlin Lake Association

was “tainted” because it had “lobbied” the county, the township and even the state for services or improvements. Such “political” activity is not tax-deductible—even though we were owed the services we felt.

So, a second organization had to be founded, the Hamlin Lake Preservation Society. But, the HLA was kept for its purposes to take political action when necessary. While John was active on the HLPS board, I remained on the HLA board. In 2001, the HLA had a challenge. Governor Engler announced that that the Ludington State Park would put parcels up for bid for oil drilling. The problem was that the State would not allow drilling in the Park, only slant drilling from private property from parcels of at least 40 acres. The HLA learned that slant drilling could reach at least a mile into the Piney Ridge area and under the Lower Lake to the parcels for bid in the Park.

Fortunately, the Hamlin Lake Improvement Board had been founded and had delivered its report. This gave the HLA valuable information on the type of sub-soil, the drainage patterns and the permeability of the unique Nordhouse sands. I headed an effort to develop a four-way attack:

1. Geological, with the information from the HLIB—showing that the Nordhouse Sands would almost ensure that any spill got into our water supply and into the lakes. We listed the number of spills recently in and near Mason County. A spill was a distinct possibility.
2. Engineering, with the expert testimony of Walt Eversman, who is part of an old Hamlin Lake family and an engineering professor at the University of Missouri-Rolla. He is a recognized expert on sound and sound transmission. He determined that the 1,000 hp diesel engines that Michigan has approved to run the collector stations were not only poorly sound-damped but also the sound footprint even under normal conditions would be heard in major sections of the Lower Lake and some parts of the Upper Lake. His report was irrefutable.
3. Health, with the proof that a sour well occurs in at least one in 11 wells and in Mason County as often as one in nine. Inhaling any amount of hydrogen sulfide from a sour well causes irreversible lung damage and even death. There had been a death within the preceding year from inhalation.
4. Political, with the help of several Ludington and Hamlin Lake citizens who were active in the Republican Party and knew the Governor well. In this effort, we met several places around the lake, involved Epworth Heights and the Lincoln Lake area, involved Hamlin Township (whose roads would be seriously degraded by heavy oil-drilling equipment with no tax return to the township, wrote letters to the editor of the local paper, and informed the state senator and representative that we would

look with great disfavor on them in the next election if they did not “get to” the Governor.

The Governor had chosen to announce the plan shortly after the Fourth of July, with the General Assembly on recess and presumably the rest of the state enjoying vacation. We took advantage of a low news period to get the word out of the potential damage to the Lake and the fact that Hamlin Lake and the State Park are the major tourist attractions for the county. Shortly before Labor Day, I got a call from one of our most significant supporters that the Governor had withdrawn the plan.

But, the HLA labors on. A previous state representative had secured General Assembly approval of a law to allow citizens to petition the State to put certain lands on land reserve, never to be developed. In recent elections, we have asked those running to represent us to commit to seeking land reserve status for the State Park. We have also been working quietly with the Michigan Land Use Institute to secure support for land reserve designation for the State Park. An obstacle we face that has thus far impeded us is the fact the Governor Engler split the Department of Natural Resources in two, the DNR and the Department of Environmental Quality (DEQ). The DNR is now charged with developing, not protecting, natural resources. With oil at record heights recently, we did not get much support. With oil now low, we will continue to see if we can get the State Park designated a land reserve.

We believe the Great Lakes agreement against drilling under “or near” any of the Great Lakes gives us a first line of defense—but land reserve designation would assure us we never have to worry. Several years ago, we met with our state senator and representative to encourage action. We will continue this effort.

A full-blown lobbying effort would cost at least \$20,000, so we are trying the slow approach to succeed. We do have some money in the treasury for the HLA, but we are husbanding it for the next effort.

That is the story of the HLA, how it was started and what it is doing.

-- Norval Stephens, January, 2009

Water Quality



1. **Clarity**
2. **Aquatic**



Plants



3. **Fish**
4. **Water Level**

The HLPS Board took action in 2005 and documented those actions in a letter to the Superintendent of the State Park in 2005. At its Board of Directors meeting held on May 21, 2005, the Hamlin Lake Preservation Society discussed current

procedures in place for raising and lowering the level of the lake as specified in the transfer of ownership documentation from 1935. Thank you for your patience as we took the time we needed to respond to residents' concerns expressed to you and me in November, 2004.

We are requesting that you initiate appropriate steps to assure that the drawdown of Hamlin Lake begin at an earlier time. While the current agreement calls for such lowering to commence with the first-ice conditions, we note in a review of your records and those of residents that this usually occurs sometime in mid-November. On several occasions in the last decade this timing of the water lowering procedure has allowed storm surge and wave action common to the area in November to cause damage to seawalls, docks, and boat house on both the lower lake and the upper lake.

We are requesting that the lowering of Hamlin Lake commence on the fourth Monday of October. We recognize that such timing will allow fishermen and other recreational users at least three full weekends in October (and perhaps more dependent on the date of the 4th Monday and the length of time needed to complete the draw down) and at the same time reduce the likelihood of storm damage to property. We are not requesting consideration of any change in the raising of the lake level procedures or timing.

1. Summer level -- 594.2 feet above sea level.
2. Winter level -- 592.1 feet above sea level.

There has been some discussion as to whether the lake level was affected by the repairs made in 2008.

--- Kent Gage



5. Threats to the Watershed

We are blessed with a beautiful lake that most people in the world can only fantasize about. Indeed all of Michigan has an abundance of replenishing fresh water. To understand the threats that Hamlin Lake faces one benefits by remembering the basic science first introduced in elementary school. That is, the story of a healthy (or unhealthy) watershed begins with a single snowflake or raindrop moving downhill. We present a primer on the water cycle and groundwater movement before turning to more complex issues.

6. Water Life Cycles

From the moment raindrops (or snowflakes) fall on the nearby forests and fields they seek the path of least resistance and move downhill through the force of gravity. Each drop can present variations of delivery and many different routes.

If delivered in a light shower the drop may seep directly through foliage or debris into the ground where it may be quickly absorbed by the root system of a plant or tree to soon be transpired back into the air as water vapor.

The drop may move along on the surface a short while until it encounters a depression where it joins other drops. Enough collected together may form a wetland where it may again provides nourishment to an abundance of plants, or if it avoids being absorbed it will slowly move below the root zone into our sandy subsoil and continue a downward migration into the groundwater system. The collected drops might meet up with denser soils (in our area clay) which slows the groundwater permeation. A slow but continuing accumulation will move the water horizontally into areas of porous gravel and sand. This "water bearing sand formation" is the target of

well drillers. Our raindrop may be pumped back to the surface as household, potable water. But most raindrops will remain in the ground water for years...each season moving further downhill. Usually the final destination is a nearby pond, stream, or river. There, or further in the ocean, the drop will eventually evaporate back into the air.

The drop that falls during a heavy rainstorm (or a rapid snow melt) may have a very different, potentially destructive, path. Since the soil can only absorb a small amount of rain at a time, a drop that arrives as part of a deluge is likely to flow over the surface, join with others, and become run-off. If the run-off hurries downhill, small rivulets form streams and small streams become full-fledged torrents. In forested areas the drop would still be relatively clean and filtered. But as the flood events of June 2008 demonstrated, this is not always true. Tremendous damage to home sites, roads, and drainage paths can result when the natural processes occur in unnatural scale or time frame.

The raindrop's natural cycle increasingly is going to be effected by human activity. A drop's route across the ground is more likely to include a driveway, a road, a construction site, or a trimmed yard. Here the natural rainwater can collect tiny particles of sand, soil, and nutrients that are pushed along with rainwater. When they reach the slower currents of a pond, stream, river, or lake they settle to the bottom. The cumulative effect can be severe enough to harm the normal life cycles of plants and animals which are dependent on the natural gravel. Additionally the altered chemical composition of this run-off water provides bacteria and algae with either a gorging of nutrients or conversely a bath of destructive salts and sediment. In summary, the entire watershed may be altered by human activity that we consider normal.

7. Non-Point Source Pollution

When a waste pipe dumps raw sewage into the lake we can identify the threat and culprit quickly. Scientists label these as "point source pollutants". That is we know the source and observe the evidence. Harder to distinguish and remedy are the "non-point source pollutants" which may appear as a minor threat and often become a problem when each adds to the cumulative effect. Unlike the obvious sewer pipe contributions, non-point pollutants frequently are a normal part of our necessary everyday experience--only carried to excess.

8. Phosphorous

A common feature of non-point source pollutants in Hamlin Lake is that rainwater and lawn watering is initially the primary mode of transport.

Recommendations to Preserve the Lake

The goal of these recommendations is to retard the natural succession process, and to reduce degradation from human activity.

Nutrient Loading

1. Prevent loss of wetlands in the lake riparian zone.
2. Implement landscaping on residential lawns.
3. Maintain natural shoreline vegetative buffer at all cost.
4. Monitor and maintain septic systems in the vicinity of the lake.
5. Curtail the use of sea walls.
6. Curtail use of fertilizers on riparian property.

Aquatic Plants & Invasive species

1. Monitor the lake for
 - a. Eurasian milfoil,
 - b. zebra mussels,
 - c. phragmites,
 - d. etc.
2. Disinfect and clean boats at all the boat launches.

Water Quality

1. Maintain membership in the Cooperative Lakes Monitoring Program.
 - a. Secchi disk,
 - b. Total phosphorous,
 - c. Chlorophyll-1, and
 - d. Dissolved oxygen.
2. Study algae

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