The Cedar Lake News

2nd YEAR VOL.2 NO.6 · ANNANDALE - MAPLE LAKE · NOV.-DEC. 1974

TRANSPARENCY RESULTS IN

PUBLICATION REDUCTION SET

Starting in January, 1975, the Cedar Lake News will begin a new publication frequency schedule. Whereas the Cedar Lake News in the past was published once every two months, or, six times a year, certain conditions dictate that publication frequency must be cut back.

Therefore, The Cedar Lake News, starting in 1975, will be published once every three months, or, 4 times a year.

High postage costs and increased printing costs are two big factors in the decision to cut down on the number of issues printed each year. Dropping two issues will save us in the area of $90 - $100, a substantial cost reduction.

We feel that reducing publication frequency of the News will not impair the quality of the paper and will still serve to keep our members informed on activities of the club and conservation matters.

During this past summer and fall, as you have read in previous issues of the News, Mr. Clarence Hegg, resident on Cedar, has been very active in keeping a weekly water clarity monitoring program on behalf of the Cedar Lake Conservation Club and the University of Minnesota.

Each week, from June 25 through October 4, Mr. Hegg has made a reading of water clarity from the same section of Cedar Lake with a secchi disc, recorded that information along with air temperature, water color, and weather conditions. One copy of his findings has been sent to the University of Minnesota's Limnology Department where a file concerning such information on our lake has been established. The U of M will study the findings and pass them along to the Minnesota Pollution Control Agency which will also keep a dossier on our lake. Each year, new readings are taken and sent in to keep a current record on the status of our lake.

Water clarity is directly related to the amount of algae bloom (and therefore excess nutrients as well) in the water. We are presently awaiting a report from the U of M Limnology Department on the information sent in.

Page two of the News shows the results Mr. Hegg has compiled over the summer. Some of the results may be what many of you would suspect; other findings may strike you as rather unusual. Page two also carries a graph of this summer's readings.

Our club wishes to express its sincere appreciation to Mr. Hegg for this work!

FALL MEETING HELD

The fall meeting of the Cedar Lake Conservation Club took place the afternoon of Saturday, Sept. 21, at the Corinna Township hall at the northwest end of Cedar Lake. Attendence for the meeting was a little over 35 persons.

Among the items of business discussed was a report by Treasurer Pete Cook on sweatshirt sales, which have been doing extremely well. All of our initial investment money has been returned and all sales now taking place amount to 100% profit for the club. Awards were given out to the four top sales people of the sweatshirts. They were Judy Draper, Ruth Matson, Ella Geardink, and Shirley Cook. Their combined sales total has been just short of 300 sweatshirts; a remarkable number.

Also present at the meeting was Mr. Paul McAlpine, Wright County Commissioner who was seeking election in his own right after having filled out the term of the late "Carty" Magnusson by appointment. Among the problems Mr. McAlpine addressed himself to was one dealing with the as yet legal right of other counties (case in point--Hennepin County) being able to purchase land within the borders of Wright County for park purposes for residents of the interloping county, and without the people of Wright Coutny having the right to either approve, deny or restrict such acquisition. (Already Hennepin County has purchased land immediately behind Cedar Lake's north end for park purposes.) Mr. McAlpine voiced his opposition to this current practice and urged support of a new bill to be introduced the next Minnesota legislative session by Mssrs. Dahl and Bernhagen which would not allow the acquisition of land in one county by another county without

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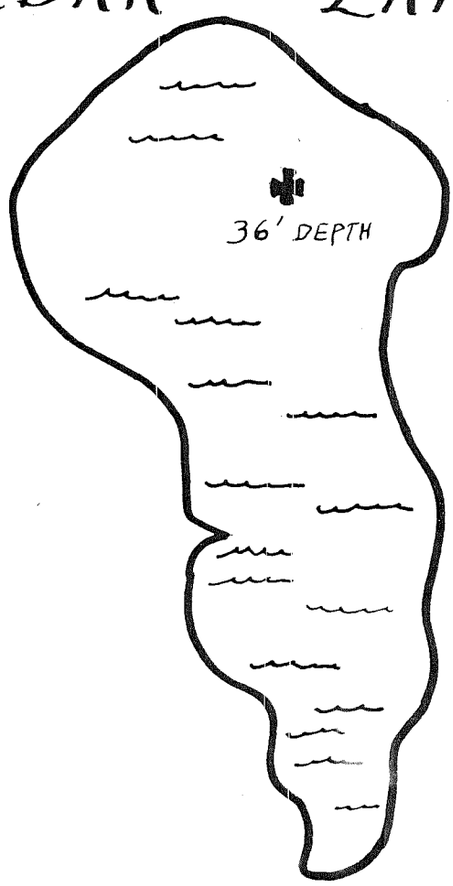
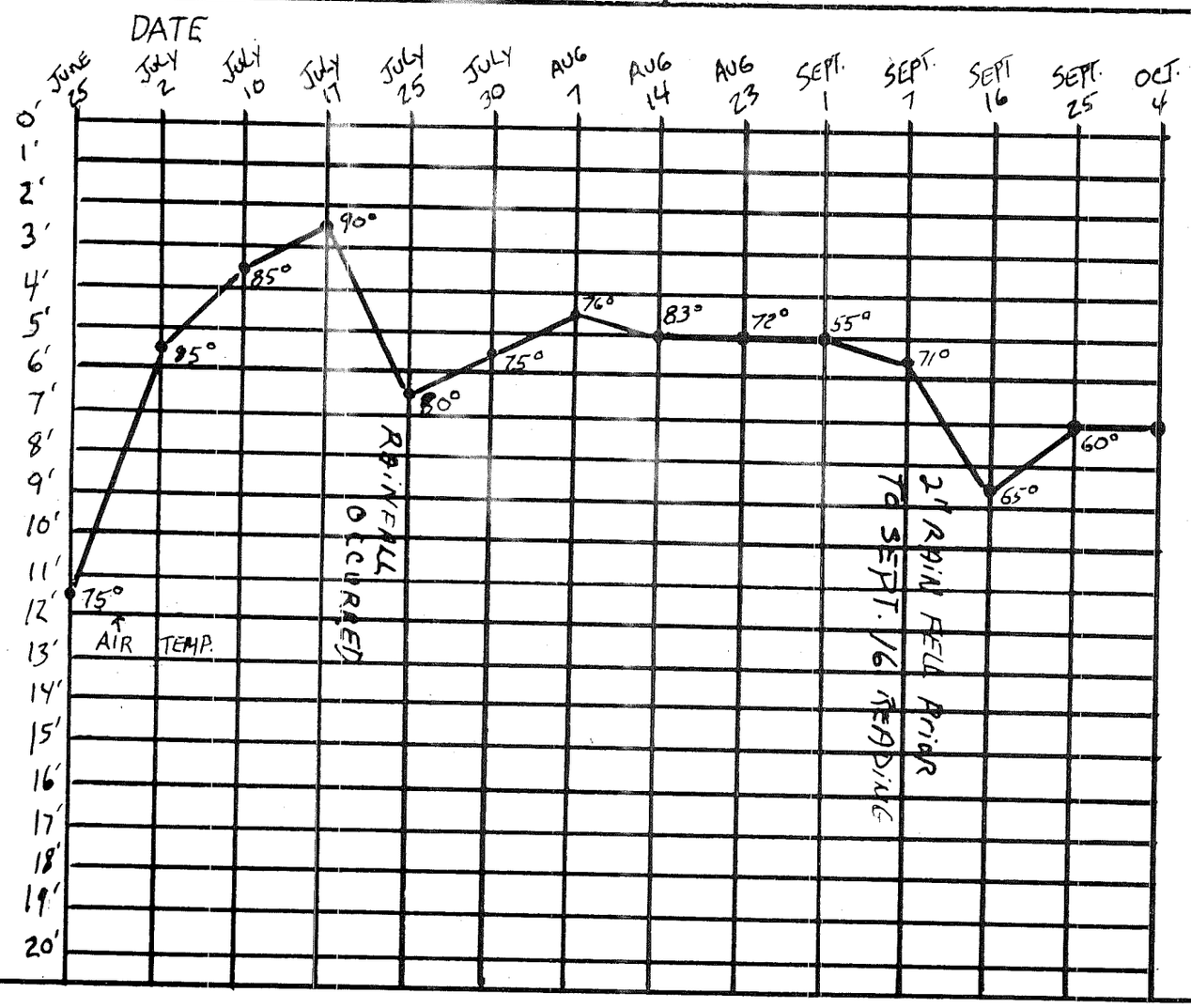
CEDAR LAKE



READINGS

AIR TEMP.	DATE	DEPTH OF CLARITY	WATER CONDITION
75°	JUNE 25	11.5'	TEA COLORED
85°	JULY 2	5.5'	Green
85°	JULY 10	3.5'	Very Green
90°	JULY 17	2.5'	Very Green
80°	JULY 25	6.5'	Less Green
75°	JULY 30	5.5'	Light Green
76°	AUG. 7	4.5'	Green
93°	AUG. 14	5.0'	Rough
72°	AUG. 23	5.0'	Green - Smooth
55°	SEPT. 1	5.0'	Green - rough
71°	SEPT. 7	5.5'	Green - Quiet
65°	SEPT. 16	8.5'	TEA COLORED
60°	SEPT. 25	7.0'	Slightly Green
—	OCT. 4	7.0'	TEA COLORED

* READINGS WERE TAKEN IN THE SAME AREA EACH TIME. SOME READINGS WERE RECHECKED ELSEWHERE. TRANSPARENCY WAS GREATEST WHEN WATER WAS TEA COLORED.



ILLEGAL SEWERAGE DISCHARGES OCCUR

While the last wish of the Cedar Lake News is to create any enmity between the club and its members, nevertheless certain problems have been brought to the attention of the News by people living around the lake who have witnessed them first hand, and we feel it is the duty of this paper, as spokesman for the Cedar Lake Conservation Club, and its goal of protection of the environment, to bring these problems to the attention of both our readership and the individuals who are causing the concern.

The News has been notified through several unimpeachable sources, that several individuals living on the north shore of Cedar Lake have been at least as early as this past summer and are continuing yet, to our knowledge, in pumping or draining raw sewerage from their cesspools and septic tanks directly into Cedar Lake This is in direct violation of local and state pollution and sanitation laws for which heavy fines and/or jail sentences could be imposed. Obviously this activity of pumping or draining raw sewerage into Cedar constitutes pollution of the first degree and directly threatens the health of those people who use the lake, with such disease organisms as coliform bacteria and salmonella, besides greatly increasing unwanted nutrients to the water stimulating the formation of unwanted weeds and algae--the green scum which in recent years has become so prevalent.

It may be that the individuals committing the violation are either not aware that a direct line from their cesspool drains into the lake or that what they are doing is wrong. In any case we urge that all residents along the north shore (as well as around the rest of the lake) check their cesspools and septic tanks to determine if any drain pipe or device is allowing raw sewerage to enter the lake. Any such condition if it exists is illegal and should be stopped immediately. Also, if any individual notices such a violation, the proper governmental agency to contact is the Wright County Sanitation Engineer, whose office is in the Wright County Courthouse in Buffalo.

If residents on Cedar are serious about stopping pollution of our lake, correcting or reporting such flagrant abuses is an essential first step.

-MEETING-

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first giving the people of the county whose land is to be bought, the chance to deny, restrict, or limit the use of this land by the other county.

Our members also agreed that Wright County should have a voice in approving or denying the purchase of land within its borders by other counties, and so passed a resolution supporting the bill to be introduced in the state legislature this winter.

OUT-OF STATER SUPPORTS CLCC

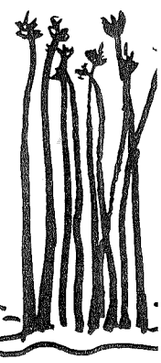
This past summer, Bob Flynn, son of former Cedar Lake Conservation Club Board of Director member Louis Flynn, and his family spent several weeks vacationing at the Flynn cottage on the west side of Cedar Lake. Bob, who lives with his family in Terrytown, New York, is a very enthusiastic supporter of the work our club is doing. All through those months at home back east, Bob is kept informed of our club activities through his father. And each summer is looked forward to with eager anticipation by the Flynn family to spend a period of refreshing recreation and relaxation on Cedar.

This past summer Bob outfitted himself and his entire family (7, altogether) with Cedar Lake Conservation Club sweatshirts. For his very generous contribution we offer him our sincere thanks and hope that he and his family will continue to enjoy for many years along with all of us at the lake the summers at Cedar.

Incidentally, we would like our readers to know that Louis himself is doing fine and hopes to leave the Golden Age Nursing Home in Rosev[illegible]ville soon and reside with his son, Dr. Louis Flynn and his wife at their home in St. Paul. We are looking forward to seeing more of Louis at the lake again next summer.

THE BULRUSH

NATURE'S TREATMENT PLANT



GERALD L. PAUL

Man's activities, which introduce excess nutrients as well as other pollutants into lakes, streams and estuaries, are causing significant changes in aquatic environments throughout Minnesota and the United States.

Eutrophication (the aging process of a given body of water) has become a matter of increasing concern because of the massive discharge of nutrients into surface waters. The major sources of these nutrients are from municipal and industrial wastes and runoff from urban areas and agricultural lands.

The control of eutrophication at present is largely based on the argument that nitrogen and phosphorus compound play a major role; hence, their removal should considerably allay the rate of eutrophication. A particularly strong effort is being made to control phosphorus because some blue-green algae can utilize atmospheric nitrogen and thus thrive independently of other forms of nitrogen.

There are widespread small communities which discharge treated of untreated effluents into streams, rivers, and

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(THE BULRUSH . . . Cont. from p. 3)

lakes. These effluents in many cases adversely affect stream water quality and contribute to a high nutrient content in waters.

The possibility of these small communities being able to develop adequate tertiary facilities appears somewhat unrealistic at this time because of high cost estimates of phosphorus removal. In a small community, for example, sewage volumes are much less than in large cities. Treatment cost per thousand gallons will probably be considerably higher in order to obtain efficient phosphorus removal.

In addition to nutrient and BOD (biochemical oxygen demand) loads from municipal wastes, agricultural operations, particularly dairy and other livestock operations, may contribute significantly to the deteriorating quality of surface waters. Runoff from farms and feedlots may discharge to streams or other surface waters and contribute to organic and nutrient loading.

Heavy concentrations of animal wastes in water may: (a) add excessive nutrients that unbalance natural ecological systems causing excessive plant growth; (b) load water filtration systems with solids; (c) cause undesirable taste and odor; (d) add detrimental chemicals; (e) increase consumption of dissolved oxygen which may lead to septic conditions; (f) add micro-organisms that are pathogenic to animals and man.

In present agricultural treatment methods, runoff is collected and held in anaerobic treatment basins where some biological degradation occurs. However, the effluent after such treatment remains more potent than raw municipal wastes and significant quantities of nutrients and BOD loading are discharged to receiving streams and lakes.

Small municipalities are confronted with the problems of financing waste water treatment facilities in order to comply with increasingly stringent water quality standards. Dairy and feedlot operations will undoubtedly be faced with similar demands in the near future with no effective and economically feasible treatment available. It is obvious that a more versatile and effective method is needed for treating animal and human wastes.

One possible solution might relate to recent experimentation in Europe, particularly in Germany, where demonstrations have been made in the use of natural vegetation as a treatment process for municipal waste waters. This system employs emergent water plants (bulrushes) as an integral part of the biological treatment.

The common European bulrush (Scirpus lacustris) can remove both organic and inorganic pollutants from water. The process us used as a secondary or tertiary treatment following a mechanical pre-treatment stage. Although the plants have been found capable of taking up organics, including ammonium ions, their biological facility also operates by bacterial conversion of ammonia to nitrate with a subsequent uptake by the emergent plants as a nutrient.

At an experimental plant in Stuttgart, ammonia in the secondary effluent was reduced from 22 to 0.1 ppm (parts per million) while phosphate was reduced from 26 to 12 ppm. BOD reductions have been reported as high as 96 percent, with final effluent values of less than 5 ppm. The system has also been reported effective in reducing bacterial and pathogenic organisms in municipal wastes; i.e. coliform bacteria, enterococci and Salmonella. The overall space requirements for intensively managed systems reportedly is about one-quarter acre for each 100,000 GPD (gallons per day) waste water inflow.

A current research project in northeast Wisconsin is exploring the effectiveness of utilizing this type of bulrush system as a secondary and/or tertiary treatment for domestic and agricultural waste waters in midwestern climates and to demonstrate the effectiveness of this system to prevent water pollution.

Whether or not this unique approach to the treatment of waste waters will work in the harsh winters of northern Minnesota remains to be seen. But regardless, the somewhat strange inherent properties of bulrushes cannot be ignored. And their natural presence in our lakes and streams cannot relegate the bulrush as just another "weed," but as one known form of nature's natural purification systems.

The Minnesota Department of Natural Resources has long regarded the bulrush as a highly desirable plant for spawning and feeding areas for fish and for prime waterfowl brood areas. The associated values for fishing and hunting are also of keen interest.

With the increasing evidence of the bulrush's ability to help purify water, the Department is becoming even more concerned for the preservation of these plants as a necessary element of the environmental scheme of public waters.

Each year many lakeshore property owners who regard rushes as a nuisance seek permits from the Department of Natural Resources to remove them. However, it is our hope that through a better understanding of the bulrush, and with a new public regard for its importance to fish, waterfowl, hunting, fishing and enriched water quality, this attitude will change.

(The preceeding article was reprinted with permission from the May-June 1974 issue of the Minnesota Volunteer, an educational publication of the Minnesota Department of Natural Resources.)