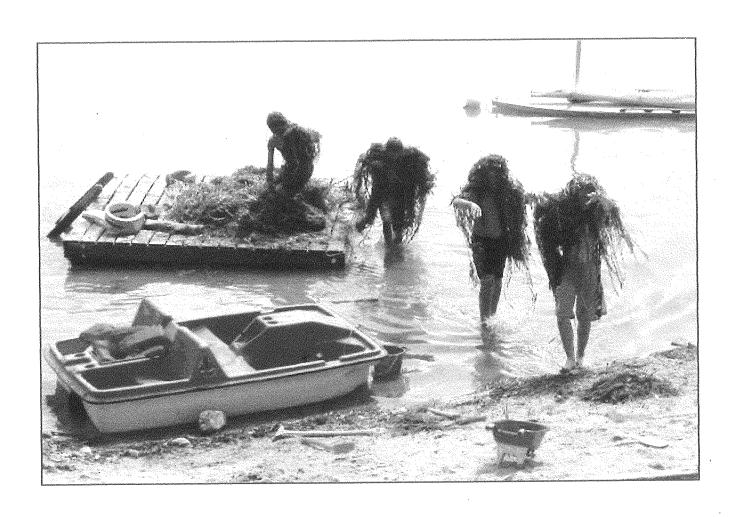
## Pigeon Lake



# - Weed Study -

Name Lake assoc.
Rigeon Lake assoc.

prepared by: PIGEON LAKE WATER QUALITY COMMITTEE September 1, 2005



### WATER QUALITY COMMITTEE

October 17, 2005

Mary Gansberg
Department of Nat. Resources
P. O. Box 10448
Green Bay, WI 54307

Dear Mary,

Subject: PIGEON LAKE AQUATIC PLANT SURVEY

#### PURPOSE:

To determine the extent, type and location of invasive aquatic plants growing in Pigeon Lake. Several property owners especially on the north side of the lake have requested help in removing Eurasian Water Milfoil (EWM) which is hindering boat navigation and use of their property for swimming and water activities.

#### **METHODS:**

Mapping aided with the use of aerial photographs and GPS. The weed beds were located and the size, depth and location of each were noted. Samples of aquatic plants were taken, identified, and photographed and a determination of the percent concentration of each species was documented.

#### **RESULTS:**

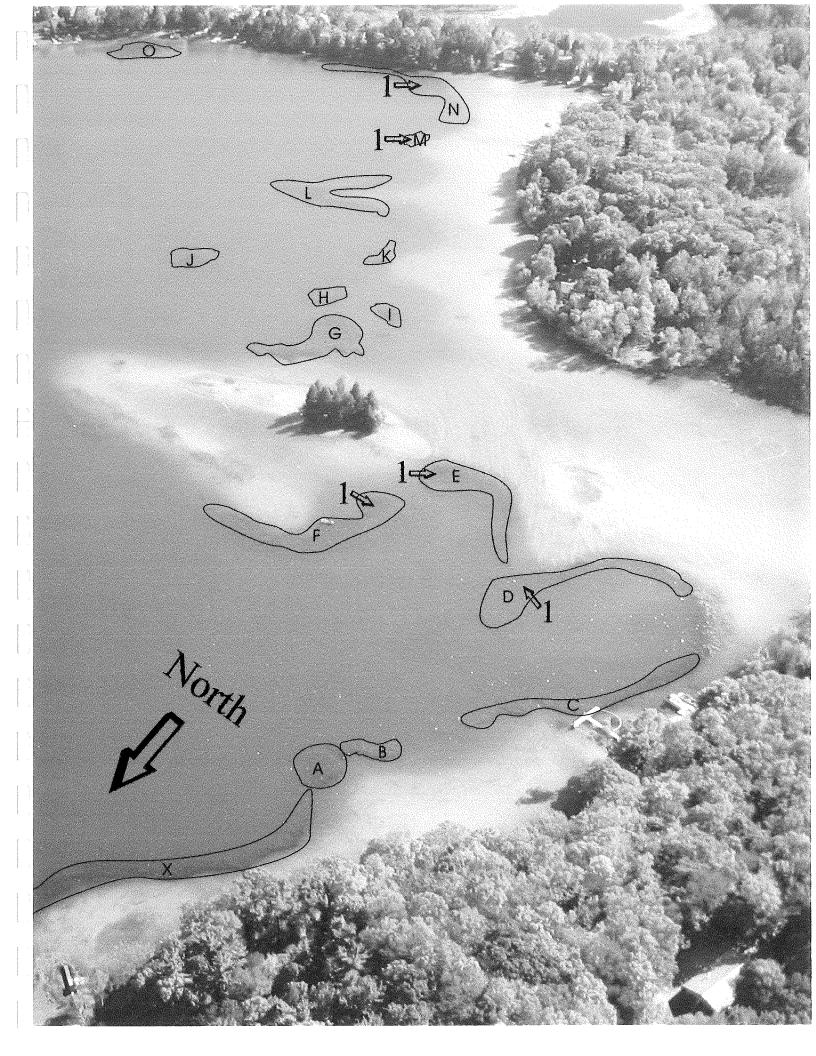
The survey indicated seventeen areas where EWM composed at least 98% of the aquatic plants and no Northern Milfoil was observed in these areas. The other plant was primarily Curly Pond Weed (< 2%). The EWM totaled 3.7 acres. The water depth in the EWM areas ranged from 3 to 10 feet. A second look at the EWM locations indicated that the Northern Milfoil was located on the deep side of EWM at depths of 10 to 24 feet and was not visible from the surface. Seechi disk readings indicated water clarity of 8 feet. No Northern Milfoil was found growing to the surface in any location and existed as a dense matte 3 - 4 feet thick.

Including the area covered by the Northern Milfoil would increase the are to 9 - 10 acres. It is not our intention to remove more than half of the Northern Milfoil. There are smaller areas of EWM in Pigeon Lake but these are minor infestations and at present do not cause any major problem and could be treated at another time if necessary.

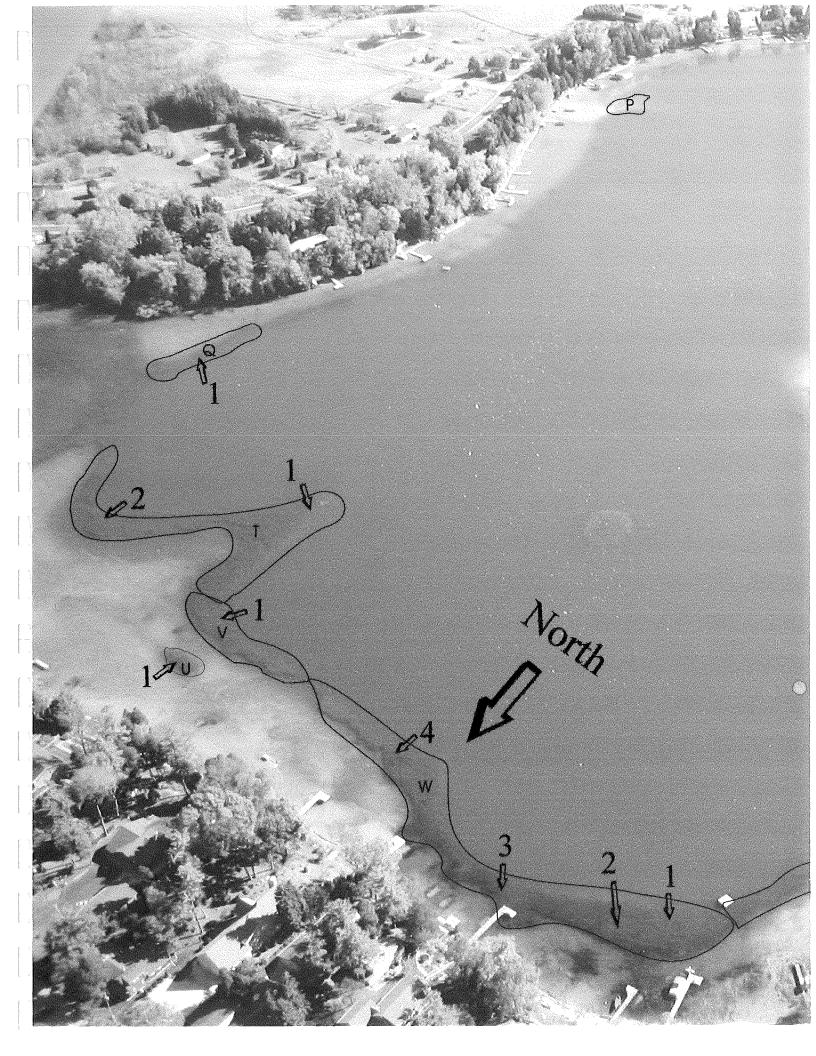
| performed    | by THE PI     | _A WATER         | QUALITY C   | OMMITTEE |
|--------------|---------------|------------------|-------------|----------|
|              |               |                  |             |          |
| DATE:        | <b>AUGUST</b> | 31, 200 <u>5</u> |             |          |
|              |               |                  |             |          |
| SITE:        | WIDTH         | LENGTH           | AREA        | DEPTH    |
| A.           | 40            | 75               | 3000        | 8'       |
| B.           | 20            | 30               | 600         | 9'       |
| Ø.           | 30            | 300              | 9000        | 8'       |
| D. 🗸         | 30            | 100              | 3000        | 9'       |
| E. 🗸         | 30            | 200              | 6000        | 8'       |
| F. 🗸         | 30            | 280              | 8400        | 10'      |
| Æ.           | 30            | 100              | 3000        | 9'       |
| H.           | 30            | 40               | 1200        | 9'       |
| 1.           | 30            | 140              | 4200        | 8'       |
| d.           | 30            | 60               | 1800        | 9'       |
| K.           | 10            | 25               | 250         | 8'       |
| <u></u> L.   | 30            | 360              | 10800       | 8'       |
| M. ∨         | 15            | 80               | 1200        | 9'       |
| N. 🗸         | 30            | 500              | 15000       | 10'      |
| Ø.           | 20            | 180              | 3600        | 10'      |
| P.           | 25            | 440              | 11000       | 9'       |
| Q. 🗸         | 60            | 150              | 9000        | 9'       |
| R. ∨         | 20            | 30               | 600         | 9'       |
| S.           | 60            | 150              | 9000        | 6'       |
| T            | 30            | 200              | 6000        | 9'       |
| U. V         | 35            | 340              | 11900       | 8'       |
| V. 🗸         | 40            | 20               | 800         | 8'       |
| W. 🗸         | 60            | 600              | 36000       | 8'       |
| <b>X</b> . √ | 30            | 150              | <u>4500</u> | 9        |
|              |               |                  | 159850      | - rie/\& |
|              |               |                  |             |          |
|              |               |                  |             |          |
| SQMILE       | 5280          | 5280             | 27878400    |          |
| SQMILE       | ACRES=        | 640              |             | 3.7      |
| 1 ACRE       | SQFEET=       | 43560            |             | ACRES    |

159,850 = 3.7 43560 = 3.7 43560 = 3.7

111400 = 2.6 acres 43560 = proposed proposed by Eum

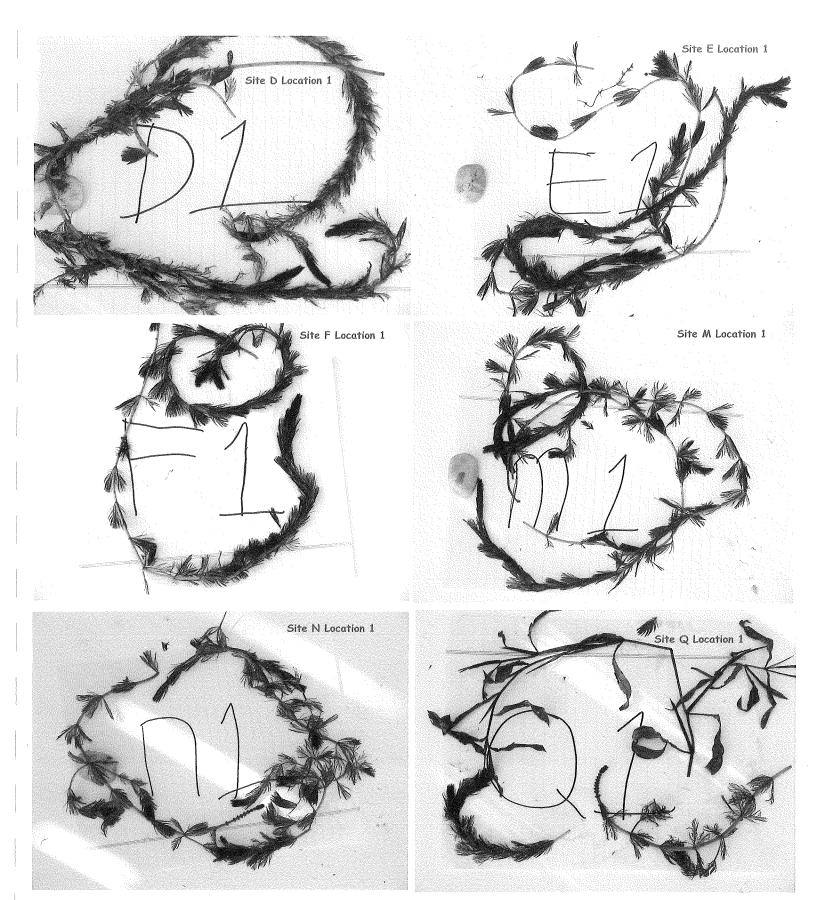




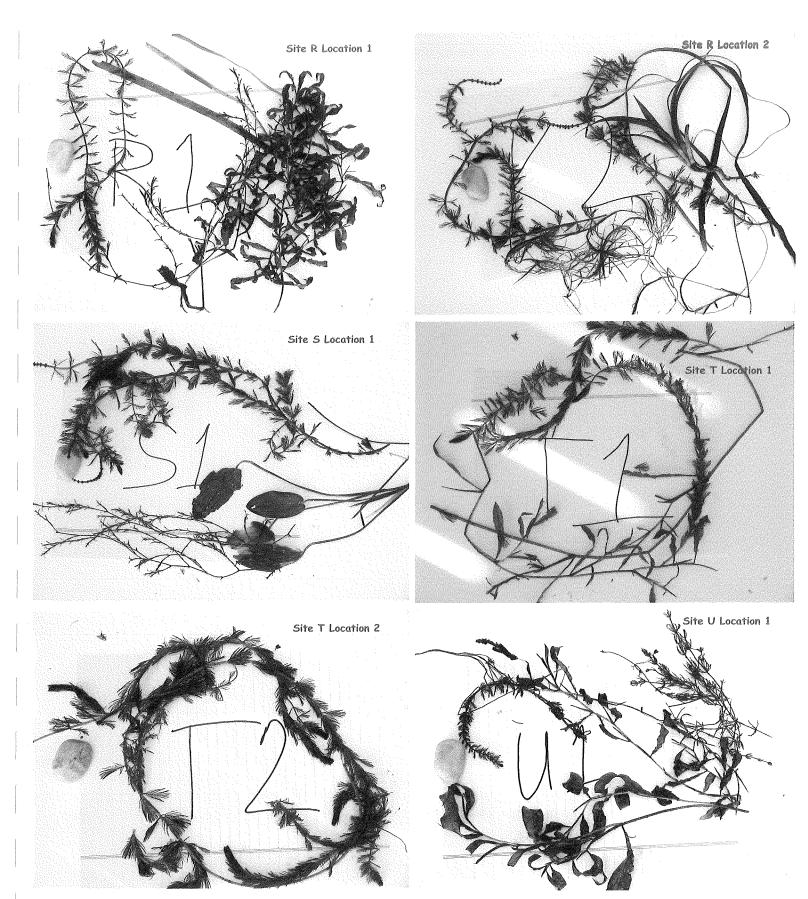


| F. 30 280 8400   EURASIAN MILFOIL 98% N43.59.285 W87.52   G. 30 100 3000   H. 30 40 1200   J. 30 140 4200   J. 30 60 1800   J. 30 360 1800   J. 30 500 15000   J. 30 500 15000   J. 30 500 15000   J. 30 500 15000   J. 30 360 1800   J. 30 500 15000   J. 30 360 1800   J. 30 500 15000   J. 30 360 1800   J. 30 360   J. 30 360  | PIGEON I      | AKE WEE  | D BED ME   | ASUREMENT   | TS & AQUATIC                | PLANTS           |                     |               |              |
|--|---------------|----------|------------|---|-----------------------------|------------------|---------------------|---------------|--------------|
| STITE:   WIDTH   | performed     | by THE P | LA WATER   | QUALITY CO  | MMITTEE - (Ja               | ick Clarke, Juli | an Jetzer,          | John Kocourel | ()           |
| SITE   | DATE:         | SEPTEME  | BER 03, 20 | 05 - 10:AM - 2  | 2:00PM                      |                  |                     |               |              |
| A 40 75 3000 B 200 3000 C 30 8000 C  | OITE          |          |            |   | 19 Alba 9 A ANNO Alba 500 B | 9. 0.0000 -60-   | COLUMN S OR SERVICE |               |              |
| B  |               |          |            | · · · · · · · · · · · · · · · · · · ·                           | AQUATIC PLA                 | NTS:             | DENSITY             | NORTH-LAT     | WEST- LOI    |
| C. 30 30 300 9000 D. 300 100 3000 D. 300 100 3000 E. CHRLY LEAF PORDWEED 3% E. 30 200 8000 E. 1  |               |          |            |   |                             |                  |                     |               |              |
| D.   30   100   3000   EURASIAN MILFOIL   97%   N43.59.287   W87.52   W87   |               |          |            |   |                             |                  |                     |               |              |
| E 30 200 8000   CURLY LEAF PONDWEED 3%   N43.59.287   W87.52   W87 |               |          |            | N. SOUTHER ST. S. LEWIS CO. |                             |                  |                     |               |              |
| E 30 200 6000 F1 3   |               | 30       | 100        | 3000  | FUDACIAN M                  | I FOII           | 97%                 | N/3 50 287    | W87 52 618   |
| E 1  | £# 1          |          |            |   |                             |                  |                     | 1443.33.201   | VVO7.32.013  |
| E1   | F             | 30       | 200        | 6000  | OUNT PER                    | OMDARTED         | 9 70                |               |              |
| ## 1   |               | 00       | 200        | 9000  | FURASIAN MI                 | I FOII           | 100%                | N43 59 242    | W87.52.595   |
| F1   |               | 30       | 280        | 8400  |                             |                  | 10070               | 1140.00.242   | VV07.02.000  |
| CURLY LEAF PONDWEED   2%   |               | - 00     | 200        | 0100  | EURASIAN MI                 | I FOII           | 98%                 | N43 59 285    | W87.52.281   |
| G. 30 100 3000   H. 30 40 1200   J. 30 40 1200   J. 30 40 1200   J. 30 40 1200   J. 30 60 1800   J. 30 600   J |               |          |            |   |                             |                  |                     | 11-10.00.200  | VV01.02.20   |
| H. 30 40 1200  | G.            | 30       | 100        | 3000  |                             |                  | am 70               |               |              |
| 1.   30  |               |          |            |   |                             |                  |                     |               |              |
| J.   30   60   1800  |               |          |            |   |                             |                  |                     |               |              |
| K. 10 25 250   |               |          |            |   |                             |                  |                     |               |              |
| L.   30   360   10800  |               |          |            |   |                             |                  |                     |               |              |
| M.         15         80         1200         EURASIAN MILFOIL         100%         N43.59.058         W87.52           N.         30         500         15000         EURASIAN MILFOIL         99%         N43.59.036         W87.52           O.         20         180         3600         P.         25         440         11000         900         W87.52           Q.         60         150         900         EURASIAN MILFOIL         99%         N43.59.285         W87.52           R.         20         30         600         EURASIAN MILFOIL         95%         N43.59.285         W87.52           R.         20         30         600         EURASIAN MILFOIL         95%         N43.59.362         W87.52           R.         20         30         600         EURASIAN MILFOIL         95%         N43.59.307         W87.52           R.         20         30         600         EURASIAN MILFOIL         97%         N43.59.307         W87.52           S.         60         150         9000         EURASIAN MILFOIL         97%         N43.59.311         W87.52           S.         60         150         9000         PRONDWEED         1% <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>   |               |          |            |   |                             |                  |                     |               |              |
| M1   | M.            |          |            |   |                             |                  |                     |               |              |
| N. 30 500 15000   CURLY LEAF PONDWEED 1%   N43.59.036 W87.52   C. 20 180 3600   CURLY LEAF PONDWEED 1%   N43.59.285 W87.52   C. 20 30 600   CURLY LEAF PONDWEED 1%   N43.59.285 W87.52   CURLY LEAF PONDWEED 1%   N43.59.362 W87.52   CURLY LEAF PONDWEED 5%   N43.59.362 W87.52   CURLY LEAF PONDWEED 5%   N43.59.307 W87.52   CURLY LEAF PONDWEED 20%   N43.59.307 W87.52   CURLY LEAF PONDWEED 20%   N43.59.311 W87.52   CURLY LEAF PONDWEED 2%   N43.59.311 W87.52   CURLY LEAF PONDWEED 1%   N43.59.337 W87.52   CURLY LEAF PONDWEED 5%   N43.59.337 W87.52   CURLY LEAF PONDWEED 5%   N43.59.337 W87.52   CURLY LEAF PONDWEED 5%   N43.59.338 W87.52   CURLY LEAF PONDWEED 1%   N43.59.351 W87.52   CURLY LEAF PON | M1            |          |            |   | <b>EURASIAN MI</b>          | LFOIL            | 100%                | N43.59.058    | W87.52.484   |
| CURLY LEAF PONDWEED  | N.            | 30       | 500        | 15000   |                             |                  |                     |               |              |
| O. 20 180 3600 P. 25 440 11000 Q. 60 150 9000 Q1   | N1            |          |            |   | <b>EURASIAN MI</b>          | LFOIL            | 99%                 | N43.59.036    | W87.52.497   |
| P. 25 440 11000  |               |          |            |   | CURLY LEAF                  | PONDWEED         | 1%                  |               |              |
| Q.       60       150       9000       BURASIAN MILFOIL       99%       N43.59.285       W87.52         R.       20       30       600       CURLY LEAF PONDWEED       1%       W87.52         R1       BURASIAN MILFOIL       95%       N43.59.362       W87.52         CURLY LEAF PONDWEED       5%       N43.59.307       W87.52         S.       60       150       9000       N43.59.311       W87.52         S.       60       150       9000       N43.59.311       W87.52         S.       FLOATING PONDWEED       1%       N43.59.331       W87.52         T.       30       200       6000       3%       N43.59.337       W87.52         T.       30       200       6000       3%       N43.59.351       W87.52         U.       35       340       11900       1%       N43.59.351       W87.52         U.       35       340       11900  | О.            | 20       | 180        | 3600  |                             |                  |                     |               |              |
| Q1   |               | 25       | 440        | 11000   |                             |                  |                     |               |              |
| R.   20   30   600   | Q.            | 60       | 150        | 9000  |                             |                  |                     |               |              |
| R. 20 30 600 EURASIAN MILFOIL 95% N43.59.362 W87.52.  R2 EURASIAN MILFOIL 80% N43.59.307 W87.52.  S. 60 150 9000 EURASIAN MILFOIL 97% N43.59.311 W87.52.  S. 60 150 9000 FURASIAN MILFOIL 97% N43.59.311 W87.52.  S. 60 150 9000 FURASIAN MILFOIL 97% N43.59.311 W87.52.  S. 60 150 9000 FURASIAN MILFOIL 97% N43.59.311 W87.52.  S. 60 150 9000 FURASIAN MILFOIL 97% N43.59.311 W87.52.  S. 60 150 9000 FURASIAN MILFOIL 97% N43.59.311 W87.52.  S. 60 150 9000 FURASIAN MILFOIL 97% N43.59.337 W87.52.  S. 60 600 150 POODWEED 1% FURASIAN MILFOIL 99% N43.59.337 W87.52.  S. 60 150 POODWEED 1% FURASIAN MILFOIL 95% N43.59.351 W87.52.  S. 60 150 POODWEED 1% FURASIAN MILFOIL 95% N43.59.364 W87.52.  S. 60 600 36000 FURASIAN MILFOIL 95% N43.59.364 W87.52.  S. 60 600 36000 FURASIAN MILFOIL 95% N43.59.364 W87.52.  S. 60 600 36000 FURASIAN MILFOIL 99% N43.59.570 W87.52.   | Q1            |          |            |   | <b>EURASIAN MI</b>          | LFOIL            | 99%                 | N43.59.285    | W87.52.281   |
| R1   |               |          |            |   | CURLY LEAF                  | PONDWEED         | 1%                  |               |              |
| CURLY LEAF PONDWEED   5%   N43.59.307   W87.52   |               | 20       | 30         | 600   |                             |                  |                     |               |              |
| R2   | R1            |          |            |   |                             |                  |                     | N43.59.362    | W87.52.259   |
| CURLY LEAF PONDWEED   20%  |               |          |            |   |                             |                  |                     |               |              |
| S.       60       150       9000       BURASIAN MILFOIL       97%       N43.59.311       W87.52         FLOATING PONDWEED       2%       HORNED PONDWEED       1%  | R2            |          |            |   |                             |                  |                     | N43.59.307    | W87.52.228   |
| S1   |               |          |            |   | CURLY LEAF                  | PONDWEED         | 20%                 |               |              |
| FLOATING PONDWEED  |               | 60       | 150        | 9000  |                             |                  |                     |               |              |
| T. 30 200 6000   | S1            |          |            |   |                             |                  |                     | N43.59.311    | W87.52.197   |
| T.       30       200       6000       97%       N43.59.337       W87.52         CURLY LEAF PONDWEED       3%         CURLY LEAF PONDWEED       1%       W87.52         CURLY LEAF PONDWEED       1%         U.       35       340       11900         EURASIAN MILFOIL       95%       N43.59.373       W87.52         CHARA         V.       40       20       800       800       N43.59.364       W87.52         CURLY LEAF PONDWEED       2%       N43.59.364       W87.52         CURLY LEAF PONDWEED       1%         WATERSTAR GRASS       1%         WATERSTAR GR   |               |          |            |   |                             |                  |                     |               |              |
| T1   |               |          |            |   | HORNED PON                  | IDWEED           | 1%                  |               |              |
| T2   |               | 30       | 200        | 6000  |                             | 5 GT1 675 B S    | 0.004               |               |              |
| T2   | - 11          |          |            |   |                             |                  |                     | N43.59.337    | W87.52.370   |
| U.       35       340       11900       1%         U1       EURASIAN MILFOIL       95% N43.59.373       W87.52         CHARA       CHARA       5%         V.       40       20       800       5%       N43.59.364       W87.52         CURLY LEAF PONDWEED       2%       N43.59.364       W87.52         CURLY LEAF PONDWEED       1%       WATERSTAR GRASS       1%         W.       60       600       36000       W87.52         WI       EURASIAN MILFOIL       99%       N43.59.570       W87.52  | ESS AND       |          |            |   |                             |                  |                     | 1110 50 051   | 11107 50 010 |
| U.       35       340       11900       95%       N43.59.373       W87.52         U.       CURLY LEAF PONDWEED       5%       CHARA       CHARA       V.       40       20       800       V87.52         V.       40       20       800       V87.52       V87.52         CURLY LEAF PONDWEED       2%       V87.52       V87.52         HORNED PONDWEED       1%       V87.52       V87.52         W.       60       600       36000       V87.52       V87.52   | 12            |          |            |   |                             |                  |                     | N43.59.351    | W87.52.318   |
| U1   |               |          | 0.40       |   | GURLY LEAF                  | PONDWEED         | 1%                  |               |              |
| V.         40         20         800         800         V3.         V4.         EURASIAN MILFOIL         95%         N43.59.364         W87.52         W87.52         V87.52  |               | 35       | 340        | 11900   | PIENAGIANIA                 | I PAN            | 080/                | 1140 50 070   | 14/07 50 005 |
| V.         40         20         800         EURASIAN MILFOIL         95%         N43.59.364         W87.52           V.         CURLY LEAF PONDWEED         2%         HORNED PONDWEED         1%         WATERSTAR GRASS         1%         WATERSTAR GRASS         1%         W87.52   | U1            |          |            |   |                             |                  |                     | N43.59.373    | W87.52.387   |
| V.         40         20         800         95%         N43.59.364         W87.52           V1         EURASIAN MILFOIL         95%         N43.59.364         W87.52           CURLY LEAF PONDWEED         1%         W           HORNED PONDWEED         1%         W           W.         60         600         36000           W1         EURASIAN MILFOIL         99%         N43.59.570         W87.52   |               |          |            | *   |                             | PONDWEED         | 5%                  |               |              |
| V1         EURASIAN MILFOIL         95%         N43.59.364         W87.52           CURLY LEAF PONDWEED         2%           HORNED PONDWEED         1%           WATERSTAR GRASS         1%           W.         60         600           36000         EURASIAN MILFOIL         99%         N43.59.570         W87.52  |               | 40       |            | 900   | CHAKA                       |                  |                     |               |              |
| CURLY LEAF PONDWEED 2% HORNED PONDWEED 1% WATERSTAR GRASS 1% W. 60 600 36000 W1 EURASIAN MILFOIL 99% N43.59.570 W87.52   |               | 40       | 20         | 800   | CIDACIALIO                  | l con            | 0.501               | N/42 EO 204   | 14/07 50 075 |
| HORNED PONDWEED  | v1            |          |            |   |                             |                  |                     | 143.59.364    | VV87.52.377  |
| W.       60       600       36000       Waterstar grass       1%         W1       EURASIAN MILFOIL       99%       N43.59.570       W87.52   |               |          |            |   |                             |                  |                     |               |              |
| W.         60         600         36000         BURASIAN MILFOIL         99%         N43.59.570         W87.52   |               |          |            |   |                             |                  |                     |               |              |
| W1 EURASIAN MILFOIL 99% N43.59.570 W87.52.   | \ <i>\\</i> / | 60       | 600        | 2000  | VVAIERSIAK                  | CCATO            | 1%                  |               |              |
|  |               | 00       | 000        | 30000   | CHDACIAN BEI                | I EON            | 000/                | N/2 50 570    | M97 50 540   |
| OUKLI LEAF FOIADAAEED   170  | AAI           |          |            |   |                             |                  |                     | 1443.08.070   | vvo/.32.542  |
|  | IAIO          |          |            |   |                             |                  |                     | N/2 50 270    | W87.52.520   |

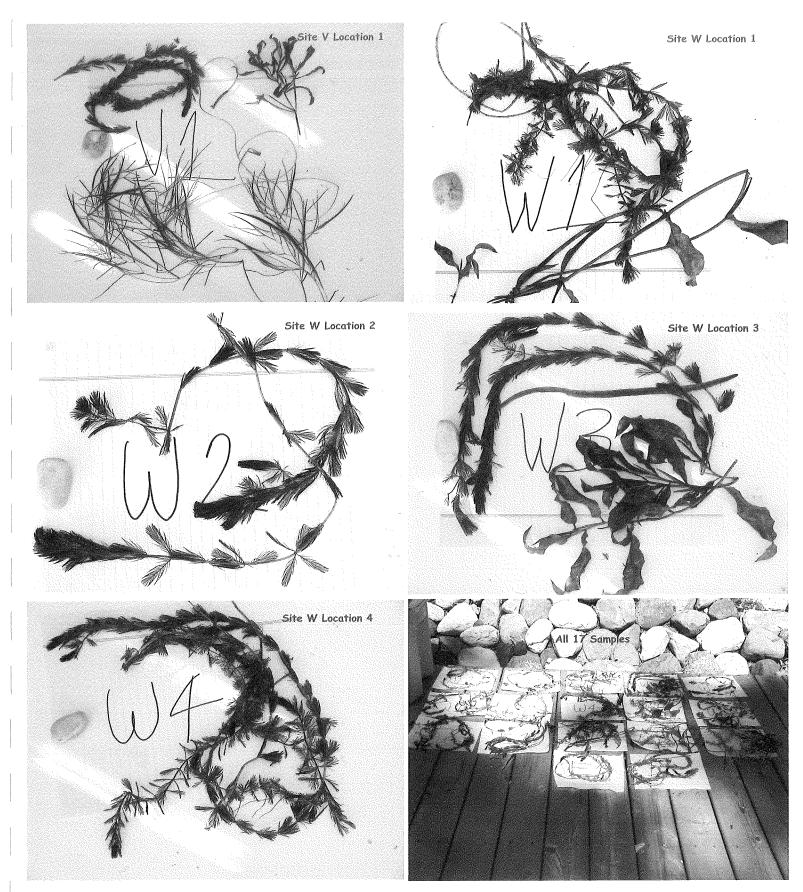
|         |         |       | ~······      |                     |          |      | L          |            |
|---------|---------|-------|--------------|---------------------|----------|------|------------|------------|
|         |         |       |              | initial treatmen    | nt plan  |      |            |            |
| 1 ACRE  | SQFEET= | 43560 | 92,800 sq ft | 111 40to            |          |      |            |            |
| SQMILE  | ACRES=  | 640   | 3.7 acres    | <b>TOTAL WEED</b>   | BED SIZE |      |            |            |
| SQMILE  | 5280    | 5280  | 27878400     |                     |          |      |            |            |
|         |         |       |              |                     |          |      |            |            |
|         |         |       | 100000       |                     |          |      |            |            |
| <b></b> |         |       | 159850       |                     |          |      |            |            |
| Х.      | 30      | 150   | 4500         |                     |          |      |            |            |
| W4      |         |       |              | EURASIAN MII        |          | 100% | N43.59.374 | W87.52.442 |
|         |         |       |              | WATERSTAR GRASS     |          | 1%   |            |            |
|         |         |       |              | CURLY LEAF PONDWEED |          | 4%   |            |            |
| W3      |         |       |              | <b>EURASIAN MII</b> | FOIL     | 95%  | N43.59.383 | W87.52.480 |
|         |         |       |              | CURLY LEAF          | PONDWEED | 1%   |            |            |



Pigeon Lake Water Quality Committee Weed Study Sept 3, 2005



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