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Eurasian Water-milfoil Survey Of Kangaroo Lake For Years 2006, 2008 and 2010. Plant Density, Plant Distribution, Water Depth, Bottom Character.

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Summary. These surveys are an outgrowth of our Kangaroo Lake Comprehensive Lake Management Study completed in 2004. Studies showed Eurasian Water-Milfoil (EWM) to be present and abundant in several locations in the middle area of the lake. Populations of EWM now occupy regions formerly occupied by native plants such as pondweeds (Potamogeton), as documented in past aerial photographs and recollections of older lake residents. Other parameters, including lake depth, accompanying plant species as well as lake bottom character, were included in the study to aid the interpretation of EWM on the biology of Kangaroo Lake. The surveys showed EWM to be spreading throughout the lake. Our interest is to determine the bases for its expansion and to develop ways and procedures to minimize its possible negative impact on the biology of Kangaroo Lake.

Introduction. This study was initiated following the completion (NES, 2004) of our Comprehensive Lake Management Study of Kangaroo Lake (Figure 1). Several members of our Association, with the encouragement from Tim Hoyman who carried out the lake management study on behalf of NES, proposed that we study the impact of EWM in the lake. A first step in considering management of EWM necessitates the determination of its distribution and abundance throughout the lake over a multiple period of years. Thus, we initiated in 2006 a biennial survey of EWM distribution using the point intercept procedure to examine Kangaroo Lake for the distribution of EWM (Figure 2).

This report documents the current locations and the effect of time on distribution of EWM, and associated features, using the point intercept coordinate grid on the large lake lobe south of the causeway. Results from this study make it possible to plan some kind of action on EWM as well as to compare its present distribution with that in future years so as to follow its rate and extent of spread in the lake.

An added parameter to this study of EWM distribution was the placement of 31 large log fish cribs in the lake (2002-03), and how they would impact EWM distribution (Figure 3). Cribs were not placed directly on any of the point intercept coordinates. Also they were empty of any plants at the time of placement. It was assumed, however, that plants either native or EWM may be growing in the vicinity of these empty cribs. Thus, if aquatic plants were to develop inside the cribs in subsequent years they would represent new locations.

The first survey, in 2006, was followed by similar surveys in 2008 and 2010 to gain insight on the progression of its spread during a period of time. We then prepared enlarged maps of the lake that contain color symbols to show distribution of EWM as determined from the surveys (Figures 4, 5, 6). Thus, we now have data from three surveys, 2006, 2008 and 2010 for comparative study [Table 1 (2006); Table 2 (2008); Table 3 (2010)].

Procedures. Kangaroo Lake is a large, shallow body of water divided by a causeway road into a small undeveloped northern lobe, ~200 acres, and a large developed southern lobe, ~1000 acres, in which this study was done (Figure 1). It is an elongated lake 3 miles long and about 1-mile wide, with an average depth of 6 feet and a maximum depth of 12 feet in a small area. This shallow lake is within 2 miles of Lake Michigan which affects its weather in that it becomes very rough from high winds associated with Lake Michigan.

The lake is fed by a small stream, Piel Creek, at its extreme north end. Heins Creek at the southeastern end drains the lake over a fixed dam and then descends 20 feet to Lake Michigan. Area of lake under 3 feet is 23%. It has a shoreline length of 9.35 miles, much of which in the south lobe has been cleared of fallen trees, although there are small undeveloped areas with natural tree-falls along the shore. Water sampling studies, including the lake trophic state and water temperature, have been in progress for over 20 years and those data are available on the DNR website. Fish studies also have been carried out on a regular basis by DNR Steve Hogler and are detailed on the Kangaroo Lake website, www.kangaroolake.org.

A 15-acre island is located near the center of the lake. About 1/4 of its margin has been developed. The remaining 3/4 of its area and related shoreline are wooded with many fallen trees extending into the water. The lake bottom around the island includes zones of marl, sand, gravel and rock. The island has been classified as a sensitive area, one of six such shoreline areas designated around this portion of the lake (Gansberg and Hoymann, 2003).

Point intercept coordinates (GPS sites). For this study the lake was overlain with a grid consisting of 530 sites identified as GPS waypoints (Figure 2). Sites or GPS coordinates are separated by about 330 feet, except in the middle region of the lake where a cluster of them is spaced more closely, about 165 feet apart. This central region was sampled more intensively because it was here that EWM was first detected, and we wanted to circumscribe its distribution more closely in this region. Tim Hoyman of Onterra , LLC (2004) prepared the point intercept coordinates map. Each site was identified with a GPS instrument, Garmin Etrex, as we moved slowly along the lake to take samples at each site.

Sampling was done with a DNR-approved modified steel garden rake. It was modified by attaching a second rake-end so that rake tines extended from both sides of the rake

bottom. A 15-ft handle, with a short extension, was adequate for sampling all sites. Handle length must be adequate to enable one to apply leverage to the rake tines so as to collect a sample from the lake bottom. Three people were necessary in the boat working to operate the motor, indicate GPS sites and record data, and to collect and identify plant samples on the rake. The lake was nearly at full-basin level, the water being a fraction of an inch below the top of the dam at time of sampling; this level was somewhat higher than typical for this time of year (September).

We surveyed all 530 sites in sequential order shown on the lake (Figure 2). At each site we raked a sample from the bottom to determine presence and density of EWM, and recorded it to be absent (0), only a few plants hanging on rake (1), one portion of rake covered with this plant (2), or over half of the rake covered with EWM (3). Results are given on the attached Tables 1-3 that show site number, GPS coordinates and a value of 0 to 3 for EWM density. We also collected additional data at each site, including the presence of other plant genera, lake depth in feet and character of the lake bottom. For the latter I could identify marl (very soft), sand, gravel, and rock by the feel of the rake when I moved the rake on the bottom. Data were collected in a similar manner for each report [Table 1 (2006), Table 2 (2008), Table 3 (2010)].

Fish crib installation. During the years 2002-2003 we placed 31 log cribs in Kangaroo Lake. They were constructed according to DNR guidelines and measured 8 feet long x 6 feet wide x 4 feet high boxes. A partial plank floor was placed at both ends of a crib to firm its shape. Each crib was essentially an open 8 ft. by 6 ft. box. The contractor delivered them to our two staging areas at the lakeshore.

Association members prepared them for installation. We inserted and nailed numerous hardwood branches, with 2-inch bases, to form a maze across the width at each level between the logs of a crib. This maze would provide refuge for fish when in the crib.

At this stage we tied four concrete blocks at the corners onto the plank floor to provide ballast to help sink the crib. Each crib was placed into shallow water, and we pushed them out to a depth where a crib would just float. They were left overnight to soak water and gently settle to the bottom. During this soaking period we finalized our work on a crib by attaching a concrete block to each top corner. The rope between the crib and block was about 3 feet long--long enough to enable us to place the blocks in a boat. These blocks were placed on the crib during the soaking period.

Each crib was transported to its location with small outboard motorboats. A soaked crib was positioned between the sides of two boats. The concrete blocks were temporarily placed in the boats, and the floating crib was slowly motored for 1-hour or less to a GPS-marked destination site. When at the site members in both boats simultaneously placed the four concrete blocks into the water, and the crib sank to the lake bottom in 9 ft of water. They were placed a similar distance from shore on both east and west sides of the lake (Figure 3).

Cribs were numbered 1 to 31, and placed in an oval pattern in the lake between the island and the south end, and spaced about equidistant from each other. Many cribs were named to honor those families who contributed to the cost of a crib, and a ceramic nameplate was attached to those cribs prior to placing them in the lake (Table 4).

Diving to examine cribs. Two experienced scuba divers attempted to examine and photograph the condition of the cribs during 2011. But conditions of the water, with its abundant algal content, made underwater visualization of anything around the cribs impracticable.

Results. Survey 2006. EWM was identified at 54 sites on the coordinate map (Table 5). The distribution and density among the 530 GPS sites is shown on the large colored map (Figure 4). It occurred as a mixed population with bladderwort, naiad and pondweed at densities 1 and 2, and some 3, but occurred alone at 9 of the 15 density 3 sites. Most of these sites were located in the 'middle' of the lake in the closely spaced sites shown on the map. It occurred alone at some sites where it grew as thick mats (density 3) on the lake bottom that excluded or limited growth of other plants (Table 1).

We noted that the lake bottom overall was quite barren. No plants were detected at 116 (21%) of the grid sites or lake bottom. Chara, a low-growing algal ground cover and tolerant plant, was present at 287 sites, over 50% of all sites on the lake bottom. A small-leaved pondweed, also a tolerant plant, was detected at 78 (14%) of the sites. Bladderwort and naiad each were present at 22% of the lake bottom. Large-leaf pondweed was found at only 5 (1%) of the sites; this desired plant for fish and waterfowl was formerly abundant in the lake. Only these six plants, alga, bladderwort, chara, naiad, pondweed, large-leaf pondweed along with EWM, were the common, dominant submerged plants throughout the lake, with large-leaf pondweed being negligible (Table 6).

An alga, (Dichotomosiphon tuberosus), a new report for this lake, was found on the lake bottom at 48 (9%) of the sites; it grows as a thin dark green/blackish soft mat on the bottom at depths from 4 to 11 feet. It does not occur in shallow water. Plant name was determined at a DNR laboratory (Table 6). Other algal species, not identified here, occur in the lake, both in suspension and attached on rocks and logs along the shore. These become most evident during the summer.

Survey 2008. The 2008 sampling showed EWM to be present at 37 of the 530 sites, and is shown on the enlarged colored map of the sites (Figure 5). This decreased number contrasted with the 54 sites observed in the 2006 survey. EWM presence included 15 sites with density #1, 6 sites with density #2 and 16 sites with density #3. EWM occurred alone at 14 of the 16 sites with density #3, while B or P were detected along with EWM at 4 sites. Chara was not detected at any sites containing EWM (Table 5).

Table 6 shows the name and number of aquatic plants recorded among the 530 sites. No plants (None) were detected at 152, or 28 %, of the sites. Chara (C) an alga

attached to the lake bottom was most prevalent (289 sites). Bladderwort (B) was the most prevalent of seed plants at 123 sites. Naiad showed a decrease in number compared to 2006. Pondweed (P) was present at 90 sites, but large-leaf pondweed (Pl) was not detected this year. Dichotomosiphon (A), a bottom-dwelling alga, occurred at 41 sites, a level similar to that in 2006.

Survey 2010. The 2010 sampling showed EWM to be present at 36 sites of the 530 sites and is shown on the large colored map of the sampling area (Figure 6). There was a decrease in all densities for presence of EWM compared to the 2006 sampling, but the pattern in decrease was similar to that in 2008 (Table 5).

Bladderwort, naiad and large-leaf pondweed also were present at an increased number of sites compared to 2008. Large-leaf pondweed was detected at more sites in 2010 than in the previous sampling periods (Table 6).

The alga showed an increased presence over that for both 2006 and 2008. Chara increased to 68 sites (12%) on the lake bottom. Dichotomosiphon increased to 68 sites, up about 5% over 2006 and 2008. Chara grows at all water depths, but Dichotomosiphon grows only in deep water (Table 6).

Fish Cribs. It is most probable that aquatic plants were in the vicinity of cribs, although we did not search for them specifically. Placement of cribs was intended to expand the area of fish and biological habitat. Most of the lake bottom where the cribs were placed lacked submerged plants except for possibly Chara. However, within 4 years EWM was evident in the cribs. In 2010, I reconfirmed that EWM was present at all cribs. EWM has now expanded to new sites in the southern half of the lake where it was not detected previously. Similarly, fish cribs north of the central EWM presence also contained EWM (Figures 4, 5, 6; Table 5).

In several fish cribs, where the box was evident from the lake surface, EWM was the only plant and filled the entire box. Native plants were growing in the area surrounding the crib (Table 4). During late summer EWM leaves reached the lake surface as dense shoots and flowered (top out). However, all cribs did not top out each year.

Water Depth. EWM occurs predominantly in deep water--5 to12 feet deep for samples from all three years. At only a few sites was it present in shallow water of 1 to 4 feet. It does not occur typically in shallow water. Even for plants found in shallow water, they were usually a single, small-sized cluster and not robust patches. Water depth is shown at all sites (Tables 1, 2, 3).

Bottom Character. EWM populations were present primarily on marl bottom as determined from sampling sites in all three years. Only occasionally were they present on a rocky lake bottom. It was absent from lake gravel beds. But, elsewhere in the lake

--along the north side of the causeway--we have found it growing in gravel in shallow water (this area was outside of our present study). EWM was not found growing on sandy lake bottom in shallow or deep water (Tables 1, 2, 3, 7).

We do not have data for lake bottom character under the fish cribs or of the immediate area around each crib at this time.

Discussion. Eurasian Water-milfoil. Data from sampling the 530 GPS sites indicate that the abundance of EWM decreased somewhat during the three sampling periods. However, the 31 fish cribs in the lake showed a very different phenomenon in that EWM spread rapidly to all 31 fish cribs within a 5-6 year period, and was present in all cribs in 2010. As a net result the number of EWM populations in the lake has greatly increased, and are now present in the broad area of the south end, as well as the area toward the island. The abundance of growth also is notable in that EWM completely fills a crib box, at least for those cribs where we can recognize the box outline from the lake surface.

Populations in cribs also have been observed to grow to the lake surface with both vegetative and flowering shoots (top out) more rapidly than the majority of those observed at GPS coordinate sites. However, EWM does not top out in all cribs each year, so in this way they may be similar to GPS site populations.

It is not clear what conditions contributed to the contrasting pattern of development in which EWM establishes itself in cribs but does not become established in marl in the immediate proximity of cribs.

Presence of EWM in cribs has contributed to an improvement in biological habit. Fish of different sizes frequent the cribs, and people do fish at or near the cribs. Although we have not searched for aquatic organism diversity at cribs, most probably many organisms are present at the cribs.

Several observations help to explain the rapid spread of EWM to the cribs, yet do not explain the apparently slow spread of EWM from its initial central site of invasion in the lake. Autofragmentation, and chopping off of shoots by motorcraft, may have contributed to the phenomenon, along with frequent windy conditions on the lake. When EWM patches top out--both vegetative and flowering shoots become abundant at the lake surface--vegetative shoots readily develop roots along their axes. Such rooted shoots separate from the plant and then drift about as floating shoots. They are capable of establishing new plants at other locations in the lake. If such shoots become entangled in a crib, it could establish a growing plant.

Windy conditions on the lake may aid establishment, such as in cribs. Storms disturb bottom sediments, especially from barren bottom, and bring them up into the water column. This condition is very evident on the lake during a storm; it takes a day or two for them to settle out. These sediments undoubtedly settle in cribs, as elsewhere, and may aid the rooting of plantlets washed into cribs. The rapidity of EWM growth could

exceed that of native plants, whereby EWM could dominate the new growth area in the crib.

It is important to note, however, that autofragmentation does not lead to rampant spread of EWM in Kangaroo Lake. It does not result in its establishment along shorelines especially sandy shoreline. It does not result in EWM becoming established among fallen trees along the shoreline, such as along the wooded shoreline of the island or the south end.

During several recent years autofragmentation resulted in considerable EWM being accumulated along shorelines. Landowners removed wheelbarrel loads and even pickup truck-loads of material. Yet no EWM became established at those locations. There have been very few instances where an EWM became established near a shoreline, but such cases are rare considering the quantity of fragmented EWM that is blown onto the shoreline. So it is necessary for us to identify factors necessary for fragments or other parts to effectively become established in a new location. What factors are essential for establishment?--water depth, type of soil, nutrients, an object to entangle the plant, time of year, or other conditions?

However, there is one exception to the above comment. EWM fragments do establish themselves along the shoreline of the causeway especially on the north side of the causeway. The causeway area has been an especially difficult area and problem related to the control of EWM, and is currently under study.

It also is not clear how the character of the bottom supports the spread of EWM. We distinguished between four types of lake bottom--marl, sand, gravel and rock. The GPS coordinate sites were mostly marl. Thus, there are many more such sites in the lake than the other types of bottom. Yet EWM, apparently, is not spreading rapidly to other marl sites. Why did it spread so rapidly into cribs with their odd, woody presence rather than onto marl sites nearby?

It has established itself on a rocky reef at one location in the lake, near crib 16, but it is absent from the rocky reef near crib 9. Both sites are in open water, and EWM undoubtedly has floated across both reefs.

EWM flowers in Kangaroo Lake, but I do not know if it sets seed. Auto-fragmentation, however, provides vegetative materials far in excess of seed stock to establish new populations within the lake.

Kangaroo Lake was included in a biocontrol study to evaluate the effect of the milfoil weevil (Euhrychiopsis lecontei) on attacking EWM. It was not effective for Kangaroo Lake. The weevil did not over-winter successfully. Perhaps the biology of the shoreline did not aid survival, and lake size made it difficult for the weevil to travel to and from EWM.

Bladderwort. The recorded increase in the bladderwort population during the three samplings is also supported from visual observations on the lake. I could recognize an increased abundance of this plant. It survives the decreased clarity of the water, related to suspended algae, and forms very robust plants. It reproduces vegetatively in our study area. I have not observed flowers in our study area, but have seen them in the north lobe in quiet areas. If plants are pulled up and then returned to the water, or broken as during fishing, they will continue to grow. Released plants will float for a time, but then slowly drop to the bottom and re-root.

For vegetative reproduction of bladderwort, the shoot tips form turions, or overwintering buds, consisting of a shoot tip with shortened internodes along with many leaves--something like an onion bulb. To test their effectiveness, in mid-October of 2011, I collected 50 turions into a weighted18-inch diameter mesh bag and placed it in 3 feet of water for over winter. In spring after the ice went off the lake I retrieved the bag and tied it to my pier to watch development. As the water warmed, all turions had survived, began to grow and form roots. I released them and did not watch them further. I observed that bladderwort plants growing throughout our study area, such as in wind-prone areas in the middle of the lake, will form turions as will those is less windy bays such as at GPS site 501. I am not familiar with how weather conditions affect the number of turions formed during the season.

Other plants. It remains to be determined from future surveys whether the variations in the number of occupied sites for a particular species, as bladderwort, represents a variable that would be detectable over many years, or whether it is indicative of a long-term change in population size for a species in an aquatic environment. It is currently unclear whether the combined occurrence of EWM with bladderwort influences the growth and density of either plant.

The role of each plant in relation to EWM could be examined individually. The apparent increase of large-leaf pondweed is a particular point. Similarly, a comparison of chara for our study period, as well as its role in bottom stabilization, may be important. Chara occupies a significant area of the lake bottom. What role does it play in bottom stabilization and wave-related movement of sediments into the water column? Chara grows in water at all depths which may be a significant point for its survival in relation to EWM.

Summary. This information on the distribution of EWM in the south basin of the lake can provide the basis for developing a plan to manage EWM in Kangaroo Lake. We present them here for your review and further discussion.

We believe that we have been successful in improving fish and biological habitat in general with the installation of cribs. The rapid invasion of the cribs by EWM was unexpected. At present EWM occupies crib areas. It is unclear whether EWM will affect the area around a crib and expand widely in the lake.

Addendum. Our GPS data collection procedure was similar and repetitious throughout this study. We used a small open 14- or 16-foot highly maneuverable outboard motorboat. Two identical GPS instruments guided us to sites, one used by the operator and the other by the recorder at the front of the boat. GPS unit could detect a spatial difference between these two people in the boat. The collector was in the middle of the boat. The open boat enabled him to reach over the side close to the water so as to manipulate the rake with its long handle, marked at foot intervals, to collect a sample.

We sampled sites in a sequentially pattern across the lake. The operator maneuvered the boat slowly on a course toward each site, both instruments constantly recording progress. I readied the rake as we approached a recording site.

When the recorder's GPS crossed the coordinates, the operator put the motor into neutral, and I then thrust the rake down to the bottom to collect the sample. I called out lake depth and character of the lake, and brought up the plant sample for examination. I then called out the code words for EWM density and for each plant so the recorder could enter the information on our data sheets. Other points of interest, if any, also were noted. The operator then put the motor in gear to move on to the next site. If we were off-course on our approach to a site, the operator circled or otherwise changed course to re-approach the site.

The collection process is time-consuming and tiring. We typically worked without a break for 3 or 4 hours for one day, weather permitting. The same three people did the collection for 2006, 2008 and 2010. Thus our work ethic became more efficient with each collection year. In 2010 we three worked on the lake for four time-periods, and I worked periods alone on the lake to sample isolated locations. Total time to sample the 530 sites was about 80 hours for all of us.

We consider our procedure to be accurate and repeatable although we realize that the rake tip does not touch the exact same bottom point for each sampling year. We are within the capabilities of our GPS instruments, and their readings are quite reproducible. For example, many times for several summer I intentionally motor out to the coordinates of a known crib location. I find when at the site that I am within a boat-length of the crib, or directly over it. We are confident that successive samplings at a given GPS site are within a number of feet of each other.

References.

NES Ecological Services. 2004. Kangaroo Lake Comprehensive Lake Management Study, 39 pages plus figures. Green Bay, WI.

Gansberg, M. and T Hoymann. 2003. Sensitive area designation report. Kangaroo Lake, Door County, pp. 1-24. WDNR, Green Bay, Wisconsin.

Jester, L. 1998. The geographic distribution of the aquatic milfoil weevil (Euhrychiopsis lecontei) and factors influencing it density in Wisconsin lakes, 78 p. Masters thesis. NRCNR, University of Wisconsin, Stevens Point, WI.

Kangaroo Lake Study

List of Figures and Tables.

Figure 1. Kangaroo Lake, general map.

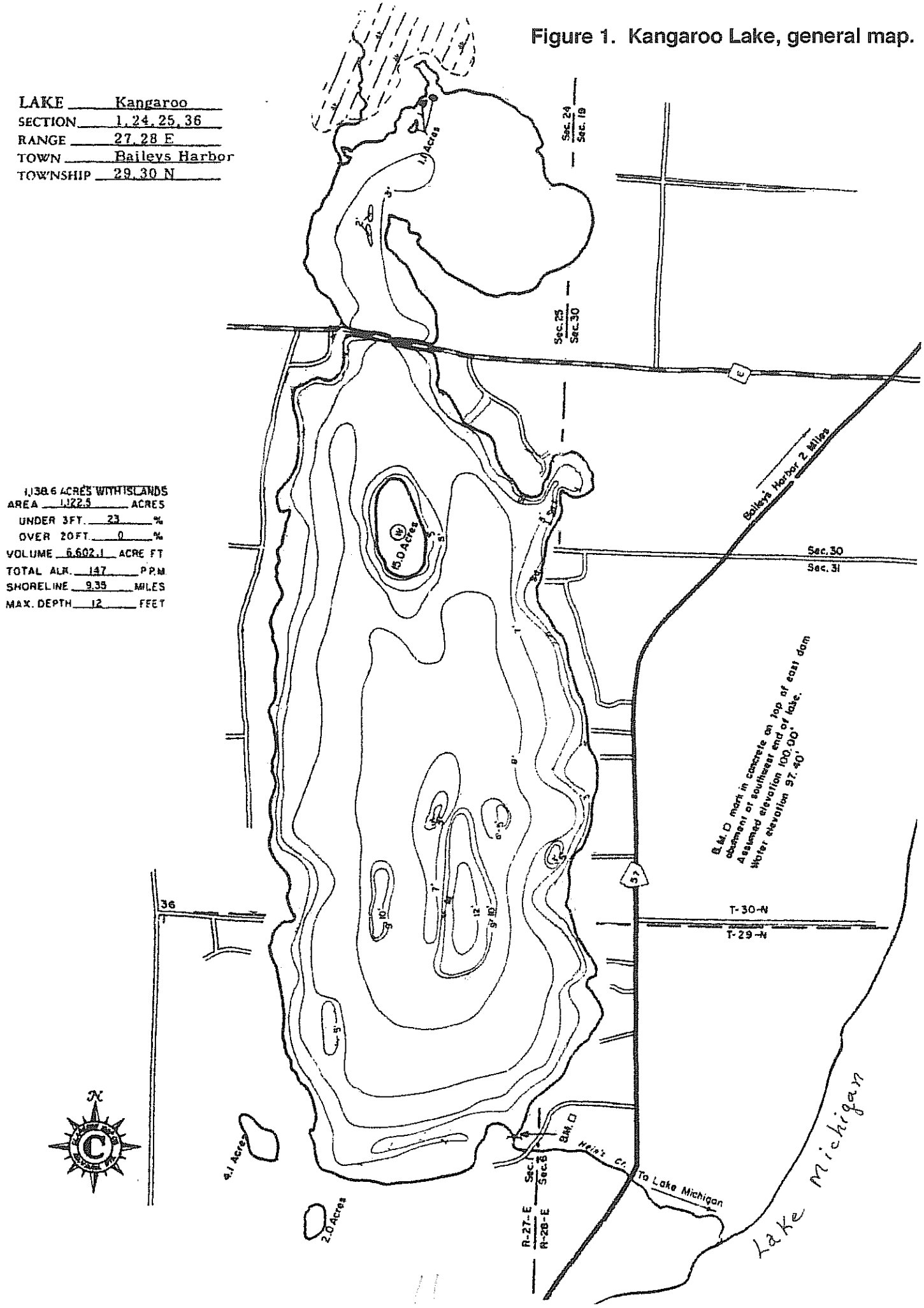
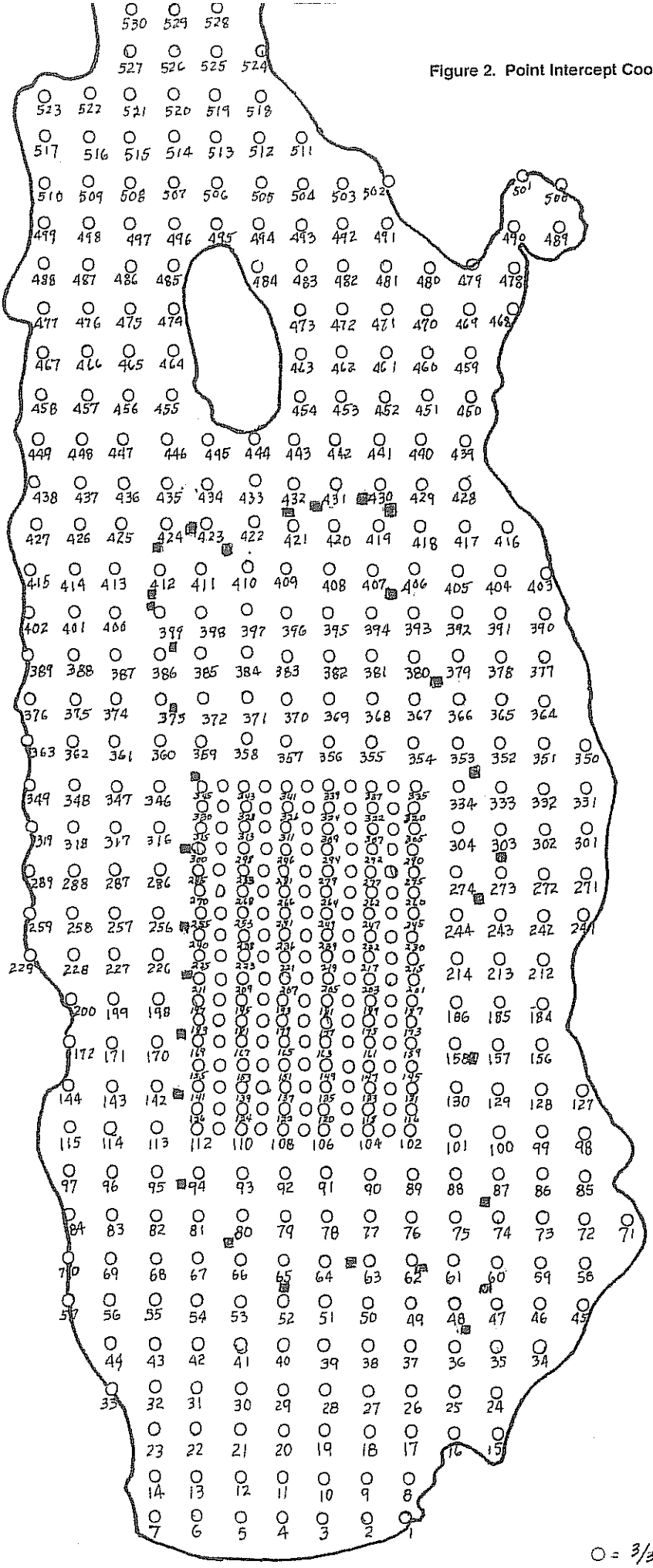


Figure 2. Point Intercept Coordinates.



Rm? 6

em = #49 pondweed
#51 Bladderwort

ls = #9 EWM-1
#17 Fnwm-2

○ = 3/32

Figure 3. Fish Crib Locations.

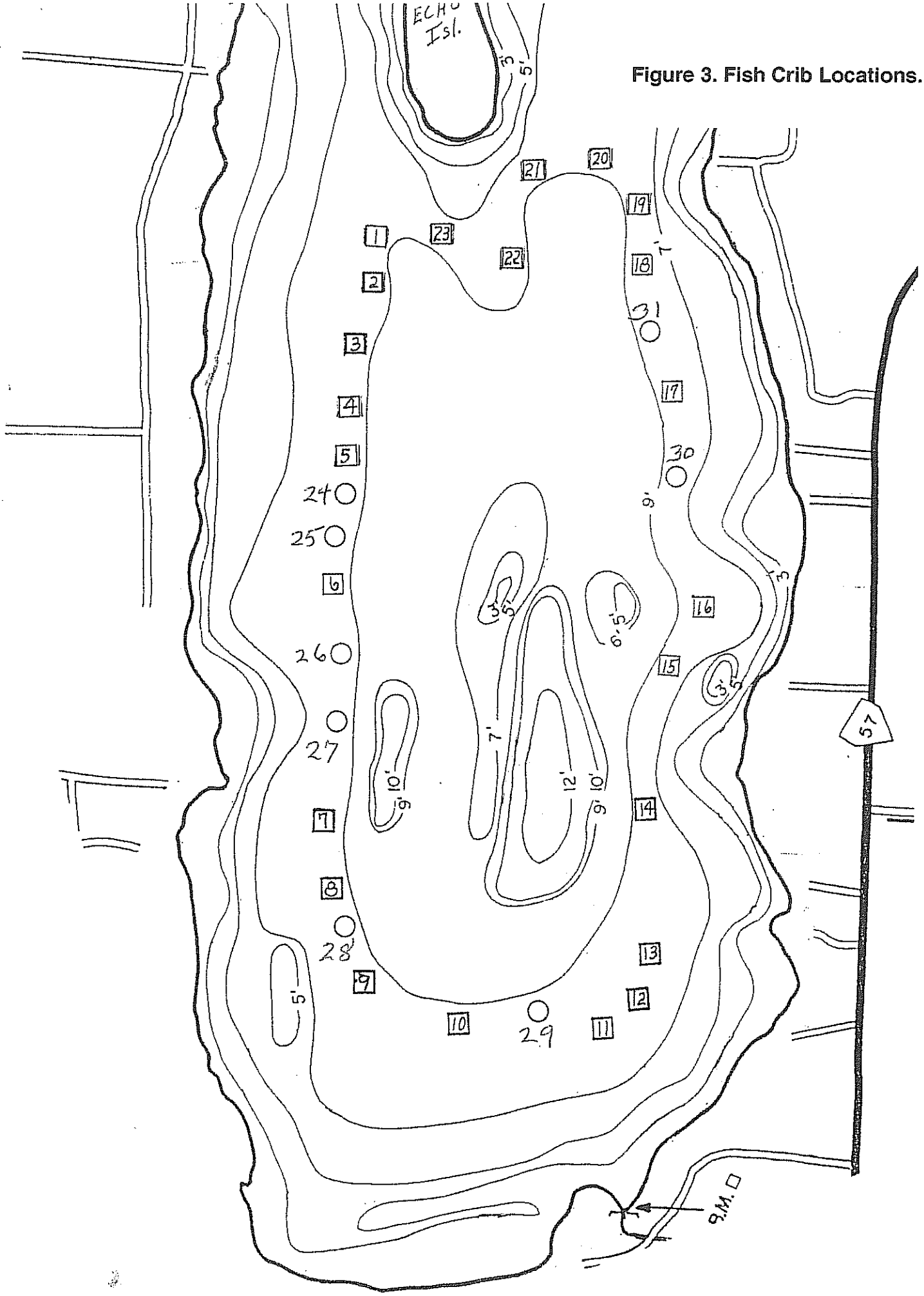
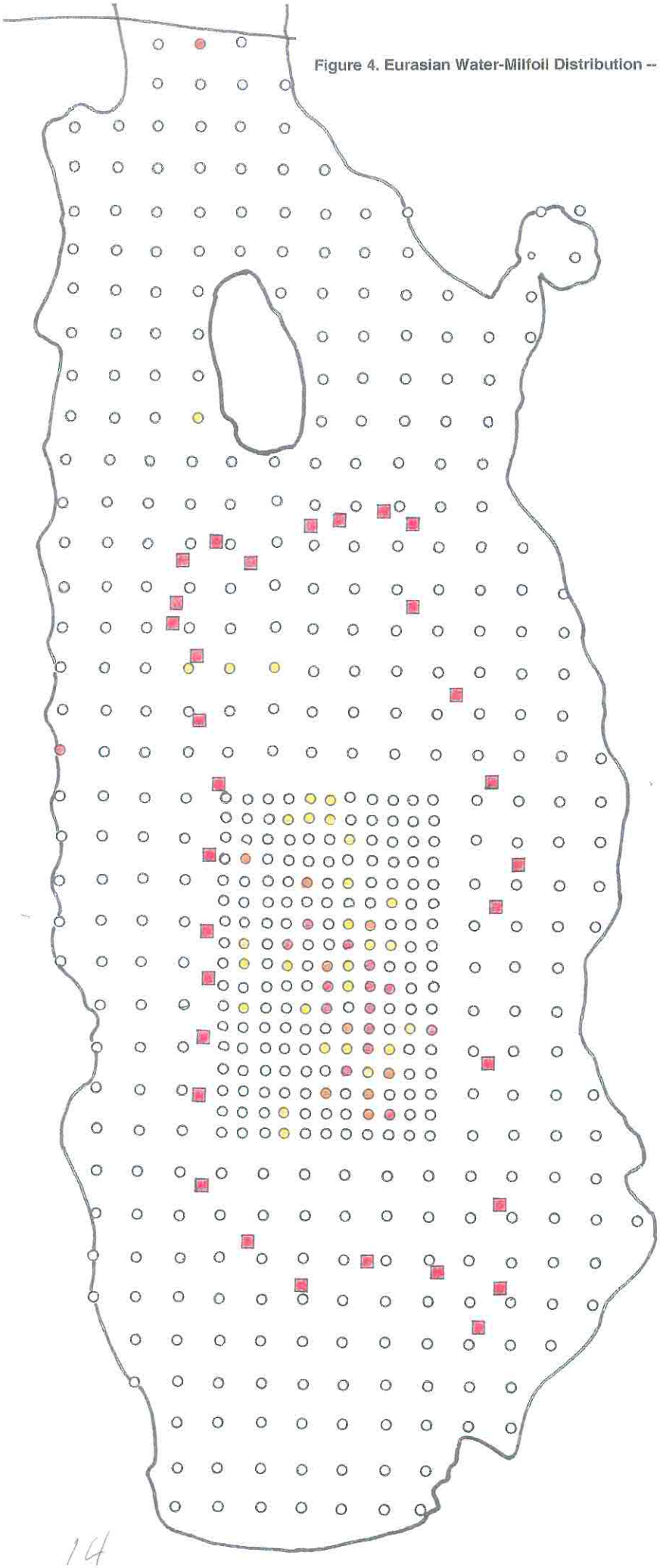


Figure 4. Eurasian Water-Milfoil Distribution -- 2006



KANGAROO LAKE

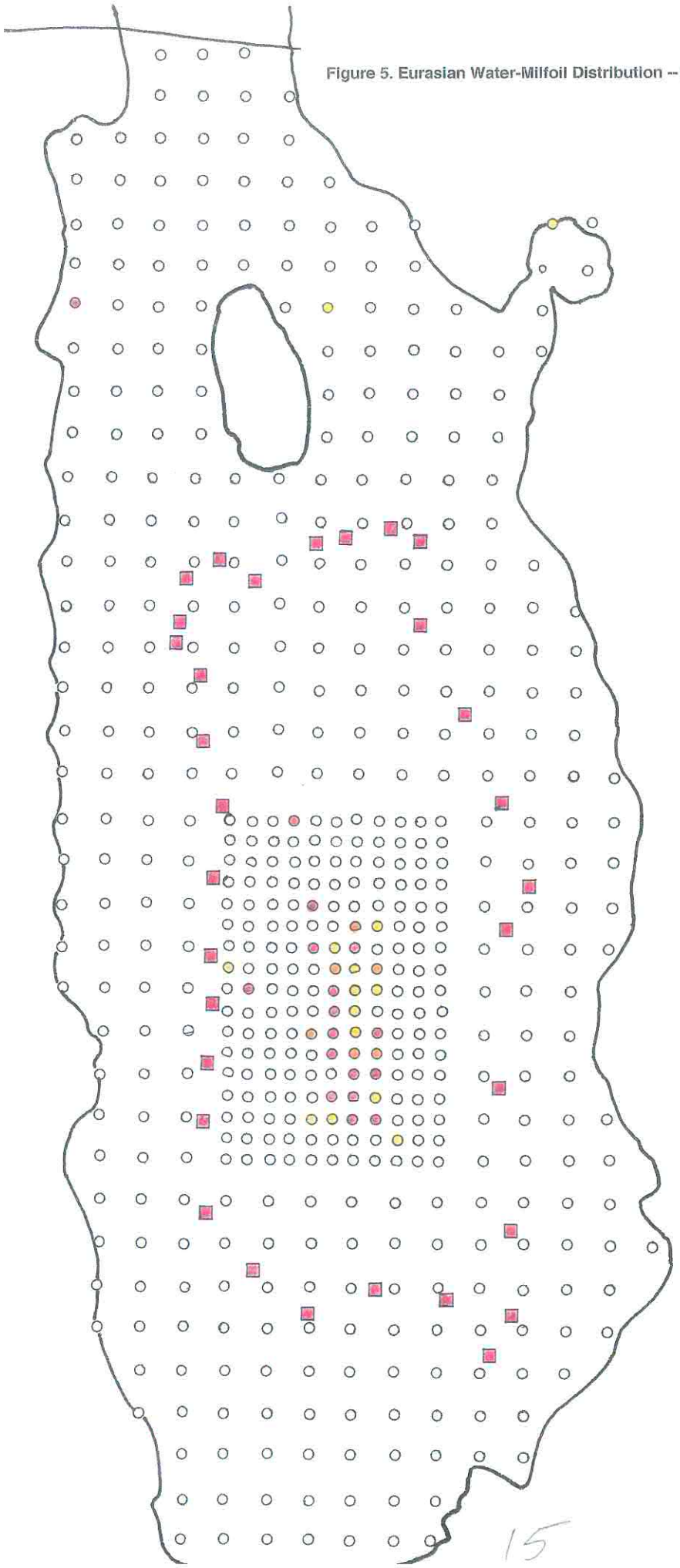
EURASIAN WATER MILFOIL SURVEY

YEAR 2006

LEGEND

- Samples taken
- EWM, light density
- EWM, medium density
- EWM heavy density
- Pond weeds
- Bladderwort
- Fish Cribs

Figure 5. Eurasian Water-Milfoil Distribution -- 2008.



KANGAROO LAKE

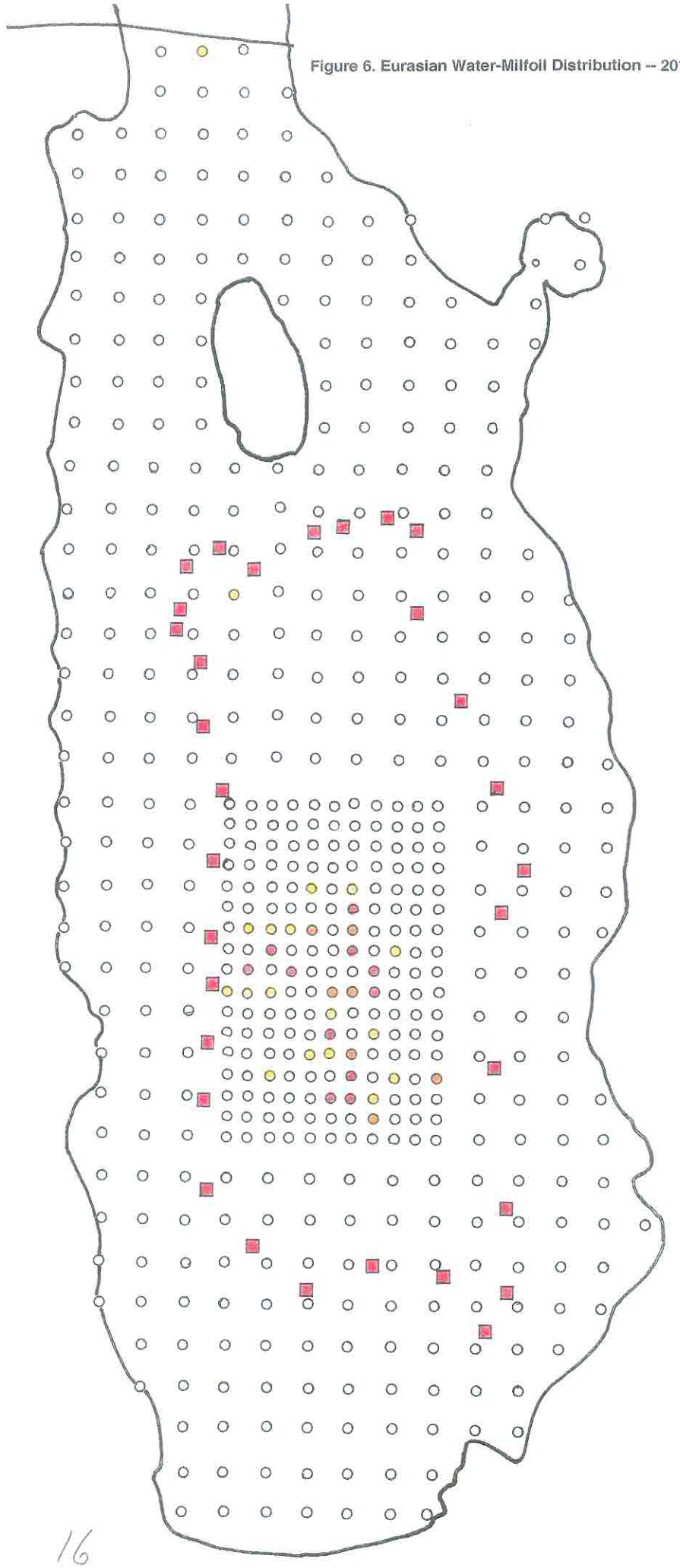
EURASIAN WATER MILFOIL SURVEY

YEAR 2008

LEGEND

- Samples taken
- EWM, light density
- EWM, medium density
- EWM heavy density
- Pond weeds
- Bladderwort
- Fish Cribs

Figure 6. Eurasian Water-Milfoil Distribution -- 2010.



KANGAROO LAKE

EURASIAN WATER MILFOIL SURVEY

YEAR 2010

LEGEND

- Samples taken
- EWM, light density
- EWM, medium density
- EWM heavy density
- Pond weeds
- Bladderwort
- Fish Cribs

Kangaroo Lake Study

Table 4. Eurasian Water-milfoil in Fish Cribs. Year: 8 - 2010

NUMBER NAME	GPS LOCATION		EWM
1. Thompson	N 45° 02.202	W 87° 09.739	Filled
2. Glennon	N 45° 02.137	W 87° 09.739	Filled
3. Malenius	N 45° 02.121	W 87° 09.741	Filled
4. Madigan/Bell	N 45° 02.055	W 87° 09.726	Filled
5. Quinnies	N 45° 01.975	W 87° 09.735	Filled
24. Year 2003	N 45° 01.897	W 87° 09.691	Filled
25. Year 2003	N 45° 01.806	W 87° 09.721	Filled
6. Jerovitz	N 45° 01.720	W 87° 09.698	Filled
26. Year 2003	N 45° 01.646	W 87° 09.707	Filled
27. Year 2003	N 45° 01.570	W 87° 09.714	Filled
7. Rushes WF	N 45° 01.504	W 87° 09.741	Filled
8. Rushes WF	N 45° 01.394	W 87° 09.688	Filled
28. Year 2003	N 45° 01.323	W 87° 09.614	Filled
9. Rushes WF	N 45° 01.275	W 87° 09.545	Filled
10. Smigielski	N 45° 01.290	W 87° 09.412	Filled
29. Year 2003	N 45° 01.281	W 87° 09.316	Filled
11. Schoof/Bezold	N 45° 01.304	W 87° 09.234	Filled
12. Walt/M Schoof	N 45° 01.332	W 87° 09.188	Filled
13. Livengood	N 45° 01.361	W 87° 09.166	Filled
14. Cypert/Mahlberg	N 45° 01.536	W 87° 09.225	Filled
15. Lipowski	N 45° 01.738	W 87° 09.183	Filled
16. Frelly	N 45° 01.780	W 87° 09.135	Filled
30. Year 2003	N 45° 01.895	W 87° 09.203	Filled
31. Year 2003	N 45° 02.014	W 87° 09.240	Filled
17. Anschutz	N 45° 02.127	W 87° 09.309	Filled
18. Gissell/Keene	N 45° 02.209	W 87° 09.345	Filled
19. Meyer	N 45° 02.241	W 87° 09.352	Filled
20. Kubiak	N 45° 02.239	W 87° 09.438	Filled
21. A, D, G	N 45° 02.222	W 87° 09.491	Filled
22. Mahlberg	N 45° 02.186	W 87° 09.631	Filled
23. Steldt	N 45° 02.210	W 87° 09.675	Filled

Table 5. EWM Density Among 530 GPS Sites In Each Survey, And In 31 Cribs.

EWM Density	2006	2008	2010	Cribs in 2010
0	476	456	494	-
1	29	15	18	-
2	10	6	7	-
3	15	16	11	31
Total EWM sites:	54	74	36	31

Table 6. Aquatic Plant Distribution Among 530 GPS Sites In Each Survey.

Plant	2006	2008	2010
None	116 (21%)	152 (28%)	106 (20%)
A = alga	48	41	68
B = bladderw	120	123	142
C = chara	287	289	315
N = naiad	128	30	58
P = pondw	78	90	64
Pl = large pondw	5	0	31

Table 7. Bottom Character Among 530 GPS Sites In Each Survey.

Type	2006	2008	2010
Marl	481	479	468
Sand	17	7	26
Gravel	3	4	5
Rock	29	40	31

TABLE 1. EURASIAN WATER-MILFOIL SURVEY OF KANGAROO LAKE -- 2006

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM Density	PLANT	DEPTH	BOTTOM CHARA.
1	45	0.96273	87	9.33182	0	--	1	Rock
2	45	0.96462	87	9.40788	0	--	1	
3	45	0.96652	87	9.48393	0	--	1	
4	45	0.96841	87	9.55999	0	--	1	Rock
5	45	0.97030	87	9.63604	0	--	1	Rock
6	45	0.97219	87	9.71210	0	--	1	Rock
7	45	0.97409	87	9.78815	0	--	1	
8	45	1.01667	87	9.32915	0	--	1.5	Rock
9	45	1.01857	87	9.40520	0	--	4	Rock
10	45	1.02046	87	9.48126	0	C	5	
11	45	1.02235	87	9.55732	0	C, P	5	
12	45	1.02425	87	9.63337	0	C	5	
13	45	1.02614	87	9.70943	0	--	5	
14	45	1.02803	87	9.78549	0	C	3.5	
15	45	1.06682	87	9.17436	0	--	1	Rock
16	45	1.06872	87	9.25042	0	--	1	Rock
17	45	1.07061	87	9.32647	0	--	4	Rock
18	45	1.07251	87	9.40253	0	C	5	
19	45	1.07441	87	9.47859	0	C	5	
20	45	1.07630	87	9.55465	0	C	5	
21	45	1.07819	87	9.63070	0	--	5.5	
22	45	1.08008	87	9.70676	0	P	5	
23	45	1.08198	87	9.78282	0	--	1	
24	45	1.12077	87	9.17169	0	--	4.5	Rock
25	45	1.12266	87	9.24774	0	--	6	
26	45	1.12456	87	9.32380	0	C	6	
27	45	1.12645	87	9.39986	0	C	5.5	
28	45	1.12835	87	9.47592	0	C	5.5	
29	45	1.13024	87	9.55198	0	B, C	6	
30	45	1.13214	87	9.62804	0	C	5.5	
31	45	1.13403	87	9.70409	0	--	5	
32	45	1.13592	87	9.78015	0	C	4	
33	45	1.13781	87	9.85621	0	--	4	Rock
34	45	1.17281	87	9.09295	0	--	1	
35	45	1.17471	87	9.16901	0	--	6	Rock
36	45	1.17661	87	9.24507	0	--	6.5	
37	45	1.17850	87	9.32113	0	C	6.5	Sand

Rock 12
Sand 1

Table 1: 19-32

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38	45	1.18040	87	9.39719	0	C	6	
39	45	1.18229	87	9.47325	0	C	6	
40	45	1.18419	87	9.54931	0	C	6	
41	45	1.18608	87	9.62537	0	--	6	
42	45	1.18797	87	9.70143	0	B, C	5.5	
43	45	1.18987	87	9.77749	0	B	4.5	
44	45	1.19176	87	9.85355	0	--	1.5	
45	45	1.22486	87	9.01421	0	--	2.5	Rock
46	45	1.22676	87	9.09027	0	B	6	
47	45	1.22866	87	9.16633	0	C	6.5	
48	45	1.23055	87	9.24239	0	B	7	
49	45	1.23245	87	9.31846	0	C	7	
50	45	1.23434	87	9.39452	0	C	7	
51	45	1.23624	87	9.47058	0	C	5.5	
52	45	1.23813	87	9.54664	0	B, C	6.5	
53	45	1.24003	87	9.62270	0	B, C	6.5	
54	45	1.24192	87	9.69876	0	C	6	
55	45	1.24381	87	9.77482	0	--	2	
56	45	1.24570	87	9.85088	0	--	2	Rock
57	45	1.24759	87	9.92694	0	--	1.5	Sand
58	45	1.27880	87	9.01154	0	--	2	Sand
59	45	1.28070	87	9.08760	0	--	6	
60	45	1.28260	87	9.16366	0	B	6.5	
61	45	1.28450	87	9.23972	0	B, C	7.5	
62	45	1.28639	87	9.31578	0	C	7.5	
63	45	1.28829	87	9.39184	0	C	7.5	
64	45	1.29018	87	9.46791	0	C	7	
65	45	1.29208	87	9.54397	0	C, P	7	
66	45	1.29397	87	9.62003	0	C	7	
67	45	1.29586	87	9.69609	0	C	6.5	
68	45	1.29776	87	9.77215	0	--	0.5	Rock
69	45	1.29965	87	9.84822	0	--	1.5	Sand
70	45	1.30154	87	9.92428	shore 0	--	2	
71	45	1.33085	87	8.93280	shore 0	--	0.5	
72	45	1.33275	87	9.00886	0	C	5	Sand
73	45	1.33465	87	9.08492	0	B	6	
74	45	1.33654	87	9.16098	0	B, P	7	
75	45	1.33844	87	9.23705	0	--	8	
76	45	1.34034	87	9.31311	0	C	8	

Rock – 3
Sand – 4

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77	45	1.34223	87	9.38917	0	C	7.5	
78	45	1.34413	87	9.46523	0	B, C	7	
79	45	1.34602	87	9.54130	0	A	7	
80	45	1.34792	87	9.61736	0	C	8.5	
81	45	1.34981	87	9.69342	0	C	7	
82	45	1.35170	87	9.76949	0	C	6	
83	45	1.35359	87	9.84555	0	C	4.5	
84	45	1.35548	87	9.92162	0	_	2	
85	45	1.38669	87	9.00618	0	C	4	
86	45	1.38859	87	9.08224	0	C	5	
87	45	1.39049	87	9.15831	0	--	7	
88	45	1.39239	87	9.23437	0	C	9	
89	45	1.39428	87	9.31043	0	C	10	
90	45	1.39618	87	9.38650	0	C	10	
91	45	1.39807	87	9.46256	0	--	9	
92	45	1.39997	87	9.53863	0	C	9	
93	45	1.40186	87	9.61469	0	C	9	
94	45	1.40375	87	9.69076	0	C	6	
95	45	1.40565	87	9.76682	0	C	4	
96	45	1.40754	87	9.84289	0	C	3	
97	45	1.40943	87	9.91895	0	--	2	
98	45	1.44064	87	9.00350	0	C	2	Sand
99	45	1.44254	87	9.07957	0	C	5	
100	45	1.44443	87	9.15563	0	--	5	
101	45	1.44633	87	9.23170	0	--	8	
102	45	1.44823	87	9.30776	0	B, C	10	
103	45	1.44918	87	9.34579	0	A	10	
104	45	1.45012	87	9.38383	0	A, N, C	9	
105	45	1.45107	87	9.42186	0	C	9	
106	45	1.45202	87	9.45989	0	C	9	
107	45	1.45297	87	9.49792	0	N	9	
108	45	1.45391	87	9.53596	0	N	8	
109	45	1.45486	87	9.57399	1	C	7	
110	45	1.45581	87	9.61202	0	C, N	9	
111	45	1.45675	87	9.65006	0	C, N B	8.5	
112	45	1.45770	87	9.68809	0	-	8	
113	45	1.45959	87	9.76415	0	C	8	
114	45	1.46148	87	9.84022	0	-	5	
115	45	1.46337	87	9.91629	0	C	4	

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116	45	1.47520	87	9.30642	0	A, N B	9.5	
117	45	1.47615	87	9.34446	0	A, N B	11	
118	45	1.47710	87	9.38249	3	-	9	
119	45	1.47804	87	9.42052	2	A	9	
120	45	1.47899	87	9.45856	0	C, B	9	
121	45	1.47994	87	9.49659	0	C, B, N	9	
122	45	1.48089	87	9.53462	0	B, P, N	7	
123	45	1.48183	87	9.57265	1	C N P B	6.5	
124	45	1.48278	87	9.61069	0	C, N	10	
125	45	1.48373	87	9.64872	0	C, N	9	
126	45	1.48467	87	9.68675	0	C	8	
127	45	1.49458	87	9.00082	shore 0			Rock
128	45	1.49648	87	9.07689	0	-	5	Sand
129	45	1.49838	87	9.15295	0	-	8	
130	45	1.50028	87	9.22902	0	C, N	9	
131	45	1.50217	87	9.30509	0	C	10	
132	45	1.50312	87	9.34312	0	C, N	11	
133	45	1.50407	87	9.38115	0	N	11	
134	45	1.50502	87	9.41919	2	B	9	
135	45	1.50596	87	9.45722	0	-	10	
136	45	1.50691	87	9.49525	2	P	9	
137	45	1.50786	87	9.53329	0	P, N	8	
138	45	1.50880	87	9.57132	0	C, P B	7	
139	45	1.50975	87	9.60935	0	C, B	10	
140	45	1.51070	87	9.64739	0	C	9.5	
141	45	1.51164	87	9.68542	0	C, B	10	
142	45	1.51354	87	9.76149	0	C	8	
143	45	1.51543	87	9.83756	0	C	5	
144	45	1.51732	87	9.91362	0	B, P C	3	
145	45	1.52915	87	9.30375	0	N, C P	10	
146	45	1.53009	87	9.34178	0	N, B	11	
147	45	1.53104	87	9.37982	2	-	11	
148	45	1.53199	87	9.41785	1	N	9.5	
149	45	1.53294	87	9.45588	3	B	10	
150	45	1.53388	87	9.49392	0	N	9	
151	45	1.53483	87	9.53195	0	N	7.5	
152	45	1.53578	87	9.56998	0	N, C	7.5	
153	45	1.53672	87	9.60802	0	C	9.5	
154	45	1.53767	87	9.64605	0	C	9.5	

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155	45	1.53862	87	9.68409	0	C, B	8.5	
156	45	1.55042	87	9.07421	0	-	2	
157	45	1.55232	87	9.15028	0	C	7	Sand
158	45	1.55422	87	9.22634	0	C	9	
159	45	1.55612	87	9.30241	0	-	10	
160	45	1.55707	87	9.34045	0	-	10.5	
161	45	1.55801	87	9.37848	1	-	11	
162	45	1.55896	87	9.41651	3	P	10	
163	45	1.55991	87	9.45455	1	B	11	
164	45	1.56086	87	9.49258	1	N, P	8.5	
165	45	1.56180	87	9.53062	0	N	8	
166	45	1.56275	87	9.56865	0	N	8	
167	45	1.56370	87	9.60668	0	N	8	
168	45	1.56464	87	9.64472	0	B, C	10	
169	45	1.56559	87	9.68275	0	N	9	
170	45	1.56748	87	9.75882	0	N	8	
171	45	1.56937	87	9.83489	0	P, N C	7	
172	45	1.57126	87	9.91096	0	-	4	
173	45	1.58309	87	9.30108	0	N	10	
174	45	1.58404	87	9.33911	1	N	11	
175	45	1.58499	87	9.37714	0	N	11.5	
176	45	1.58593	87	9.41518	3	-	11.5	
177	45	1.58688	87	9.45321	2	-	9.5	
178	45	1.58783	87	9.49125	3	-	9	
179	45	1.58877	87	9.52928	0	B, N P	7	
180	45	1.58972	87	9.56731	0	N, C P	6.5	
181	45	1.59067	87	9.60535	0	C, B	9	
182	45	1.59162	87	9.64338	0	N, C	9.5	
183	45	1.59256	87	9.68142	0	C	8	
184	45	1.60437	87	9.07153	0	--	2	
185	45	1.60627	87	9.14760	0	--	6	Rock
186	45	1.60817	87	9.22367	0	C	8	
187	45	1.61006	87	9.29974	0	B	10	
188	45	1.61101	87	9.33777	0	P, B	10.5	
189	45	1.61196	87	9.37581	0	N	12	
190	45	1.61291	87	9.41384	3	--	11	
191	45	1.61385	87	9.45188	0	P	10	
192	45	1.61480	87	9.48991	3	B	8	
193	45	1.61575	87	9.52795	1	N, C	6	

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194	45	1.61669	87	9.56598	0	N	8	
195	45	1.61764	87	9.60401	0	N	9	
196	45	1.61859	87	9.64205	1	C, B	9	
197	45	1.61953	87	9.68008	0	C	8	
198	45	1.62143	87	9.75615	0	N	6	
199	45	1.62332	87	9.83222	0	B, N	5	
200	45	1.62521	87	9.90829	0	C	3	Rock
201	45	1.63703	87	9.29840	0	CN	9.5	
202	45	1.63798	87	9.33644	0	P, N,B	10.5	
203	45	1.63893	87	9.37447	3	--	11.5	
204	45	1.63988	87	9.41251	3	--	11.5	
205	45	1.64083	87	9.45054	1	--	10	
206	45	1.64177	87	9.48858	3	--	8.5	
207	45	1.64272	87	9.52661	0	P, N	7	
208	45	1.64367	87	9.56465	0	P, N	7.5	
209	45	1.64461	87	9.60268	0	N	9	
210	45	1.64556	87	9.64071	0	P, N	9	
211	45	1.64651	87	9.67875	0	N	8.5	
212	45	1.65831	87	9.06885	0	--	5	
213	45	1.66021	87	9.14492	0	--	6	Gravel
214	45	1.66211	87	9.22099	0	--	8	
215	45	1.66401	87	9.29706	0	N	10	
216	45	1.66495	87	9.33510	0	P,C,N,A	10	
217	45	1.66590	87	9.37313	0	--	10	
218	45	1.66685	87	9.41117	3	--	12	
219	45	1.66780	87	9.44920	1	N, P	9	
220	45	1.66875	87	9.48724	2	P, B	7	
221	45	1.66969	87	9.52527	0	N	7	
222	45	1.67064	87	9.56331	1	N,C,P,B	7	
223	45	1.67159	87	9.60135	0	N, P	9	
224	45	1.67253	87	9.63938	1	N, P	9	
225	45	1.67348	87	9.67742	0	N, P	10	
226	45	1.67537	87	9.75349	0	N, C	8	
227	45	1.67726	87	9.82956	0	C	7	
228	45	1.67915	87	9.90563	0	C	3	
229	45	1.68104	87	9.98170	shore 0			Rock
230	45	1.69098	87	9.29573	0	C	9	
231	45	1.69193	87	9.33376	0	N, P	10	
232	45	1.69287	87	9.37180	1	P, A	11	

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233	45	1.69382	87	9.40983	1	B	11.5	
234	45	1.69477	87	9.44787	3	B, P	8	
235	45	1.69572	87	9.48590	0	B, N, P	7	
236	45	1.69666	87	9.52394	0	B, N, P	6	
237	45	1.69761	87	9.56197	3	P	7	
238	45	1.69856	87	9.60001	0	C, N	9	
239	45	1.69950	87	9.63805	1	C, P, N	8.5	
240	45	1.70045	87	9.67608	0	N	9	
241	45	1.71036	87	8.99011	shore 0			
242	45	1.71226	87	9.06618	0	C	3	
243	45	1.71416	87	9.14225	0	--	8	
244	45	1.71605	87	9.21832	0	B, N	9	
245	45	1.71795	87	9.29439	0	C	9	
246	45	1.71890	87	9.33242	0	C, A	10	
247	45	1.71985	87	9.37046	0	N, B	11	
248	45	1.72080	87	9.40850	2	--	11	
249	45	1.72174	87	9.44653	1	B	8	
250	45	1.72269	87	9.48457	0	C, B, N	6.5	
251	45	1.72364	87	9.52260	3	--	7.5	
252	45	1.72458	87	9.56064	0	NCPB I	7	
253	45	1.72553	87	9.59868	0	N, C, P	9	
254	45	1.72648	87	9.63671	0	C	9	
255	45	1.72742	87	9.67475	0	N, P, B	9	
256	45	1.72932	87	9.75082	0	C	8	
257	45	1.73121	87	9.82689	0	N	7	
258	45	1.73310	87	9.90296	0	C, B	7	
259	45	1.73499	87	9.97904	0	--	1	Sand
260	45	1.74492	87	9.29305	0	N	8	
261	45	1.74587	87	9.33109	0	N	9	
262	45	1.74682	87	9.36912	1	P, B	11	
263	45	1.74777	87	9.40716	0	N, P	11	
264	45	1.74871	87	9.44520	0	--	8	
265	45	1.74966	87	9.48323	0	N	6.5	
266	45	1.75061	87	9.52127	0	P, N, B	6.5	
267	45	1.75156	87	9.55930	0	N	7	
268	45	1.75250	87	9.59734	0	N	8	
269	45	1.75345	87	9.63538	0	N	9	
270	45	1.75440	87	9.67341	0	N, P	9	
271	45	1.76430	87	8.98743	0	--	3.5	Rock

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272	45	1.76620	87	9.06350	0	--	7	
273	45	1.76810	87	9.13957	0	--	8	
274	45	1.77000	87	9.21564	0	P, N, B	8	
275	45	1.77190	87	9.29171	0	--	6	Rock
276	45	1.77284	87	9.32975	0	N	8.5	
277	45	1.77379	87	9.36779	0	C, N	9	
278	45	1.77474	87	9.40582	0	--	10.5	
279	45	1.77569	87	9.44386	1	N	7	
280	45	1.77663	87	9.48190	0	C, N, P	6	
281	45	1.77758	87	9.51993	2	--	7	
282	45	1.77853	87	9.55797	0	N, P	7	
283	45	1.77948	87	9.59601	0	N	9	
284	45	1.78042	87	9.63404	0	N, P	9	
285	45	1.78137	87	9.67208	0	N	9	
286	45	1.78326	87	9.74815	0	C, P, B	8	
287	45	1.78515	87	9.82422	0	N	8	
288	45	1.78704	87	9.90030	0	C, B	7	
289	45	1.78893	87	9.97637	0	--	3.5	Sand
290	45	1.79887	87	9.29038	0	--	4.5	Rock
291	45	1.79982	87	9.32841	0	N	8	
292	45	1.80076	87	9.36645	0	N	8	
293	45	1.80171	87	9.40449	0	N	10	
294	45	1.80266	87	9.44252	0	N	8.5	
295	45	1.80361	87	9.48056	0	N, P, B	5.5	
296	45	1.80455	87	9.51860	0	N, P	6	
297	45	1.80550	87	9.55663	0	N	7	
298	45	1.80645	87	9.59467	0	C, N, P	8.5	
299	45	1.80739	87	9.63271	2	N	7.5	
300	45	1.80834	87	9.67074	0	P, N, B	9	
301	45	1.81825	87	8.98475	0	--	4	Rock
302	45	1.82015	87	9.06082	0	--	7	
303	45	1.82205	87	9.13689	0	C	7	
304	45	1.82394	87	9.21297	0	C, P	8	
305	45	1.82584	87	9.28904	0	--	7	Rock
306	45	1.82679	87	9.32708	0	N	8	
307	45	1.82774	87	9.36511	0	C, N, B	8	
308	45	1.82868	87	9.40315	0	N	9	
309	45	1.82963	87	9.44119	1	P	10	
310	45	1.83058	87	9.47922	0	N, P	6	

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311	45	1.83153	87	9.51726	0	P, N	7	
312	45	1.83247	87	9.55530	0	N	6.5	
313	45	1.83342	87	9.59334	0	C	8	
314	45	1.83437	87	9.63137	0	N	9	
315	45	1.83531	87	9.66941	0	C, B	9	
316	45	1.83721	87	9.74548	0	C	8	
317	45	1.83910	87	9.82156	0	C	8	
318	45	1.84099	87	9.89763	0	C	7	
319	45	1.84288	87	9.97371	0	--	1	
320	45	1.85281	87	9.28770	0	C, N, A	7.5	
321	45	1.85376	87	9.32574	0	--	7	Rock
322	45	1.85471	87	9.36378	0	C	8	
323	45	1.85566	87	9.40181	0	N	8.5	
324	45	1.85660	87	9.43985	0	N	9.5	
325	45	1.85755	87	9.47789	1	N	6.5	
326	45	1.85850	87	9.51593	1	N	6	
327	45	1.85945	87	9.55396	1	C, N, B	7	
328	45	1.86039	87	9.59200	0	C, N	8	
329	45	1.86134	87	9.63004	0	C, N	9	
330	45	1.86229	87	9.66807	0	C	8.5	
331	45	1.87219	87	8.98207	0	--	3	Rock
332	45	1.87409	87	9.05814	0	A	8	
333	45	1.87599	87	9.13422	0	C	9	
334	45	1.87789	87	9.21029	0	C	8	
335	45	1.87978	87	9.28637	0	C, B	8	
336	45	1.88073	87	9.32440	0	C, B	8	
337	45	1.88168	87	9.36244	0	C	8	
338	45	1.88263	87	9.40048	0	N	8	
339	45	1.88358	87	9.43851	0	P	9	
340	45	1.88452	87	9.47655	1	P I	8	
341	45	1.88547	87	9.51459	1	C, P	5	
342	45	1.88642	87	9.55263	0	C, P, B	7.5	
343	45	1.88737	87	9.59067	0	C	9.5	
344	45	1.88831	87	9.62870	0	C, N	9	
345	45	1.88926	87	9.66674	0	C	9.5	
346	45	1.89115	87	9.74282	0	C, B, P	8	
347	45	1.89304	87	9.81889	0	N, P, B	8	
348	45	1.89493	87	9.89497	0	C	6	
349	45	1.89682	87	9.97104	0	C	4	

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350	45	1.92614	87	8.97939	0	--	2	
351	45	1.92804	87	9.05546	0	A	7	
352	45	1.92993	87	9.13154	0	A	8	
353	45	1.93183	87	9.20761	0	C	8	
354	45	1.93373	87	9.28369	0	C	8	
355	45	1.93563	87	9.35977	0	C	8	
356	45	1.93752	87	9.43584	0	C	9	
357	45	1.93942	87	9.51192	0	C, P	6	
358	45	1.94131	87	9.58800	0	N	9	
359	45	1.94320	87	9.66407	0	N, B, P	10	
360	45	1.94510	87	9.74015	0	C	8	
361	45	1.94699	87	9.81622	0	C	8	
362	45	1.94888	87	9.89230	0	C, P	6	
363	45	1.95077	87	9.96838	3	near crib	4	
364	45	1.98198	87	9.05278	0	C	7	Sand
365	45	1.98388	87	9.12886	0	--	8	
366	45	1.98578	87	9.20494	0	C, B	8	
367	45	1.98767	87	9.28101	0	C, B	8	
368	45	1.98957	87	9.35709	0	C	8	
369	45	1.99147	87	9.43317	0	C, B	7	
370	45	1.99336	87	9.50925	0	N	8	
371	45	1.99525	87	9.58532	0	C, N	9	
372	45	1.99715	87	9.66140	0	C, N	10	
373	45	1.99904	87	9.73748	0	C, B	8	
374	45	2.00093	87	9.81356	0	N	8	
375	45	2.00282	87	9.88964	0	A	6	Gravel
376	45	2.00471	87	9.96571	0	C	5	Sand
377	45	2.03592	87	9.05010	0	--	5	Rock
378	45	2.03782	87	9.12618	0	C	8	
379	45	2.03972	87	9.20226	0	C, N, B	9	
380	45	2.04162	87	9.27834	0	C, B	8	
381	45	2.04351	87	9.35442	0	C, B	7	
382	45	2.04541	87	9.43050	0	C	7	Rock
383	45	2.04731	87	9.50658	0	C, B	8	
384	45	2.04920	87	9.58265	1	C, B	8	
385	45	2.05109	87	9.65873	1	C, B, N	9	
386	45	2.05299	87	9.73481	1	C, P	8	
387	45	2.05488	87	9.81089	0	CBNPI	6.5	
388	45	2.05677	87	9.88697	0	C, B	7	

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389	45	2.05866	87	9.96305	0	--	3	
390	45	2.08987	87	9.04743	0	--	5	Rock
391	45	2.09177	87	9.12351	0	C, A	7	Rock
392	45	2.09367	87	9.19958	0	C, A	8	
393	45	2.09556	87	9.27566	0	C, N, B	8	
394	45	2.09746	87	9.35174	0	C, P, B	8	
395	45	2.09936	87	9.42782	0	C	8	
396	45	2.10125	87	9.50390	0	C	8	
397	45	2.10314	87	9.57998	0	C, B	8	
398	45	2.10504	87	9.65606	0	C, N	8.5	
399	45	2.10693	87	9.73214	0	C, B	8	
400	45	2.10882	87	9.80822	0	C, B	7	
401	45	2.11071	87	9.88430	0	C	7	
402	45	2.11260	87	9.96039	0	C	4	Rock
403	45	2.14381	87	9.04475	0	--	2.5	
404	45	2.14571	87	9.12083	0	A	7	
405	45	2.14761	87	9.19691	0	C, B	8	
406	45	2.14951	87	9.27299	0	C	8	
407	45	2.15140	87	9.34907	0	C, P	8	
408	45	2.15330	87	9.42515	0	C, B	7	
409	45	2.15520	87	9.50123	0	C, P	8	
410	45	2.15709	87	9.57731	0	C, B	8	
411	45	2.15898	87	9.65339	0	C, B, N	8	
412	45	2.16087	87	9.72948	0	C	8	
413	45	2.16277	87	9.80556	0	C, B	6	
414	45	2.16466	87	9.88164	0	C, B	6.5	
415	45	2.16655	87	9.95772	0	--	4	Sand
416	45	2.19966	87	9.11815	0	--	2.5	Rock
417	45	2.20155	87	9.19423	0	--	4.5	Rock
418	45	2.20345	87	9.27031	0	C, B	8	
419	45	2.20535	87	9.34639	0	C	8	
420	45	2.20724	87	9.42248	0	C, N	8	
421	45	2.20914	87	9.49856	0	C, B	8	
422	45	2.21103	87	9.57464	0	C, B	8	
423	45	2.21293	87	9.65072	0	C, N, B	7.5	
424	45	2.21482	87	9.72681	0	C, B	7.5	
425	45	2.21671	87	9.80289	0	C	7	
426	45	2.21860	87	9.87897	0	N, A	5.5	
427	45	2.22049	87	9.95506	0	--	4.5	Sand

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428	45	2.25550	87	9.19155	0	--	5	
429	45	2.25740	87	9.26764	0	C, A	7.5	
430	45	2.25929	87	9.34372	0	C, B	8	
431	45	2.26119	87	9.41980	0	C, B	8	
432	45	2.26308	87	9.49589	0	C, B	7.5	
433	45	2.26498	87	9.57197	0	A	7	
434	45	2.26687	87	9.64805	0	C	7	
435	45	2.26876	87	9.72414	0	C, B	7	
436	45	2.27066	87	9.80022	0	C, B, P	7	
437	45	2.27255	87	9.87631	0	C, A	7	
438	45	2.27444	87	9.95239	0	--	2	Sand
439	45	2.30944	87	9.18888	0	C	6.5	
440	45	2.31134	87	9.26496	0	C, A	7.5	
441	45	2.31324	87	9.34105	0	C, B	8	
442	45	2.31513	87	9.41713	0	C	7.5	
443	45	2.31703	87	9.49321	0	C, B	7	
444	45	2.31892	87	9.56930	0	--	7.5	
445	45	2.32082	87	9.64538	0	A	7	
446	45	2.32271	87	9.72147	0	C, A	7	
447	45	2.32460	87	9.79755	0	C, B	7	
448	45	2.32649	87	9.87364	0	C, N, A	6	
449	45	2.32838	87	9.94973	0	--	2	Gravel
450	45	2.36339	87	9.18620	0	--	6	Rock
451	45	2.36529	87	9.26229	0	C	7.5	
452	45	2.36718	87	9.33837	0	C	7.5	
453	45	2.36908	87	9.41446	0	C	7.5	
454	45	2.37097	87	9.49054	0	A	6	Gravel
455	45	2.37665	87	9.71880	1	C	7	
456	45	2.37855	87	9.79489	0	C, P	6.5	
457	45	2.38044	87	9.87097	0	C, A	5	
458	45	2.38233	87	9.94706	0	--	1.5	
459	45	2.41733	87	9.18352	0	C,B	8	Sand
460	45	2.41923	87	9.25961	0	C, B, A	7.5	
461	45	2.42113	87	9.33570	0	C	7.5	
462	45	2.42302	87	9.41178	0	C, N, P	7.5	
463	45	2.42492	87	9.48787	0	C, A	6	
464	45	2.43060	87	9.71613	0	C, P	6	
465	45	2.43249	87	9.79222	0	C, B	7	
466	45	2.43438	87	9.86831	0	C, B, A	6	

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467	45	2.43627	87	9.94439	0	C	4.5	
468	45	2.46938	87	9.10476	0	--	2	
469	45	2.47128	87	9.18084	0	C, B	6	
470	45	2.47317	87	9.25693	0	P, N, B	7	
471	45	2.47507	87	9.33302	0	C, B	8	
472	45	2.47697	87	9.40911	0	C, B	7	
473	45	2.47886	87	9.48520	0	C	6	
474	45	2.48454	87	9.71346	0	C	5	
475	45	2.48644	87	9.78955	0	C, A	6.5	
476	45	2.48833	87	9.86564	0	C, B	6	
477	45	2.49022	87	9.94173	0	C	1	
478	45	2.52332	87	9.10208	0	C	4	
479	45	2.52522	87	9.17817	0	--	2	
480	45	2.52712	87	9.25426	0	--	4	
481	45	2.52902	87	9.33035	0	C, P, B	6.5	
482	45	2.53091	87	9.40643	0	C	6.5	
483	45	2.53281	87	9.48252	0	C	6	
484	45	2.53470	87	9.55861	0	N	4	
485	45	2.53849	87	9.71079	0	C, P, B	5	
486	45	2.54038	87	9.78688	0	C, P, B	6.5	
487	45	2.54227	87	9.86297	0	A	6	
488	45	2.54416	87	9.93906	0	C, B	4	
489	45	2.57537	87	9.02331	0	bayou	1	Sand
490	45	2.57727	87	9.09940	0	C	4	
491	45	2.58296	87	9.32767	0	A	5	
492	45	2.58486	87	9.40376	0	C, A	6	
493	45	2.58675	87	9.47985	0	C	5.5	
494	45	2.58865	87	9.55594	0	C	4.5	
495	45	2.59054	87	9.63203	0	C, B, A	4	
496	45	2.59243	87	9.70812	0	C, P, A	5	
497	45	2.59433	87	9.78422	0	C, N, A	6.5	
498	45	2.59622	87	9.86031	0	C, B	6.5	
499	45	2.59811	87	9.93640	0	B, P	4	
500	45	2.62931	87	9.02063	0	bayou --	1.5	Sand
501	45	2.63121	87	9.09672	0	C, bayou	2	Sand
502	45	2.63691	87	9.32499	0	--	2	Sand
503	45	2.63880	87	9.40109	0	C, P, N	5	Sand
504	45	2.64070	87	9.47718	0	C, P	5	
505	45	2.64259	87	9.55327	0	C, P, N	4.5	

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506	45	2.64449	87	9.62936	0	C, A	4.5	
507	45	2.64638	87	9.70545	0	C	5	
508	45	2.64827	87	9.78155	0	C, N, A	6	
509	45	2.65016	87	9.85764	0	A	6.5	
510	45	2.65205	87	9.93373	0	C, A	4	
511	45	2.69464	87	9.47451	0	C	4	
512	45	2.69654	87	9.55060	0	C, A	4.5	
513	45	2.69843	87	9.62669	0	C	4.5	
514	45	2.70032	87	9.70278	0	C, P	5	
515	45	2.70222	87	9.77888	0	C, B	5.5	
516	45	2.70411	87	9.85497	0	--	4.5	
517	45	2.70600	87	9.93107	0	C, N	3.5	
518	45	2.75048	87	9.54793	0	C. P	4	
519	45	2.75237	87	9.62402	0	C, A	4.5	
520	45	2.75427	87	9.70011	0	C, A	5	
521	45	2.75616	87	9.77621	0	C	5	
522	45	2.75805	87	9.85230	0	--	3	Rock
523	45	2.75994	87	9.92840	0	C, B	2.5	
524	45	2.80443	87	9.54525	0	P	3	
525	45	2.80632	87	9.62135	0	C	4.5	
526	45	2.80821	87	9.69744	0	C	5	
527	45	2.81010	87	9.77354	0	C, P, B	4.5	
528	45	2.86026	87	9.61868	0	N, B	5	
529	45	2.86216	87	9.69477	2	B, E	5	
530	45	2.86405	87	9.77087	0	C, B	5	

Plants:
A = Alga, Dichotomosiphon tuberosus
B = Bladderwort, Utricularia vulgaris
C = Chara, sp., Chara, Muskgrass
E = Eel-grass, Vallisneria Americana
N = Naiad, Najas flexilis
P = Pondweed, sp.,
Pl = Pondweed, Large-leaf pondweed
-- = None

Bottom Character
Marl (all unmarked)
Sand
Gravel
Rock

EWM Density:
0 = none present.
1 = a few EWM plants on rake.
2 = about one-half of rake covered with EWM plants.
3 = more than one-half of rake covered with EWM plants.

TABLE 2. EURASIAN WATER-MILFOIL SURVEY OF KANGAROO LAKE -- 2008

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
1	45	0.9627	87	9.3318	0	1	None	
2	45	0.9646	87	9.4079	0	1	None	
3	45	0.9665	87	9.4839	0	1	None	
4	45	0.9684	87	9.5600	0	1	None	
5	45	0.9703	87	9.6360	0	1	None	
6	45	0.9722	87	9.7121	0	1	None	
7	45	0.9741	87	9.7882	0	1	None	
8	45	1.0167	87	9.3292	0	1.5	None	Rock
9	45	1.0186	87	9.4052	0	4	C	
10	45	1.0205	87	9.4813	0	5	C, P	
11	45	1.0224	87	9.5573	0	5	C	
12	45	1.0243	87	9.6334	0	5	None	
13	45	1.0261	87	9.7094	0	5	C	
14	45	1.0280	87	9.7855	0	3.5	C	
15	45	1.0668	87	9.1744	0	1	None	Rock
16	45	1.0687	87	9.2504	0	1	None	Rock
17	45	1.0706	87	9.3265	0	4	None	
18	45	1.0725	87	9.4025	0	5	C	
19	45	1.0744	87	9.4786	0	5	C	
20	45	1.0763	87	9.5547	0	5	C	
21	45	1.0782	87	9.6307	0	5.5	None	
22	45	1.0801	87	9.7068	0	5	P	
23	45	1.0820	87	9.7828	0	1	None	
24	45	1.1208	87	9.1717	0	4.5	None	Rock
25	45	1.1227	87	9.2477	0	6	None	
26	45	1.1246	87	9.3238	0	6	C	
27	45	1.1265	87	9.3999	0	5.5	C	
28	45	1.1284	87	9.4759	0	5.5	C	
29	45	1.1302	87	9.5520	0	6	B, C	
30	45	1.1321	87	9.6280	0	5.5	C	
31	45	1.1340	87	9.7041	0	5	None	
32	45	1.1359	87	9.7802	0	4	C	
33	45	1.1378	87	9.8562	0	4	None	Rock
34	45	1.1728	87	9.0930	0	1	None	
35	45	1.1747	87	9.1690	0	6	None	
36	45	1.1766	87	9.2451	0	6.5	None	
37	45	1.1785	87	9.3211	0	6.5	C	
38	45	1.1804	87	9.3972	0	6	C	
39	45	1.1823	87	9.4733	0	6	C	

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Table 2: 33-47

EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
FOR KANGAROO LAKE FROM SURVEY IN 2008.

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
40	45	1.1842	87	9.5493	0	6	C	
41	45	1.1861	87	9.6254	0	6	None	
42	45	1.1880	87	9.7014	0	5.5	B, C	
43	45	1.1899	87	9.7775	0	4.5	B	
44	45	1.1918	87	9.8536	0	1.5	None	
45	45	1.2249	87	9.0142	0	2.5	None	Rock
46	45	1.2268	87	9.0903	0	6	B	
47	45	1.2287	87	9.1663	0	6.5	C	
48	45	1.2306	87	9.2424	0	7	B	
49	45	1.2325	87	9.3185	0	7	C	
50	45	1.2343	87	9.3945	0	7	C	
51	45	1.2362	87	9.4706	0	5.5	C	
52	45	1.2381	87	9.5466	0	6.5	B, C	
53	45	1.2400	87	9.6227	0	6.5	B, C	
54	45	1.2419	87	9.6988	0	6	C	
55	45	1.2438	87	9.7748	0	2	None	
56	45	1.2457	87	9.8509	0	2	None	
57	45	1.2476	87	9.9269	0	1.5	None	
58	45	1.2788	87	9.0115	0	2	None	Sand
59	45	1.2807	87	9.0876	0	6	None	
60	45	1.2826	87	9.1637	0	6.5	B	
61	45	1.2845	87	9.2397	0	7.5	B, C	
62	45	1.2864	87	9.3158	0	7.5	B, C	
63	45	1.2883	87	9.3918	0	7.5	C	
64	45	1.2902	87	9.4679	0	7	C	
65	45	1.2921	87	9.5440	0	7	P, C	
66	45	1.2940	87	9.6200	0	7	C	
67	45	1.2959	87	9.6961	0	6.5	C	
68	45	1.2978	87	9.7722	0	0.5	None	
69	45	1.2997	87	9.8482	0	1.5	None	
70	45	1.3015	87	9.9243	0	2	None	
71	45	1.3309	87	8.9328	0	0.5	None	
72	45	1.3328	87	9.0089	0	5	C	
73	45	1.3347	87	9.0849	0	6	B	
74	45	1.3365	87	9.1610	0	7	B, P	
75	45	1.3384	87	9.2371	0	8	None	
76	45	1.3403	87	9.3131	0	8	C	
77	45	1.3422	87	9.3892	0	7.5	C	
78	45	1.3441	87	9.4652	0	7	B, C	

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EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
FOR KANGAROO LAKE FROM SURVEY IN 2008.

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
79	45	1.3460	87	9.5413	0	7	A	
80	45	1.3479	87	9.6174	0	8.5	C	
81	45	1.3498	87	9.6934	0	7	C	
82	45	1.3517	87	9.7695	0	6	None	
83	45	1.3536	87	9.8456	0	4.5	C	
84	45	1.3555	87	9.9216	0	2	None	
85	45	1.3867	87	9.0062	0	1	None	
86	45	1.3886	87	9.0822	0	6	B	
87	45	1.3905	87	9.1583	0	7	A	
88	45	1.3924	87	9.2344	0	8	C	
89	45	1.3943	87	9.3104	0	8.5	B, C	
90	45	1.3962	87	9.3865	0	8	C	
91	45	1.3981	87	9.4626	0	8	C	
92	45	1.4000	87	9.5386	0	7	C	
93	45	1.4019	87	9.6147	0	8.5	C	
94	45	1.4038	87	9.6908	0	8	B, C	
95	45	1.4057	87	9.7668	0	6.5	C	
96	45	1.4075	87	9.8429	0	5.5	None	
97	45	1.4094	87	9.9190	0	3	None	
98	45	1.4406	87	9.0035	0	2.5	None	Gravel
99	45	1.4425	87	9.0796	0	4.5	None	
100	45	1.4444	87	9.1556	0	7	A	
101	45	1.4463	87	9.2317	0	8	A, C	
102	45	1.4482	87	9.3078	0	8.5	B, C	
103	45	1.4492	87	9.3458	0	9	None	
104	45	1.4501	87	9.3838	0	9	B, C, P	
105	45	1.4511	87	9.4219	0	8.5	B, C, P	
106	45	1.4520	87	9.4599	0	8	N	
107	45	1.4530	87	9.4979	0	8	C	
108	45	1.4539	87	9.5360	0	7	C, P	
109	45	1.4549	87	9.5740	0	6.5	C, P	
110	45	1.4558	87	9.6120	0	8.5	C, B	
111	45	1.4568	87	9.6501	0	8.5	C, P	
112	45	1.4577	87	9.6881	0	8	B, C	
113	45	1.4596	87	9.7642	0	7	B, C, P	
114	45	1.4615	87	9.8402	0	4.5	None	Gravel
115	45	1.4634	87	9.9163	0	4	B, C	
116	45	1.4752	87	9.3064	0	9	C	
117	45	1.4762	87	9.3445	0	9.5	C, P	

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EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
FOR KANGAROO LAKE FROM SURVEY IN 2008.

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
118	45	1.4771	87	9.3825	1	8	B, C, P	
119	45	1.4780	87	9.4205	0	8.5	C	
120	45	1.4790	87	9.4586	0	8.5	C	
121	45	1.4799	87	9.4966	0	8.5	C	
122	45	1.4809	87	9.5346	0	6	A, C, P	
123	45	1.4818	87	9.5727	0	6	B, C	
124	45	1.4828	87	9.6107	0	9	C	
125	45	1.4837	87	9.6487	0	8.5	C	
126	45	1.4847	87	9.6868	0	7.5	C	
127	45	1.4946	87	9.0008	0	0.5	None	Gravel
128	45	1.4965	87	9.0769	0	4	None	Sand
129	45	1.4984	87	9.1530	0	7	A	
130	45	1.5003	87	9.2290	0	8.5	C	
131	45	1.5022	87	9.3051	0	9	C, P	
132	45	1.5031	87	9.3431	0	9.5	C	
133	45	1.5041	87	9.3812	0	9.5	A, P	
134	45	1.5050	87	9.4192	3	9	None	Rock
135	45	1.5060	87	9.4572	3	9	None	Rock
136	45	1.5069	87	9.4953	1	8.5	None	
137	45	1.5079	87	9.5333	1	6.5	A	
138	45	1.5088	87	9.5713	0	6.5	C	
139	45	1.5098	87	9.6094	0	9	C	
140	45	1.5107	87	9.6474	0	9	B, C	
141	45	1.5116	87	9.6854	0	8	B, C	
142	45	1.5135	87	9.7615	0	6	C	
143	45	1.5154	87	9.8376	0	2.5	None	
144	45	1.5173	87	9.9136	0	9	B, C	
145	45	1.5292	87	9.3038	0	9	B, C	
146	45	1.5301	87	9.3418	0	10	C, N	
147	45	1.5310	87	9.3798	0	10.5	A,	
148	45	1.5320	87	9.4179	1	9	C, N, P	
149	45	1.5329	87	9.4559	3	9	P	
150	45	1.5339	87	9.4939	3	8	None	Rock
151	45	1.5348	87	9.5320	0	6.5	B, C, P	
152	45	1.5358	87	9.5700	0	7	C	
153	45	1.5367	87	9.6080	0	8.5	B, C	
154	45	1.5377	87	9.6461	0	9	C	
155	45	1.5386	87	9.6841	0	8	B, C	
156	45	1.5504	87	9.0742	0	1	B	

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EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
FOR KANGAROO LAKE FROM SURVEY IN 2008.

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
157	45	1.5523	87	9.1503	0	6	C	
158	45	1.5542	87	9.2263	0	8	B, C	
159	45	1.5561	87	9.3024	0	9	C	
160	45	1.5571	87	9.3405	0	10	A, P	
161	45	1.5580	87	9.3785	0	10.5	C	
162	45	1.5590	87	9.4165	3	10.5	None	
163	45	1.5599	87	9.4546	3	10	None	Rock
164	45	1.5609	87	9.4926	0	8.5	N	
165	45	1.5618	87	9.5306	0	7	C, P	
166	45	1.5628	87	9.5687	0	7	C	
167	45	1.5637	87	9.6067	0	9	B, C	
168	45	1.5646	87	9.6447	0	9	C	
169	45	1.5656	87	9.6828	0	8	B, C	
170	45	1.5675	87	9.7588	0	8	None	
171	45	1.5694	87	9.8349	0	6.5	None	
172	45	1.5713	87	9.9110	0	3	None	
173	45	1.5831	87	9.3011	0	9	C	
174	45	1.5840	87	9.3391	0	10	A, B, P	
175	45	1.5850	87	9.3771	0	11	C	
176	45	1.5859	87	9.4152	2	11	None	
177	45	1.5869	87	9.4532	2	8.5	None	
178	45	1.5878	87	9.4913	3	8	None	
179	45	1.5888	87	9.5293	0	6.5	C	
180	45	1.5897	87	9.5673	0	7.5	C, P	
181	45	1.5907	87	9.6054	0	8.8	C	
182	45	1.5916	87	9.6434	0	9	C, P	
183	45	1.5926	87	9.6814	0	8	B, C	
184	45	1.6044	87	9.0715	0	1	None	Rock
185	45	1.6063	87	9.1476	0	4.5	None	Rock
186	45	1.6082	87	9.2237	0	7.5	B, C, P	
187	45	1.6101	87	9.2997	0	9	B, C, P	
188	45	1.6110	87	9.3378	0	10	C, P	
189	45	1.6120	87	9.3758	0	10.5	C	
190	45	1.6129	87	9.4138	3	10.5	None	
191	45	1.6139	87	9.4519	1	9	N	
192	45	1.6148	87	9.4899	3	8.5	None	
193	45	1.6158	87	9.5280	2	6.5	B, C, P	
194	45	1.6167	87	9.5660	0	8	A, N	
195	45	1.6176	87	9.6040	0	8.5	B, C	

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EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
FOR KANGAROO LAKE FROM SURVEY IN 2008.

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
196	45	1.6186	87	9.6421	0	9	C, P	
197	45	1.6195	87	9.6801	0	8	B, C	
198	45	1.6214	87	9.7562	0	7	A, C	
199	45	1.6233	87	9.8322	0	6	P	
200	45	1.6252	87	9.9083	0	4	None	
201	45	1.6370	87	9.2984	0	9	B, C	
202	45	1.6380	87	9.3364	0	9.5	B, C	
203	45	1.6389	87	9.3745	0	10.5	None	
204	45	1.6399	87	9.4125	0	11	N, P	
205	45	1.6408	87	9.4505	1	9	N	
206	45	1.6418	87	9.4886	3	7.5	None	
207	45	1.6427	87	9.5266	0	6.5	B, C, P	
208	45	1.6437	87	9.5647	0	8	None	
209	45	1.6446	87	9.6027	0	8.5	C, P	
210	45	1.6456	87	9.6407	0	8.5	C, N	
211	45	1.6465	87	9.6788	0	8.5	C	
212	45	1.6583	87	9.0689	0	1	None	Rock
213	45	1.6602	87	9.1449	0	4	None	Rock
214	45	1.6621	87	9.2210	0	7	A, P	
215	45	1.6640	87	9.2971	0	9	C, P	
216	45	1.6650	87	9.3351	0	9.5	B, C	
217	45	1.6659	87	9.3731	0	10.5	B, C	
218	45	1.6669	87	9.4112	1	11	None	
219	45	1.6678	87	9.4492	1	8.5	C, P	
220	45	1.6688	87	9.4872	3	7	None	
221	45	1.6697	87	9.5253	0	6	C, N, P	
222	45	1.6706	87	9.5633	0	7.5	C	
223	45	1.6716	87	9.6014	0	8.5	None	
224	45	1.6725	87	9.6394	3	8.5	None	
225	45	1.6735	87	9.6774	0	8.5	P	
226	45	1.6754	87	9.7535	0	7.5	None	
227	45	1.6773	87	9.8296	0	6.5	None	
228	45	1.6792	87	9.9056	0	5	A, P	
229	45	1.6810	87	9.9817	0	1	None	
230	45	1.6910	87	9.2957	0	8.5	B, C	
231	45	1.6919	87	9.3338	0	9	None	
232	45	1.6929	87	9.3718	0	10.5	C	
233	45	1.6938	87	9.4098	2	11	None	
234	45	1.6948	87	9.4479	1	8	B, N, P	

EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
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Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
235	45	1.6957	87	9.4859	2	7	N, P	
236	45	1.6967	87	9.5239	0	6.5	N, P	
237	45	1.6976	87	9.5620	0	6	B, C	
238	45	1.6986	87	9.6000	0	8	B, C, P	
239	45	1.6995	87	9.6381	0	8	C, P	
240	45	1.7005	87	9.6761	1	8.5	B, C, P	
241	45	1.7104	87	8.9901	0	1.5	None	Rock
242	45	1.7123	87	9.0662	0	6	C	
243	45	1.7142	87	9.1423	0	6.5	None	
244	45	1.7161	87	9.2183	0	8.5	A, B	
245	45	1.7180	87	9.2944	0	8.5	B, C, P	
246	45	1.7189	87	9.3324	0	9	B, C	
247	45	1.7199	87	9.3705	0	10	C, P	
248	45	1.7208	87	9.4085	0	10.5	A	
249	45	1.7217	87	9.4465	3	8	None	
250	45	1.7227	87	9.4846	1	6.5	A, C	
251	45	1.7236	87	9.5226	3	6.5	None	
252	45	1.7246	87	9.5606	0	6.5	P	
253	45	1.7255	87	9.5987	0	8	None	
254	45	1.7265	87	9.6367	0	8.5	C	
255	45	1.7274	87	9.6748	0	8	N, P	
256	45	1.7293	87	9.7508	0	7.5	C, N	
257	45	1.7312	87	9.8269	0	7	None	
258	45	1.7331	87	9.9030	0	6	B	
259	45	1.7350	87	9.9790	0	1.5	None	
260	45	1.7449	87	9.2931	0	8	None	
261	45	1.7459	87	9.3311	0	8.5	C, P	
262	45	1.7468	87	9.3691	0	9.5	C, P	
263	45	1.7478	87	9.4072	1	10.5	None	
264	45	1.7487	87	9.4452	2	8	N	
265	45	1.7497	87	9.4832	0	6	B, C	
266	45	1.7506	87	9.5213	0	6	C, N	
267	45	1.7516	87	9.5593	0	7	C, N	
268	45	1.7525	87	9.5973	0	8	B, C	
269	45	1.7535	87	9.6354	0	8.5	C, N	
270	45	1.7544	87	9.6734	0	8.5	C	
271	45	1.7643	87	8.9874	0	3.5	None	
272	45	1.7662	87	9.0635	0	6	None	Rock
273	45	1.7681	87	9.1396	0	7.5	A	

EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
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Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
274	45	1.7700	87	9.2156	0	7	A	
275	45	1.7719	87	9.2917	0	5.5	None	Rock
276	45	1.7728	87	9.3298	0	8	N	
277	45	1.7738	87	9.3678	0	8.5	C	
278	45	1.7747	87	9.4058	0	10	N	
279	45	1.7757	87	9.4439	0	7.5	C, N, P	
280	45	1.7766	87	9.4819	0	5.5	C, P	
281	45	1.7776	87	9.5199	3	6	None	
282	45	1.7785	87	9.5580	0	6	N, P	
283	45	1.7795	87	9.5960	0	8	C, P	
284	45	1.7804	87	9.6340	0	8.5	A, N	
285	45	1.7814	87	9.6721	0	8.5	None	
286	45	1.7833	87	9.7482	0	7.5	B, C	
287	45	1.7852	87	9.8242	0	7	None	
288	45	1.7870	87	9.9003	0	6	B, C	
289	45	1.7889	87	9.9764	0	3	None	Rock
290	45	1.7989	87	9.2904	0	4	None	Rock
291	45	1.7998	87	9.3284	0	8	None	
292	45	1.8008	87	9.3665	0	8.5	B, C	
293	45	1.8017	87	9.4045	0	9.5	None	
294	45	1.8027	87	9.4425	0	7.5	C	
295	45	1.8036	87	9.4806	0	5	B, C	
296	45	1.8046	87	9.5186	0	6	C, N, P	
297	45	1.8055	87	9.5566	0	6	C, N, P	
298	45	1.8065	87	9.5947	0	8.5	None	
299	45	1.8074	87	9.6327	0	7	N, P	
300	45	1.8083	87	9.6707	0	8.5	B, C	
301	45	1.8183	87	8.9848	0	3	None	
302	45	1.8202	87	9.0608	0	6.5	A	
303	45	1.8221	87	9.1369	0	7.5	A	
304	45	1.8239	87	9.2130	0	7.5	A	
305	45	1.8258	87	9.2890	0	6	A	Rock
306	45	1.8268	87	9.3271	0	7.5	B, C	
307	45	1.8277	87	9.3651	0	8	B, C	
308	45	1.8287	87	9.4032	0	8.5	C, P	
309	45	1.8296	87	9.4412	0	8.5	P	
310	45	1.8306	87	9.4792	0	5.5	C, P	
311	45	1.8315	87	9.5173	0	5.5	P	
312	45	1.8325	87	9.5553	0	6	P	

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EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
FOR KANGAROO LAKE FROM SURVEY IN 2008.

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
313	45	1.8334	87	9.5933	0	8.5	None	
314	45	1.8344	87	9.6314	0	8.5	C, P	
315	45	1.8353	87	9.6694	0	8.5	P	
316	45	1.8372	87	9.7455	0	8	B, C	
317	45	1.8391	87	9.8216	0	7	B, C, P	
318	45	1.8410	87	9.8976	0	6	B, C	
319	45	1.8429	87	9.9737	0	8	B, C	
320	45	1.8528	87	9.2877	0	7.5	A	
321	45	1.8538	87	9.3257	0	6.5	B	Rock
322	45	1.8547	87	9.3638	0	8	P	
323	45	1.8557	87	9.4018	0	8	C	
324	45	1.8566	87	9.4399	0	8.5	C	
325	45	1.8576	87	9.4779	0	6	A, C, N	
326	45	1.8585	87	9.5159	0	5.5	A, C	
327	45	1.8595	87	9.5540	0	6.5	B, C	
328	45	1.8604	87	9.5920	0	8.5	C	
329	45	1.8613	87	9.6300	0	8.5	C	
330	45	1.8623	87	9.6681	0	8.5	B, C	
331	45	1.8722	87	8.9821	0	3	None	Rock
332	45	1.8741	87	9.0581	0	7	A	
333	45	1.8760	87	9.1342	0	7.5	A, B	
334	45	1.8779	87	9.2103	0	7.5	B	
335	45	1.8798	87	9.2864	0	7.5	None	
336	45	1.8807	87	9.3244	0	7.5	None	
337	45	1.8817	87	9.3624	0	7.5	C	
338	45	1.8826	87	9.4005	0	7.5	C	
339	45	1.8836	87	9.4385	0	8.5	C	
340	45	1.8845	87	9.4766	0	8	P	
341	45	1.8855	87	9.5146	0	5	B, C	
342	45	1.8864	87	9.5526	1	7	None	
343	45	1.8874	87	9.5907	0	8	C	
344	45	1.8883	87	9.6287	0	8.5	B, C	
345	45	1.8893	87	9.6667	0	8	None	
346	45	1.8912	87	9.7428	0	7.5	C	
347	45	1.8930	87	9.8189	0	7	None	
348	45	1.8949	87	9.8950	0	5.5	C	
349	45	1.8968	87	9.9710	0	3	None	
350	45	1.9261	87	8.9794	0	2.5	None	
351	45	1.9280	87	9.0555	0	7	A	

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EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
FOR KANGAROO LAKE FROM SURVEY IN 2008.

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
352	45	1.9299	87	9.1315	0	7	None	
353	45	1.9318	87	9.2076	0	7.5	None	
354	45	1.9337	87	9.2837	0	6.5	None	
355	45	1.9356	87	9.3598	0	7	C	
356	45	1.9375	87	9.4358	0	7.5	C	
357	45	1.9394	87	9.5119	0	5	B, C, P	
358	45	1.9413	87	9.5880	0	8	None	
359	45	1.9432	87	9.6641	0	8.5	B	
360	45	1.9451	87	9.7402	0	7	B, C	
361	45	1.9470	87	9.8162	0	7	C	
362	45	1.9489	87	9.8923	0	6	B, P	
363	45	1.9508	87	9.9684	0	3	None	
364	45	1.9820	87	9.0528	0	6	None	Sand
365	45	1.9839	87	9.1289	0	7.5	A, B, C	
366	45	1.9858	87	9.2049	0	8	None	
367	45	1.9877	87	9.2810	0	8	C	
368	45	1.9896	87	9.3571	0	7	C	
369	45	1.9915	87	9.4332	0	6.5	B, C	
370	45	1.9934	87	9.5093	0	7.5	C, N	
371	45	1.9953	87	9.5853	0	8	B, C	
372	45	1.9972	87	9.6614	0	8.5	B, P	
373	45	1.9990	87	9.7375	0	7	B, C	
374	45	2.0009	87	9.8136	0	7	P	
375	45	2.0028	87	9.8896	0	4.5	None	Rock
376	45	2.0047	87	9.9657	0	3	None	
377	45	2.0359	87	9.0501	0	5	None	Rock
378	45	2.0378	87	9.1262	0	7.5	B, C	
379	45	2.0397	87	9.2023	0	8	A, C	
380	45	2.0416	87	9.2783	0	8	C	
381	45	2.0435	87	9.3544	0	6.5	C, P	Rock
382	45	2.0454	87	9.4305	0	6.5	C, N	Rock
383	45	2.0473	87	9.5066	0	7.5	B, C, P	
384	45	2.0492	87	9.5827	0	8.5	C	
385	45	2.0511	87	9.6587	0	8.5	C	
386	45	2.0530	87	9.7348	0	7	B, C	
387	45	2.0549	87	9.8109	0	7	B, C, P	
388	45	2.0568	87	9.8870	0	6	B, C	
389	45	2.0587	87	9.9631	0	3	None	Sand
390	45	2.0899	87	9.0474	0	4	None	Rock

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EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
FOR KANGAROO LAKE FROM SURVEY IN 2008.

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
391	45	2.0918	87	9.1235	0	6.5	A	Rock
392	45	2.0937	87	9.1996	0	8	B, C	
393	45	2.0956	87	9.2757	0	8	C	
394	45	2.0975	87	9.3517	0	7.5	None	Gravel
395	45	2.0994	87	9.4278	0	7	C	
396	45	2.1013	87	9.5039	0	7	C	
397	45	2.1031	87	9.5800	0	7.5	C	
398	45	2.1050	87	9.6561	0	8	C	
399	45	2.1069	87	9.7321	0	7	C	
400	45	2.1088	87	9.8082	0	7	C	
401	45	2.1107	87	9.8843	0	6	B, C	
402	45	2.1126	87	9.9604	0	2.5	None	Gravel
403	45	2.1438	87	9.0448	0	0.5	None	Gravel
404	45	2.1457	87	9.1208	0	6	None	
405	45	2.1476	87	9.1969	0	7.5	C	
406	45	2.1495	87	9.2730	0	8	B, C	
407	45	2.1514	87	9.3491	0	7.5	C	
408	45	2.1533	87	9.4252	0	8	B, C	
409	45	2.1552	87	9.5012	0	7	C	
410	45	2.1571	87	9.5773	0	7	B, C	
411	45	2.1590	87	9.6534	0	7	C	
412	45	2.1609	87	9.7295	0	6.5	C	
413	45	2.1628	87	9.8056	0	6	C	
414	45	2.1647	87	9.8816	0	3	None	
415	45	2.1666	87	9.9577	0	3	None	
416	45	2.1997	87	9.1182	0	1	None	Rock
417	45	2.2016	87	9.1942	0	4	None	Rock
418	45	2.2035	87	9.2703	0	7.5	None	
419	45	2.2054	87	9.3464	0	7.5	C	
420	45	2.2072	87	9.4225	0	7.5	C	
421	45	2.2091	87	9.4986	0	7.5	C	
422	45	2.2110	87	9.5746	0	7	B, P	
423	45	2.2129	87	9.6507	0	7	C	
424	45	2.2148	87	9.7268	0	7	B, C	
425	45	2.2167	87	9.8029	0	6.5	B, C	
426	45	2.2186	87	9.8790	0	5.5	A	
427	45	2.2205	87	9.9551	0	2.5	None	
428	45	2.2555	87	9.1916	0	6	None	
429	45	2.2574	87	9.2676	0	7.5	C	

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EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
FOR KANGAROO LAKE FROM SURVEY IN 2008.

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
430	45	2.2593	87	9.3437	0	7	C	
431	45	2.2612	87	9.4198	0	7	C	
432	45	2.2631	87	9.4959	0	7	B	
433	45	2.2650	87	9.5720	0	6.5	P	
434	45	2.2669	87	9.6481	0	6.5	C	
435	45	2.2688	87	9.7241	0	6.5	C	
436	45	2.2707	87	9.8002	0	6.5	P	
437	45	2.2726	87	9.8763	0	5.5	A	
438	45	2.2744	87	9.9524	0	2	None	
439	45	2.3094	87	9.1889	0	6	C	Rock
440	45	2.3113	87	9.2650	0	7.5	C	
441	45	2.3132	87	9.3411	0	7	B, C	
442	45	2.3151	87	9.4171	0	7	B, C	
443	45	2.3170	87	9.4932	0	7	None	
444	45	2.3189	87	9.5693	0	2	None	Rock
445	45	2.3208	87	9.6454	0	6	None	
446	45	2.3227	87	9.7215	0	7	C, P	
447	45	2.3246	87	9.7976	0	6	C	
448	45	2.3265	87	9.8736	0	5.5	A	
449	45	2.3284	87	9.9497	0	1	None	
450	45	2.3634	87	9.1862	0	5.5	C, P	
451	45	2.3653	87	9.2623	0	7	C	
452	45	2.3672	87	9.3384	0	7	C, N	
453	45	2.3691	87	9.4145	0	7.5	C	
454	45	2.3710	87	9.4905	0	5	None	
455	45	2.3767	87	9.7188	0	6.5	C	
456	45	2.3786	87	9.7949	0	6.5	C, P	
457	45	2.3804	87	9.8710	0	5	None	
458	45	2.3823	87	9.9471	0	1.5	None	
459	45	2.4173	87	9.1835	0	5.5	C	
460	45	2.4192	87	9.2596	0	7	C	
461	45	2.4211	87	9.3357	0	7.5	B, C	
462	45	2.4230	87	9.4118	0	7	B, C	
463	45	2.4249	87	9.4879	0	6	None	
464	45	2.4306	87	9.7161	0	5.5	B, C	
465	45	2.4325	87	9.7922	0	6.5	B, C	
466	45	2.4344	87	9.8683	0	5.5	None	
467	45	2.4363	87	9.9444	0	1	None	
468	45	2.4694	87	9.1048	0	0.5	None	

EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
FOR KANGAROO LAKE FROM SURVEY IN 2008.

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
469	45	2.4713	87	9.1808	0	5	C	
470	45	2.4732	87	9.2569	0	6.5	B	
471	45	2.4751	87	9.3330	0	7	None	
472	45	2.4770	87	9.4091	0	6.5	C	
473	45	2.4789	87	9.4852	0	5	B, C	
474	45	2.4845	87	9.7135	0	5	B, C	
475	45	2.4864	87	9.7896	0	6.5	B, C	
476	45	2.4883	87	9.8656	0	6	C, P	
477	45	2.4902	87	9.9417	0	1	None	
478	45	2.5233	87	9.1021	0	1.5	None	Sand
479	45	2.5252	87	9.1782	0	2.5	None	
480	45	2.5271	87	9.2543	0	5	None	Rock
481	45	2.5290	87	9.3304	0	6	C	
482	45	2.5309	87	9.4064	0	5.5	B, C	
483	45	2.5328	87	9.4825	1	4	C	
484	45	2.5347	87	9.5586	0	4.5	C, P	
485	45	2.5385	87	9.7108	0	6	B, C	
486	45	2.5404	87	9.7869	0	5.5	A, B, P	
487	45	2.5423	87	9.8630	0	3.5	C, P	
488	45	2.5442	87	9.9391	3 native?	2	B	
489	45	2.5754	87	9.0233	0	3	C	
490	45	2.5773	87	9.0994	0	3	C	
491	45	2.5830	87	9.3277	0	5	None	
492	45	2.5849	87	9.4038	0	5.5	C, P	
493	45	2.5868	87	9.4799	0	5	C	
494	45	2.5887	87	9.5559	0	4	C	
495	45	2.5905	87	9.6320	0	4	C	
496	45	2.5924	87	9.7081	0	5	A, C	
497	45	2.5943	87	9.7842	0	6	A, B, C	
498	45	2.5962	87	9.8603	0	6	A, C	
499	45	2.5981	87	9.9364	0	2	None	
500	45	2.6293	87	9.0206	0	0.5	Lily,Cattail,P	
501	45	2.6312	87	9.0967	1	1	B, P	
502	45	2.6369	87	9.3250	0	1	None	Rock
503	45	2.6388	87	9.4011	0	2.5	P, Bulr	Rock
504	45	2.6407	87	9.4772	0	2	C	
505	45	2.6426	87	9.5533	0	4.5	C	
506	45	2.6445	87	9.6294	0	4	P	
507	45	2.6464	87	9.7055	0	4.5	C	

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EURASIAN WATERMILFOIL, WATER DEPTH AND PLANT DISTRIBUTION
FOR KANGAROO LAKE FROM SURVEY IN 2008.

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM	Lake Depth	Other Plants	Lake Bottom
508	45	2.6483	87	9.7816	0	5.5	None	
509	45	2.6502	87	9.8576	0	6	A	
510	45	2.6521	87	9.9337	0	3.5	C	
511	45	2.6946	87	9.4745	0	3	B, C	
512	45	2.6965	87	9.5506	0	4	P	
513	45	2.6984	87	9.6267	0	4	None	
514	45	2.7003	87	9.7028	0	4.5	C	
515	45	2.7022	87	9.7789	0	5.5	C	
516	45	2.7041	87	9.8550	0	4	None	Rock
517	45	2.7060	87	9.9311	0	3	C	
518	45	2.7505	87	9.5479	0	4	C	
519	45	2.7524	87	9.6240	0	4	B	
520	45	2.7543	87	9.7001	0	4.5	B, C	
521	45	2.7562	87	9.7762	0	5	B, C	
522	45	2.7581	87	9.8523	0	3	None	Rock
523	45	2.7599	87	9.9284	0	1	None	Sand
524	45	2.8044	87	9.5453	0	2	None	
525	45	2.8063	87	9.6214	0	4	B, C	
526	45	2.8082	87	9.6974	0	4	B, C	
527	45	2.8101	87	9.7735	0	4	None	
528	45	2.8603	87	9.6187	0	4	B, C, P	
529	45	2.8622	87	9.6948	0	4.5	C	
530	45	2.8641	87	9.7709	0	3	C, P	

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2008

Eurasian Water-milfoil Survey Of Kangaroo Lake For The Year 2008.
Plant Density And Distribution, Water Depth, Bottom Character.

LEGEND

Plants:
A = Alga, Dichotomosiphon tuberosus
B = Bladderwort, Utricularia vulgaris
Bulr = Hard-stem Bulrush (Schoenoplectus acutus)
C = Chara, sp., Chara, Muskgrass
Cat = Broadleaved Cattail (Typha latifolia)
E = Eel-grass, Vallisneria Americana
EWM = Eurasian Water-milfoil (Myriolphyllum spicatum)
Lily = Fragrant Water Lily (Nymphaea odorata)
N = Naiad, Najas flexilis
None = no plants
P = Pondweed, sp.,
Pl = Pondweed, Large-leaf pondweed (Potamogeton amplifolius)

Lake area = ~ 1000 acres.
Lake depth = feet.
'Point' in table = GPS site on map.
Sites are about 330 ft. apart, except for cluster in 'center' which are about 165 ft. apart.

EWM Density:
0 = none present.
1 = a few EWM plants on rake.
2 = about one-half of rake covered with EWM plants.
3 = more than one-half of rake covered with EWM plants.

Bottom Character:
Marl (all unmarked).
Sand.
Gravel.
Rock.

TABLE 3. EURASIAN WATER-MILFOIL SURVEY OF KANGAROO LAKE -- 2010

Point	Latitude Degrees	Latitude Minutes	Longitude Degrees	Longitude Minutes	EWM Density	Water Depth	Plants	Bottom
1	45	0.9620	87	9.3310	0	1	None	sand
2	45	0.9646	87	9.4079	0	2	None	
3	45	0.9665	87	9.4839	0	2	None	
4	45	0.9684	87	9.5600	0	2.5	None	Rock
5	45	0.9703	87	9.6360	0	3	C, P,	Rock
6	45	0.9722	87	9.7121	0	3	C, P,	Rock
7	45	0.9741	87	9.7882	0	3	None	
8	45	1.0167	87	9.3292	0	2	None	Rock
9	45	1.0186	87	9.4052	0	5	None	Rock
10	45	1.0205	87	9.4813	0	5.5	B, C, P	
11	45	1.0224	87	9.5573	0	6	C	
12	45	1.0243	87	9.6334	0	6	C	
13	45	1.0261	87	9.7094	0	6	C	
14	45	1.0280	87	9.7855	0	4.5	C	
15	45	1.0668	87	9.1744	0	1.5	None	Rock
16	45	1.0687	87	9.2504	0	2	None	Rock
17	45	1.0706	87	9.3265	0	5	None	Rock
18	45	1.0725	87	9.4025	0	5.5	None	
19	45	1.0744	87	9.4786	0	6	None	
20	45	1.0763	87	9.5547	0	6	C	
21	45	1.0782	87	9.6307	0	6	C	
22	45	1.0801	87	9.7068	0	5.5	C	
23	45	1.0820	87	9.7828	0	5	C	
24	45	1.1208	87	9.1717	0	5	None	
25	45	1.1227	87	9.2477	0	6.5	C	
26	45	1.1246	87	9.3238	0	6.5	C	
27	45	1.1265	87	9.3999	0	6.5	C, P	
28	45	1.1284	87	9.4759	0	6	C	
29	45	1.1302	87	9.5520	0	6.5	C	
30	45	1.1321	87	9.6280	0	6	C	
31	45	1.1340	87	9.7041	0	6	B, C	
32	45	1.1359	87	9.7802	0	5	C	
33	45	1.1378	87	9.8562	0	4.5	None	
34	45	1.1728	87	9.0930	0	5	None	Rock
35	45	1.1747	87	9.1690	0	7	B, C	
36	45	1.1766	87	9.2451	0	7	A, B, C	
37	45	1.1785	87	9.3211	0	7	B, C, N	
38	45	1.1804	87	9.3972	0	7	C	

TABLE EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

	39	45	1.1823	87	9.4733	0	7	C, P	
	40	45	1.1842	87	9.5493	0	7	C	
	41	45	1.1861	87	9.6254	0	7	C	
	42	45	1.1880	87	9.7014	0	6	B, C	
	43	45	1.1899	87	9.7775	0	5	C	
	44	45	1.1918	87	9.8536	0	3	None	
	45	45	1.2249	87	9.0142	0	3	None.	Rock
	46	45	1.2268	87	9.0903	0	6.5	C	
	47	45	1.2287	87	9.1663	0	7	C	
	48	45	1.2306	87	9.2424	0	8	C	
	49	45	1.2325	87	9.3185	0	8	C	
	50	45	1.2343	87	9.3945	0	8	C	
	51	45	1.2362	87	9.4706	0	7	C	
	52	45	1.2381	87	9.5466	0	7.5	B, C, N	
	53	45	1.2400	87	9.6227	0	7	B, N, P	
	54	45	1.2419	87	9.6988	0	6.5	B, C	
	55	45	1.2438	87	9.7748	0	5	C,	Rock
	56	45	1.2457	87	9.8509	0	3	None	Rock
	57	45	1.2476	87	9.9269	0	1.5	None,	Sand
	58	45	1.2788	87	9.0115	0	3	C,	Sand
	59	45	1.2807	87	9.0876	0	7	C	
	60	45	1.2826	87	9.1637	0	7.5	A, C	
	61	45	1.2845	87	9.2397	0	8.5	B, C, N	
	62	45	1.2864	87	9.3158	0	8.5	C	
	63	45	1.2883	87	9.3918	0	8	B, C, N	
	64	45	1.2902	87	9.4679	0	7.5	B, C	
	65	45	1.2921	87	9.5440	0	7.5	B, C	
	66	45	1.2940	87	9.6200	0	8	B, C	
	67	45	1.2959	87	9.6961	0	7	B, C, N	
Reef	68	45	1.2978	87	9.7722	0	1	None	Rock
	69	45	1.2997	87	9.8482	0	3	None	Sand
	70	45	1.3015	87	9.9243	0	2.5	None, W shore	
	71	45	1.3309	87	8.9328	0	0.5	None, E shore	
	72	45	1.3328	87	9.0089	0	5.5	None	Sand
	73	45	1.3347	87	9.0849	0	7	B, C	
	74	45	1.3365	87	9.1610	0	8	A	
	75	45	1.3384	87	9.2371	0	8.5	A, C	
	76	45	1.3403	87	9.3131	0	8.5	A, C	

TABLE .. EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

77	45	1.3422	87	9.3892	0	8	C	
78	45	1.3441	87	9.4652	0	8	C	
79	45	1.3460	87	9.5413	0	7.5	B, C	
80	45	1.3479	87	9.6174	0	8.5	PL	
81	45	1.3498	87	9.6934	0	7	C	
82	45	1.3517	87	9.7695	0	6.5	C	
83	45	1.3536	87	9.8456	0	3.5	C	
84	45	1.3555	87	9.9216	0	2	C	
85	45	1.3867	87	9.0062	0	3	C (point)	
86	45	1.3886	87	9.0822	0	7	C	
87	45	1.3905	87	9.1583	0	8	A	
88	45	1.3924	87	9.2344	0	9	C	
89	45	1.3943	87	9.3104	0	9	C, P	
90	45	1.3962	87	9.3865	0	8.5	B, C, PL	
91	45	1.3981	87	9.4626	0	8.5	B, C	
92	45	1.4000	87	9.5386	0	7	B, C	
93	45	1.4019	87	9.6147	0	9	C	
94	45	1.4038	87	9.6908	0	8	C	
95	45	1.4057	87	9.7668	0	7.5	C	
96	45	1.4075	87	9.8429	0	5	C	
97	45	1.4094	87	9.9190	0	3	None	
98	45	1.4406	87	9.0035	0	5	C	
99	45	1.4425	87	9.0796	0	4.5	C	Sand
100	45	1.4444	87	9.1556	0	8	A	
101	45	1.4463	87	9.2317	0	9	C	
102	45	1.4482	87	9.3078	0	9.5	C	
103	45	1.4492	87	9.3458	0	10	C	
104	45	1.4501	87	9.3838	0	9	A, C, N	
105	45	1.4511	87	9.4219	0	9	C	
106	45	1.4520	87	9.4599	0	9	B, PL	
107	45	1.4530	87	9.4979	0	9	C	
108	45	1.4539	87	9.5360	0	7	C, N, P	
109	45	1.4549	87	9.5740	0	7	C	
110	45	1.4558	87	9.6120	0	9.5	B, C	
111	45	1.4568	87	9.6501	0	9	B, C, N	
112	45	1.4577	87	9.6881	0	8.5	C	
113	45	1.4596	87	9.7642	0	8	C, P	
114	45	1.4615	87	9.8402	0	5	None.	Rock

TABLE EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

115	45	1.4634	87	9.9163	0	4.5	B, C, N	
116	45	1.4752	87	9.3064	0	9.5	A, C	
117	45	1.4762	87	9.3445	0	10	A, C	
118	45	1.4771	87	9.3825	0	9	PL	
119	45	1.4780	87	9.4205	2	9.5	A	
120	45	1.4790	87	9.4586	0	9	C	
121	45	1.4799	87	9.4966	0	9.5	C	
122	45	1.4809	87	9.5346	0	7.5	N	
123	45	1.4818	87	9.5727	0	7	B, C	
124	45	1.4828	87	9.6107	0	10	B, C	
125	45	1.4837	87	9.6487	0	9.5	C	
126	45	1.4847	87	9.6868	0	8.5	B, C, N	
127	45	1.4946	87	9.0008	0	0.5	None	Rock
128	45	1.4965	87	9.0769	0	4	None	Sand
129	45	1.4984	87	9.1530	0	8	A	
130	45	1.5003	87	9.2290	0	9	C	
131	45	1.5022	87	9.3051	0	9.5	B, C, N	
132	45	1.5031	87	9.3431	0	10	B, C, PL	
133	45	1.5041	87	9.3812	0	10	C	
134	45	1.5050	87	9.4192	1	9.5	PL	
135	45	1.5060	87	9.4572	3	9.5	N	
136	45	1.5069	87	9.4953	3	9	None	
137	45	1.5079	87	9.5333	0	7.5	N, PL	
138	45	1.5088	87	9.5713	0	7.5	B, C, PL	
139	45	1.5098	87	9.6094	0	9.5	B, C, N	
140	45	1.5107	87	9.6474	0	9.5	C	
141	45	1.5116	87	9.6854	0	8.5	C, N	
142	45	1.5135	87	9.7615	0	8	C	
143	45	1.5154	87	9.8376	0	7	C	
144	45	1.5173	87	9.9136	0	3.5	B, C, P	
145	45	1.5292	87	9.3038	2	11	B, C, N	
146	45	1.5301	87	9.3418	0	10.5	A, B, C	
147	45	1.5310	87	9.3798	1	11	B	
148	45	1.5320	87	9.4179	0	9.5	C	
149	45	1.5329	87	9.4559	3	10	None	
150	45	1.5339	87	9.4939	0	9,5	B, PL	
151	45	1.5348	87	9.5320	0	8	B, PL	
152	45	1.5358	87	9.5700	0	8	C	

TABLE EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

153	45	1.5367	87	9.6080	1	5.5	B, C	
154	45	1.5377	87	9.6461	0	10	B, C	
155	45	1.5386	87	9.6841	0	9	B, C	
156	45	1.5504	87	9.0742	0	2	None (Sieker r)	
157	45	1.5523	87	9.1503	0	6	C	Sand
158	45	1.5542	87	9.2263	0	9	C	
159	45	1.5561	87	9.3024	0	9.5	C	
160	45	1.5571	87	9.3405	0	10.5	B, C	
161	45	1.5580	87	9.3785	0	11	C	
162	45	1.5590	87	9.4165	0	11	None	
163	45	1.5599	87	9.4546	2	10	None	
164	45	1.5609	87	9.4926	1	9	N, PL	
165	45	1.5618	87	9.5306	1	8	B, C, PL	
166	45	1.5628	87	9.5687	0	8	B	
167	45	1.5637	87	9.6067	0	9.5	A	
168	45	1.5646	87	9.6447	0	10	B	
169	45	1.5656	87	9.6828	0	9	B, C	
170	45	1.5675	87	9.7588	0	8	A	
171	45	1.5694	87	9.8349	0	7.5	C	
172	45	1.5713	87	9.9110	0	4	None, W shore	
173	45	1.5831	87	9.3011	0	9.5	C	
174	45	1.5840	87	9.3391	0	10.5	B, C	
175	45	1.5850	87	9.3771	0	11	C	
176	45	1.5859	87	9.4152	1	11	None	
177	45	1.5869	87	9.4532	0	10	C	
178	45	1.5878	87	9.4913	3	9	None	
179	45	1.5888	87	9.5293	0	7	B, C	
180	45	1.5897	87	9.5673	0	8	B, C, PL	
181	45	1.5907	87	9.6054	0	9	C	
182	45	1.5916	87	9.6434	0	9.5	None	
183	45	1.5926	87	9.6814	0	9	C	
184	45	1.6044	87	9.0715	0	4	None (Sieker)	
185	45	1.6063	87	9.1476	0	5.5	None	Rock
186	45	1.6082	87	9.2237	0	9	A, C	
187	45	1.6101	87	9.2997	0	9.5	B, C	
188	45	1.6110	87	9.3378	0	10.5	B, C	
189	45	1.6120	87	9.3758	0	11	C, N	
190	45	1.6129	87	9.4138	0	11	None	

TABLE EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

191	45	1.6139	87	9.4519	0	9.5	P	
192	45	1.6148	87	9.4899	1	8.5	PL	
193	45	1.6158	87	9.5280	0	7	C	
194	45	1.6167	87	9.5660	0	8.5	N	
195	45	1.6176	87	9.6040	0	9.5	C	
196	45	1.6186	87	9.6421	0	9.5	None	
197	45	1.6195	87	9.6801	0	9.5	B, C	
198	45	1.6214	87	9.7562	0	8	B, N	
199	45	1.6233	87	9.8322	0	7.5	A, B, C	
200	45	1.6252	87	9.9083	0	4	None,	Rock
201	45	1.6370	87	9.2984	0	9.5	B, C	
202	45	1.6380	87	9.3364	0	10.5	C	
203	45	1.6389	87	9.3745	0	11.5	B, C, PL	
204	45	1.6399	87	9.4125	3	11.5	None	
205	45	1.6408	87	9.4505	2	10	None	
206	45	1.6418	87	9.4886	2	8.5	PL	
207	45	1.6427	87	9.5266	0	7	N	
208	45	1.6437	87	9.5647	0	8	N	
209	45	1.6446	87	9.6027	1	9	B, C	
210	45	1.6456	87	9.6407	1	9.5	N	
211	45	1.6465	87	9.6788	1	9	C	
212	45	1.6583	87	9.0689	0	5	None, shore	
213	45	1.6602	87	9.1449	0	4.5	None	Gravel
214	45	1.6621	87	9.2210	0	8	A, C, P	
215	45	1.6640	87	9.2971	0	9.5	B.C.P	
216	45	1.6650	87	9.3351	0	10.5	B, C	
217	45	1.6659	87	9.3731	0	11.5	C	
218	45	1.6669	87	9.4112	3	11.5	C	
219	45	1.6678	87	9.4492	0	8.5	B, P	
220	45	1.6688	87	9.4872	0	7.5	P	
221	45	1.6697	87	9.5253	0	6.5	C, N, P	
222	45	1.6706	87	9.5633	3	8	C, P	
223	45	1.6716	87	9.6014	0	9	B, C	
224	45	1.6725	87	9.6394	3	9.5	None	
225	45	1.6735	87	9.6774	0	9.5	N	
226	45	1.6754	87	9.7535	0	8	C	
227	45	1.6773	87	9.8296	0	7	B, C, N, P	
228	45	1.6792	87	9.9056	0	5	A, P	

TABLE EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

229	45	1.6810	87	9.9817	0	1	None, shore	
230	45	1.6910	87	9.2957	0	9.5	B, C, N	
231	45	1.6919	87	9.3338	0	10	C	
232	45	1.6929	87	9.3718	0	11	C, N	
233	45	1.6938	87	9.4098	1	12	N	
234	45	1.6948	87	9.4479	0	8	C, P	
235	45	1.6957	87	9.4859	3	8.5	None	
236	45	1.6967	87	9.5239	0	7.5	C, N, PL	
237	45	1.6976	87	9.5620	0	7.5	A	
238	45	1.6986	87	9.6000	0	9	B, C	
239	45	1.6995	87	9.6381	3	9	None	
240	45	1.7005	87	9.6761	0	9	C, P	
241	45	1.7104	87	8.9901	0	1	None	
242	45	1.7123	87	9.0662	0	4	C	
243	45	1.7142	87	9.1423	0	7.5	A	
244	45	1.7161	87	9.2183	0	9	A, B, N	
245	45	1.7180	87	9.2944	0	9	A, C	
246	45	1.7189	87	9.3324	0	9.5	C	
247	45	1.7199	87	9.3705	0	11	C, N	
248	45	1.7208	87	9.4085	0	11.5	P	
249	45	1.7217	87	9.4465	2	10	B, P	
250	45	1.7227	87	9.4846	0	7	C, N, PL	
251	45	1.7236	87	9.5226	2	7.5	B, P	
252	45	1.7246	87	9.5606	1	7	B, C, P	
253	45	1.7255	87	9.5987	1	8.5	C	
254	45	1.7265	87	9.6367	1	9	B, C	
255	45	1.7274	87	9.6748	0	9	P	
256	45	1.7293	87	9.7508	0	8	None	
257	45	1.7312	87	9.8269	0	7.5	C, N	
258	45	1.7331	87	9.9030	0	6	B	
259	45	1.7350	87	9.9790	0	3	None	sand
260	45	1.7449	87	9.2931	0	8.5	A	
261	45	1.7459	87	9.3311	0	9.5	A, C	
262	45	1.7468	87	9.3691	0	10.5	None	
263	45	1.7478	87	9.4072	0	11.5	N	
264	45	1.7487	87	9.4452	3	8	P	
265	45	1.7497	87	9.4832	0	7	C, PL	
266	45	1.7506	87	9.5213	0	7	B, C, N, P	

TABLE EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

267	45	1.7516	87	9.5593	0	8	B, C, N	
268	45	1.7525	87	9.5973	0	8.5	B, C	
269	45	1.7535	87	9.6354	0	9	B, C	
270	45	1.7544	87	9.6734	0	9	B, C	
271	45	1.7643	87	8.9874	0	4	None.	Rock
272	45	1.7662	87	9.0635	0	7.0	A	
273	45	1.7681	87	9.1396	0	8.5	A	
274	45	1.7700	87	9.2156	0	8	A	
275	45	1.7719	87	9.2917	0	6	None	Rock
276	45	1.7728	87	9.3298	0	8.5	A	
277	45	1.7738	87	9.3678	0	9	B, C	
278	45	1.7747	87	9.4058	0	10.5	None	
279	45	1.7757	87	9.4439	1	7.5	C, P, PL	
280	45	1.7766	87	9.4819	0	7	B, C, PL	
281	45	1.7776	87	9.5199	1	10.5	B, C, N ,P	
282	45	1.7785	87	9.5580	0	7	N, P	
283	45	1.7795	87	9.5960	0	8	C, N	
284	45	1.7804	87	9.6340	0	9	C, PL	
285	45	1.7814	87	9.6721	0	9	N	
286	45	1.7833	87	9.7482	0	8	None	
287	45	1.7852	87	9.8242	0	8	B, C	
288	45	1.7870	87	9.9003	0	7	B, C	
289	45	1.7889	87	9.9764	0	2	None.	Sand
290	45	1.7989	87	9.2904	0	5	None.	Rock
291	45	1.7998	87	9.3284	0	8.5	A	
292	45	1.8008	87	9.3665	0	9	B, C	
293	45	1.8017	87	9.4045	0	9	P	
294	45	1.8027	87	9.4425	0	8.5	B, C, PL	
295	45	1.8036	87	9.4806	0	5.5	B, C	
296	45	1.8046	87	9.5186	0	6.5	C, P	
297	45	1.8055	87	9.5566	0	6.5	C	
298	45	1.8065	87	9.5947	0	8.5	B, C	
299	45	1.8074	87	9.6327	0	8	PL, crib area	
300	45	1.8083	87	9.6707	0	9.5	B, C	
301	45	1.8183	87	8.9848	0	1	None, shore	
302	45	1.8202	87	9.0608	0	7	A, B	
303	45	1.8221	87	9.1369	0	8.5	A	
304	45	1.8239	87	9.2130	0	8.5	B, C	

TABLE EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

305	45	1.8258	87	9.2890	0	6.5	None	Gravel
306	45	1.8268	87	9.3271	0	8	A, P (soft)	
307	45	1.8277	87	9.3651	0	8.5	A, B	
308	45	1.8287	87	9.4032	0	9	N	
309	45	1.8296	87	9.4412	0	9.5	PL	
310	45	1.8306	87	9.4792	0	2	B, C, N, PL	
311	45	1.8315	87	9.5173	0	6.5	P	
312	45	1.8325	87	9.5553	0	7	C, PL	
313	45	1.8334	87	9.5933	0	9.5	None	
314	45	1.8344	87	9.6314	0	9.5	C, N	
315	45	1.8353	87	9.6694	0	9	B, C	
316	45	1.8372	87	9.7455	0	8	None	
317	45	1.8391	87	9.8216	0	7.5	B	
318	45	1.8410	87	9.8976	0	6.5	C, P	
319	45	1.8429	87	9.9737	0	4	C	
320	45	1.8528	87	9.2877	0	8	A	
321	45	1.8538	87	9.3257	0	7.5	A	
322	45	1.8547	87	9.3638	0	8.5	B, C	
323	45	1.8557	87	9.4018	0	8.5	B, C	
324	45	1.8566	87	9.4399	0	9.5	B, C, P	
325	45	1.8576	87	9.4779	0	7	N, P	
326	45	1.8585	87	9.5159	0	6	C, PL	
327	45	1.8595	87	9.5540	0	7.5	B, C, N	
328	45	1.8604	87	9.5920	0	8.5	None	
329	45	1.8613	87	9.6300	0	9.5	None	
330	45	1.8623	87	9.6681	0	9	C, N	
331	45	1.8722	87	8.9821	0	4	None	Rock
332	45	1.8741	87	9.0581	0	7.5	A	
333	45	1.8760	87	9.1342	0	8	A	
334	45	1.8779	87	9.2103	0	8.5	A	
335	45	1.8798	87	9.2864	0	8	C	
336	45	1.8807	87	9.3244	0	8.5	None	
337	45	1.8817	87	9.3624	0	8	B, C	
338	45	1.8826	87	9.4005	0	8	B	
339	45	1.8836	87	9.4385	0	9	B, C, PL	
340	45	1.8845	87	9.4766	0	8	PL	
341	45	1.8855	87	9.5146	0	5.5	C, P	
342	45	1.8864	87	9.5526	0	8	B, C	

TABLE . EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

343	45	1.8874	87	9.5907	0	9	C, P	
344	45	1.8883	87	9.6287	0	9	C	
345	45	1.8893	87	9.6667	0	9	C, P	
346	45	1.8912	87	9.7428	0	8	None	
347	45	1.8930	87	9.8189	0	7.5	N	
348	45	1.8949	87	9.8950	0	6.5	N	
349	45	1.8968	87	9.9710	0	4	C, near shore	
350	45	1.9261	87	8.9794	0	2.5	None, E shore	
351	45	1.9280	87	9.0555	0	7.5	A	
352	45	1.9299	87	9.1315	0	8	A	
353	45	1.9318	87	9.2076	0	8.5	C	
354	45	1.9337	87	9.2837	0	8	B, C	
355	45	1.9356	87	9.3598	0	8	B, C	
356	45	1.9375	87	9.4358	0	8	B, C	
357	45	1.9394	87	9.5119	0	6	C	
358	45	1.9413	87	9.5880	0	9	None	
359	45	1.9432	87	9.6641	0	9	None	
360	45	1.9451	87	9.7402	0	8	C	
361	45	1.9470	87	9.8162	0	7.5	C	
362	45	1.9489	87	9.8923	0	7	A, C	
363	45	1.9508	87	9.9684	0	3	None	
364	45	1.9820	87	9.0528	0	6.5	A	Sand
365	45	1.9839	87	9.1289	0	8	A	
366	45	1.9858	87	9.2049	0	8.5	C	
367	45	1.9877	87	9.2810	0	8	C	
368	45	1.9896	87	9.3571	0	7.5	C	
369	45	1.9915	87	9.4332	0	7.5	C	
370	45	1.9934	87	9.5093	0	8.5	C	
371	45	1.9953	87	9.5853	0	9	None	
372	45	1.9972	87	9.6614	0	9	C	
373	45	1.9990	87	9.7375	0	8	C	
374	45	2.0009	87	9.8136	0	7.5	A	
375	45	2.0028	87	9.8896	0	5.5	None	Gravel
376	45	2.0047	87	9.9657	0	5	C (Meis)	Sand
377	45	2.0359	87	9.0501	0	6	None	Rock
378	45	2.0378	87	9.1262	0	8	None	
379	45	2.0397	87	9.2023	0	8.5	B	
380	45	2.0416	87	9.2783	0	8.5	B, C	

TABLE : EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

381	45	2.0435	87	9.3544	0	7.5	B, C	
382	45	2.0454	87	9.4305	0	7	B, P	Rock
383	45	2.0473	87	9.5066	0	8	B, C, P	
384	45	2.0492	87	9.5827	0	9	B, C	
385	45	2.0511	87	9.6587	0	9	C	
386	45	2.0530	87	9.7348	0	7.5	B, C	
387	45	2.0549	87	9.8109	0	7.5	A	
388	45	2.0568	87	9.8870	0	6.5	B, N	
389	45	2.0587	87	9.9631	0	3	None	
390	45	2.0899	87	9.0474	0	5.5	None	Rock
391	45	2.0918	87	9.1235	0	6	None	Rock
392	45	2.0937	87	9.1996	0	8.5	None	
393	45	2.0956	87	9.2757	0	8.5	C	
394	45	2.0975	87	9.3517	0	8	C	
395	45	2.0994	87	9.4278	0	8	B, P	
396	45	2.1013	87	9.5039	0	8	C	
397	45	2.1031	87	9.5800	0	8	C	
398	45	2.1050	87	9.6561	0	8.5	B, C, P	
399	45	2.1069	87	9.7321	0	8	C	
400	45	2.1088	87	9.8082	0	7.5	B, C	
401	45	2.1107	87	9.8843	0	6.5	C	
402	45	2.1126	87	9.9604	0	4	None	Rock
403	45	2.1438	87	9.0448	0	7	None	
404	45	2.1457	87	9.1208	0	7	B	
405	45	2.1476	87	9.1969	0	8.5	C	
406	45	2.1495	87	9.2730	0	8.5	B, C	
407	45	2.1514	87	9.3491	0	8	C, P	
408	45	2.1533	87	9.4252	0	8	B, C	
409	45	2.1552	87	9.5012	0	5.5	C	
410	45	2.1571	87	9.5773	0	8	C, P	
411	45	2.1590	87	9.6534	1	8	C	
412	45	2.1609	87	9.7295	0	8	C	
413	45	2.1628	87	9.8056	0	7.5	B	
414	45	2.1647	87	9.8816	0	7	B	
415	45	2.1666	87	9.9577	0	4	None	Sand
416	45	2.1997	87	9.1182	0	3	None	Rock
417	45	2.2016	87	9.1942	0	5	None	Rock
418	45	2.2035	87	9.2703	0	8	C	

TABLE EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

419	45	2.2054	87	9.3464	0	8	B, C	
420	45	2.2072	87	9.4225	0	8	B, C	
421	45	2.2091	87	9.4986	0	8	C	
422	45	2.2110	87	9.5746	0	7.5	C	
423	45	2.2129	87	9.6507	0	7.5	B, C	
424	45	2.2148	87	9.7268	0	8	B, C	
425	45	2.2167	87	9.8029	0	7	C, P	
426	45	2.2186	87	9.8790	0	6	A	
427	45	2.2205	87	9.9551	0	3	None	Sand
428	45	2.2555	87	9.1916	0	6	None	
429	45	2.2574	87	9.2676	0	8	A	
430	45	2.2593	87	9.3437	0	8	None	
431	45	2.2612	87	9.4198	0	8	C	
432	45	2.2631	87	9.4959	0	8	None	
433	45	2.2650	87	9.5720	0	7	A	
434	45	2.2669	87	9.6481	0	7.5	B, C	
435	45	2.2688	87	9.7241	0	7.5	B, C, P	
436	45	2.2707	87	9.8002	0	7	B	
437	45	2.2726	87	9.8763	0	6	B, C	
438	45	2.2744	87	9.9524	0	2.5	None	Sand
439	45	2.3094	87	9.1889	0	6.5	None	
440	45	2.3113	87	9.2650	0	8	None	
441	45	2.3132	87	9.3411	0	8	C	
442	45	2.3151	87	9.4171	0	8	C	
443	45	2.3170	87	9.4932	0	7	C	
444	45	2.3189	87	9.5693	0	1	None	
445	45	2.3208	87	9.6454	0	7	A	
446	45	2.3227	87	9.7215	0	7.5	C, P	
447	45	2.3246	87	9.7976	0	7	C, N	
448	45	2.3265	87	9.8736	0	6	A, C	
449	45	2.3284	87	9.9497	0	1	None	Gravel
450	45	2.3634	87	9.1862	0	6	B	Sand
451	45	2.3653	87	9.2623	0	7.5	B, C	
452	45	2.3672	87	9.3384	0	8	C, PL	
453	45	2.3691	87	9.4145	0	8	B, C	
454	45	2.3710	87	9.4905	0	6	A	Gravel
455	45	2.3767	87	9.7188	0	7	C	
456	45	2.3786	87	9.7949	0	7	C	

TABLE EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

457	45	2.3804	87	9.8710	0	5.5	A, C	
458	45	2.3823	87	9.9471	0	1	None	
459	45	2.4173	87	9.1835	0	6.5	C	Sand
460	45	2.4192	87	9.2596	0	7.5	B, C	
461	45	2.4211	87	9.3357	0	8	B, C, P	
462	45	2.4230	87	9.4118	0	7.5	C	
463	45	2.4249	87	9.4879	0	6	C	
464	45	2.4306	87	9.7161	0	6	C	
465	45	2.4325	87	9.7922	0	7	A	
466	45	2.4344	87	9.8683	0	6	A	
467	45	2.4363	87	9.9444	0	1	None	Sand
468	45	2.4694	87	9.1048	0	1	Bulrush, shore	
469	45	2.4713	87	9.1808	0	6	C	Sand
470	45	2.4732	87	9.2569	0	7	A	
471	45	2.4751	87	9.3330	0	7.5	C	
472	45	2.4770	87	9.4091	0	7.5	B, C	
473	45	2.4789	87	9.4852	0	7	C	
474	45	2.4845	87	9.7135	0	5.5	C	
475	45	2.4864	87	9.7896	0	7	C	
476	45	2.4883	87	9.8656	0	6.5	C	
477	45	2.4902	87	9.9417	0	2	None	Rock
478	45	2.5233	87	9.1021	0	2.5	C, P	Sand
479	45	2.5252	87	9.1782	0	3	Bulrush	Rock
480	45	2.5271	87	9.2543	0	4.5	None	Rock
481	45	2.5290	87	9.3304	0	6.5	C, P	
482	45	2.5309	87	9.4064	0	7	C, N, P	
483	45	2.5328	87	9.4825	0	6	B, C	
484	45	2.5347	87	9.5586	0	5.5	C	
485	45	2.5385	87	9.7108	0	5	B, C, P	
486	45	2.5404	87	9.7869	0	6.5	B, C	Rock
487	45	2.5423	87	9.8630	0	6.5	A	
488	45	2.5442	87	9.9391	0	2	C	
489	45	2.5754	87	9.0233	0	2	Bulrush	Sand
490	45	2.5773	87	9.0994	0	4	B, C, P	
491	45	2.5830	87	9.3277	0	5	None	Rock
492	45	2.5849	87	9.4038	0	6	C	
493	45	2.5868	87	9.4799	0	5.5	B, C, P	
494	45	2.5887	87	9.5559	0	5	B, C, P	

TABLE EURASIAN WATER-MILFOIL IN KANGAROO LAKE. YEAR: 2010

495	45	2.5905	87	9.6320	0	4.5	B, C	
496	45	2.5924	87	9.7081	0	5.5	None	
497	45	2.5943	87	9.7842	0	7	C	
498	45	2.5962	87	9.8603	0	7	A	
499	45	2.5981	87	9.9364	0	3	C	
500	45	2.6293	87	9.0206	0	1.5	Bulrush, shore	
501	45	2.6312	87	9.0967	0	2	C, bulrush	
502	45	2.6369	87	9.3250	0	1	Bulrush, shore	
503	45	2.6388	87	9.4011	0	5	C, P	
504	45	2.6407	87	9.4772	0	5	C	
505	45	2.6426	87	9.5533	0	5	P	
506	45	2.6445	87	9.6294	0	5	P	
507	45	2.6464	87	9.7055	0	5	None	
508	45	2.6483	87	9.7816	0	6	C	
509	45	2.6502	87	9.8576	0	6	A	
510	45	2.6521	87	9.9337	0	4	A, C	
511	45	2.6946	87	9.4745	0	4	C	
512	45	2.6965	87	9.5506	0	5	B, N, P	
513	45	2.6984	87	9.6267	0	5	C, P	
514	45	2.7003	87	9.7028	0	5	None	
515	45	2.7022	87	9.7789	0	6	C	Marl
516	45	2.7041	87	9.8550	0	5.5	None	Rock
517	45	2.7060	87	9.9311	0	4	C	
518	45	2.7505	87	9.5479	0	4.5	C	
519	45	2.7524	87	9.6240	0	4.5	C, P	
520	45	2.7543	87	9.7001	0	5	A	
521	45	2.7562	87	9.7762	0	5.5	C	
522	45	2.7581	87	9.8523	0	4	None	Rock
523	45	2.7599	87	9.9284	0	2.5	B, C	
524	45	2.8044	87	9.5453	0	4	C	
525	45	2.8063	87	9.6214	0	4.5	C	
526	45	2.8082	87	9.6974	0	5	B, C	
527	45	2.8101	87	9.7735	0	5	None	
528	45	2.8603	87	9.6187	0	4	N, P	
529	45	2.8622	87	9.6948	1	5	C, N, P	
530	45	2.8641	87	9.7709	0	5.5	B, C, P	

2010

Eurasian Water-milfoil Survey Of Kangaroo Lake For The Year 2010. Plant Density And Distribution, Water Depth, Bottom Character.

LEGEND

Plants:
A = Alga, Dichotomosiphon tuberosus
B = Bladderwort, Utricularia vulgaris
Bulr = Hard-stem Bulrush (Schoenoplectus acutus)
C = Chara, sp., Chara, Muskgrass
Cat = Broadleaved Cattail (Typha latifolia)
E = Eel-grass, Vallisneria Americana
EWM = Eurasian Water-milfoil (Myriolphyllum spicatum)
Lily = Fragrant Water Lily (Nymphaea odorata)
N = Naiad, Najas flexilis
None = no plants
P = Pondweed, sp.,
Pl = Pondweed, Large-leaf pondweed (Potamogeton amplifolius)

Lake:
Lake area = ~ 1000 acres.
Lake depth = feet.
'Point' in table = GPS site on map.
Sites are about 330 ft. apart, except for cluster in 'center' which are about 165 ft. apart.

EWM Density:
0 = none present.
1 = a few EWM plants on rake.
2 = about one-half of rake covered with EWM plants.
3 = more than one-half of rake covered with EWM plants.

Bottom Character:
Marl (all unmarked).
Sand.
Gravel.
Rock.