

Shoreland Inventory of Birch Lake Ramsey County, Minnesota

Date of Inventory: June 8, 2007

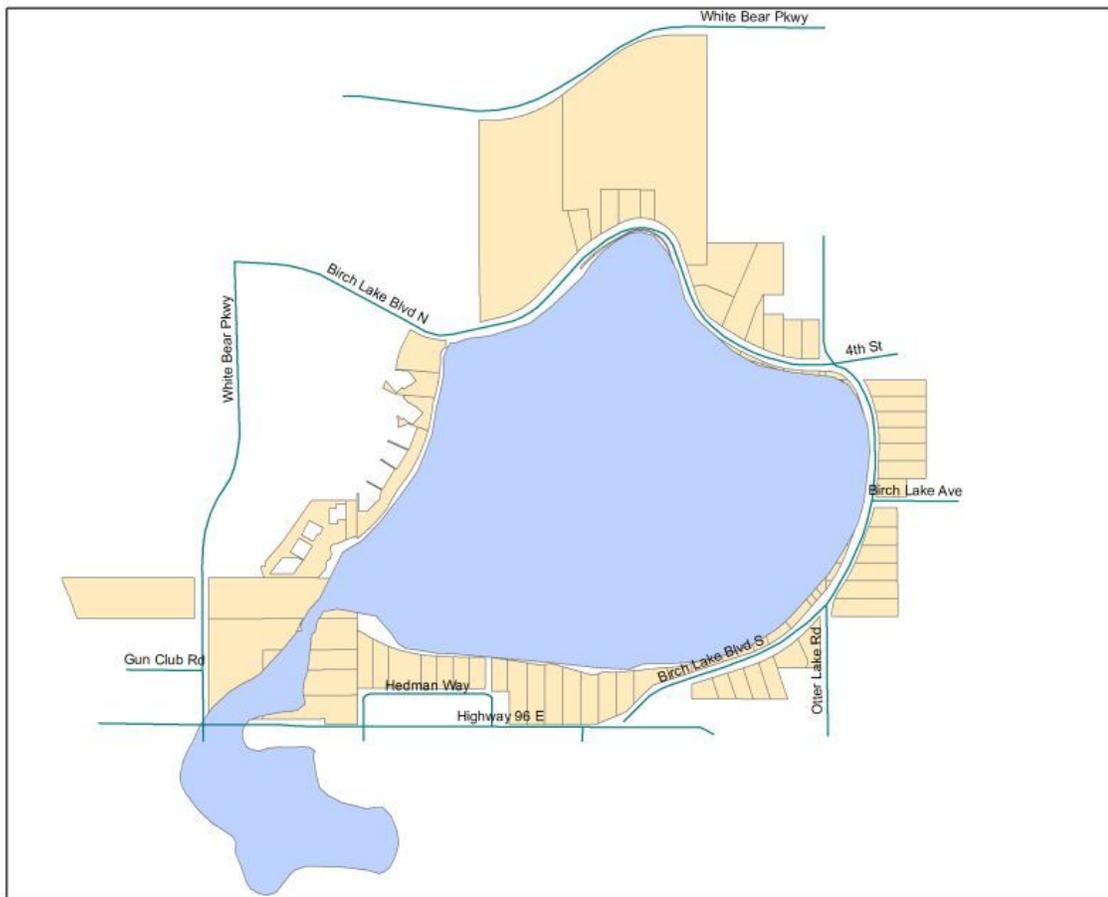


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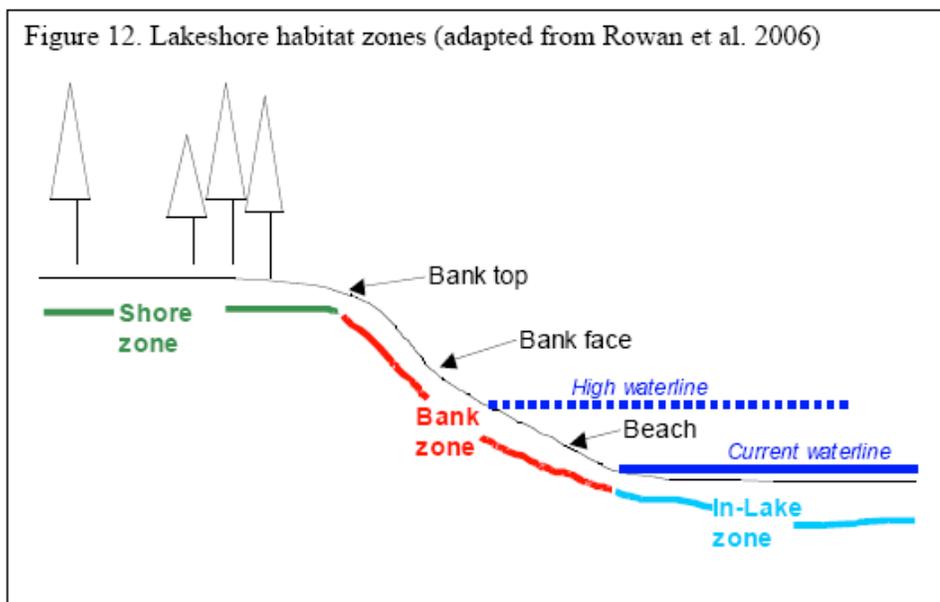
A survey of the shoreland around Birch Lake and photographic inventory of each parcel was conducted on June 8, 2007 by the Vadnais Lake Area Water Management Organization (VLAWMO) and the Ramsey Conservation District (RCD) with the assistance of Birch Lake residents Fred Downing and Ronald Auger. The survey was conducted by navigating to each parcel (determined through GPS) by boat and assessing the site from approximately 50 feet off shore. The objective of this survey was to have a current inventory of the Birch Lake shoreline which will be part of the larger Sustainable Lake Management Plan (SLMP) as well as to be a reference for future comparisons.

Birch Lake Parcels



There are three lakeshore habitat zones which were assessed for each parcel:

- 1) **littoral zone** - the area of shallow water near the property;
- 2) **bank zone** - the area from the waterline up to the bank top; and
- 3) **shore zone** - the area from the bank top landward a distance of 50 feet.



For the littoral zone, we estimated the percentage of vegetation. Within the bank zone, we estimated the percentage of the following materials: natives or woody vegetation, turf, sand, retaining wall, and rip rap. Within the shore zone, we estimated the percentage of trees natives, turf, and road. Finally, a determination of whether the site had potential for shoreline restoration was made.

A summary of the survey results for Birch Lake is shown in Table 1. 60 parcels were evaluated and based on our subjective criteria; it appears that half of the sites are kept in a mostly natural state while the other half of parcels are cleared to the shore. There are no signs of major erosion problems which is a very positive aspect for the lake. Thirty parcels were deemed to have high potential for shoreline restoration.

Table 1. Summary of shoreline survey results for Birch Lake in 2007.

Littoral Zone	Bank Zone					Shore Zone			
	Vegetation	Natives	Turf	Sand	Wall	Riprap	Tree	Natives	Turf
19%	43%	20%	35%	0.5%	1.5%	24%	20%	38%	17%

A 25 to 50 buffer of natural vegetation that extends both onto land and into water and covers at least 75% of a property's frontage is ideal for the entire lake ecosystem. 25% of the lake frontage can be mowed and/or used as a beach area. For some people, this requires a change in their idea of what a nice shoreline looks like. There are many resources available that show how beautiful a natural shoreland is and how it can be designed in a way that will not hinder the use of docks, beaches, or other personal needs.

Reestablishing natural conditions improves water quality by limiting the amount of stormwater runoff, reducing the amount of lawn fertilizer that would wash into the lake. Kentucky bluegrass (which is an exotic plant species) is shallow-rooted and does not protect soil near shorelines. Studies have found that 1.5 feet of shoreline is lost per year if it is mowed to the shore. Native prairie grasses, shrubs, or other perennials are deep-rooted and hold a shoreline in place. Naturalized plantings also discourage nuisance wildlife and waterfowl such as Canada Geese and muskrats while attracting desirable ones such as loons, otters, frogs, hummingbirds, and ducks.

Table 2 is the individual results for each parcel. Corresponding photos follow the table. Due to differences in amounts of frontage, some parcels have more than one picture. A couple of sites in the "bay area" were not photographed because the thick layer of lily pads would not allow a boat to access the parcels. The highlighted parcels are those that were considered to have high restoration potential.

Parcel ID	Littoral Zone	Bank Zone						Shore Zone				
	% Vegetation	% Natives	% Turf	% Sand	% Wall	% Riprap	% Other	% Tree	% Natives	% Turf	% Bare	% Road
01-2007	0	0	70	30	0	0	0	10	0	90	0	0
02-2007	0	0	70	30	0	0	0	5	0	95	0	0
03-2007	0	25	25	25	25	0	0	25	0	75	0	0
04-2007	0	30	0	70	0	0	0	25	25	50	0	0
05-2007	0	0	50	50	0	0	0	10	0	90	0	0
06-2007	0	5	30	65	0	0	0	5	20	75	0	0
07-2007	0	20	30	50	0	0	0	20	5	75	0	0
08-2007	0	0	50	50	0	0	0	10	10	80	0	0
09-2007	75	65	10	25	0	0	0	50	25	25	0	0
10-2007	100	100	0	0	0	0	0	50	0	50	0	0
11-2007	100	100	0	0	0	0	0	25	0	75	0	0
12-2007	100	100	0	0	0	0	0	80	20	0	0	0
13-2007	100	100	0	0	0	0	0	20	80	0	0	0
14-2007	100	100	0	0	0	0	0	0	100	0	0	0
15-2007	100	100	0	0	0	0	0	25	75	0	0	0
16-2007	100	100	0	0	0	0	0	50	50	0	0	0
17-2007	10	80	10	10	0	0	0	50	50	0	0	0
18-2007	0	80	0	20	0	0	0	50	40	10	0	0
19-2007	5	90	0	10	0	0	0	50	50	0	0	0
20-2007	25	40	30	30	0	0	0	50	25	25	0	0
21-2007	0	75	0	25	0	0	0	25	50	0	0	25
22-2007	0	50	0	50	0	20	0	40	50	0	0	10
23-2007	0	80	0	20	0	0	0	40	50	0	0	10
24-2007	10	60	0	40	0	0	0	25	25	0	0	50
25-2007	0	10	65	25	0	0	0	25	25	50	0	25
26-2007	0	75	0	25	0	0	0	5	20	50	0	25
27-2007	0	75	0	25	0	0	0	25	25	5	0	45
28-2007	0	75	0	25	0	0	0	5	25	20	0	50
29-2007	0	75	0	25	0	0	0	25	25	5	0	45
30-2007	10	75	0	25	0	0	0	25	45	5	0	25
31-2007	25	75	0	20	0	0	0	35	35	5	0	25
32-2007	10	75	0	25	0	0	0	40	25	5	0	30
33-2007	0	10	50	40	0	0	0	0	25	25	0	50
34-2007	0	10	50	40	0	0	0	0	20	30	0	50
35-2007	0	0	50	50	0	0	0	5	0	45	0	50
36-2007	0	10	50	40	0	0	0	5	5	40	0	50
37-2007	0	50	0	50	0	0	0	5	5	40	0	50
38-2007	0	0	75	25	0	0	0	0	0	50	0	50
39-2007	0	0	25	75	0	0	0	0	5	25	0	50
40-2007	0	75	0	50	0	0	0	35	0	35	0	30

41-2007	0	0	50	50	0	0	0	50	0	0	0	50
42-2007	0	75	0	25	0	0	0	50	5	5	0	25
43-2007	0	0	50	40	0	10	0	10	0	50	0	40
44-2007	0	0	50	50	0	0	0	5	5	80	0	10
45-2007	0	50	0	50	0	0	0	25	25	25	0	25
46-2007	0	50	0	50	0	0	0	25	25	25	0	25
47-2007	0	0	50	50	0	0	0	10	0	75	0	15
48-2007	0	0	25	65	0	0	10	10	5	75	0	10
49-2007	0	0	50	50	0	0	0	10	0	80	0	10
50-2007	0	0	50	50	0	0	0	5	0	85	0	10
51-2007	0	0	40	50	0	10	0	10	5	75	0	10
52-2007	0	0	0	50	0	50	0	5	0	85	0	10
53-2007	0	0	25	75	0	0	0	25	25	40	0	10
54-2007	0	50	0	50	0	0	0	75	15	0	0	10
55-2007	0	25	0	75	0	0	0	10	5	85	0	0
56-2007	0	0	50	50	0	0	0	10	0	90	0	0
57-2007	0	0	25	75	0	0	0	25	0	75	0	0
58-2007	0	0	25	75	0	0	0	5	0	95	0	0
59-2007	100	100	0	0	0	0	0	50	50	0	0	0
60-2007	100	100	0	0	0	0	0	50	50	0	0	0