

State of the Valley

September 2003

A Progress Report on the Meewasin Valley Authority

Mission Statement

To ensure a healthy and vibrant river valley, with a balance between human use and conservation

Meewasin's goals are laid out in *The Meewasin Valley Project: 100 Year Conceptual Plan* by Raymond Moriyama (1978). This plan led to the establishment of the Meewasin Valley Authority in 1979 and it provides a vision as to how the Meewasin Valley is to proceed in the future. Meewasin is guided by the 100 Year Plan and follows the broad goals set out through its Mission Statement.

How good a job is Meewasin doing at following its Mission Statement? How can we measure Meewasin's effectiveness at fulfilling its mandate?

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Executive Summary

Meewasin is pursuing tools for effectiveness reporting for all areas in the organization. One of these tools is the State of the Valley report card. It measures Meewasin's effectiveness in managing the land base of the Meewasin Valley and will be issued periodically.

Information for the State of the Valley Report has been collected and analyzed using Meewasin's Geographic Information System (GIS). A GIS is a computer system that combines digital mapping, digital aerial photographs, text-based databases, and a human operator. This allows us to record and analyze a vast amount of information about the features of the Meewasin Valley.

As with any organization, Meewasin is guided by its mission statement. The keywords in Meewasin's mission statement, which become the objectives for the organization, are Health, Balance and Vibrancy. Meewasin has developed ends statements from these key points of the mission statement. Indicators measure Meewasin's effectiveness at meeting the ends statements.

The amount of habitat land and size of habitat land parcels have been selected to represent the health of the valley. Habitat areas have been identified as those that are in a relatively natural state.

Meewasin receives a grade of **exceeds expectations for health**. Over fifteen hundred hectares of the Meewasin Valley and its protected lands are habitat. This represents 23% of the total land base. When compared with the area within 2 kilometres of the valley, which has only 17% of the total land base in habitat, the status of the valley is relatively good. A large proportion of this habitat is concentrated in 12 fairly large parcels. We see this as positive as the larger the parcel area the more likely it is to sustain itself in the long run. There has been a loss of 31 ha of habitat due to the expansion of the Silverspring neighbourhood. This urban expansion removed habitat which was partially compensated for by small habitat gains on some islands and riverbank areas related to low water levels since the last State of the Valley report. These gains are likely not permanent due to the dynamic nature of the river and its water levels.

Balance refers to the ability of a number of activities and uses to co-exist, without one or more dominating the others. The mission statement specifies that there should be a balance between human use and conservation in the valley. We chose three main indicators to represent balance. The first is the amount of land and the land use mix of protected land in the Meewasin Valley. The second is the type of accessibility to the South Saskatchewan River shoreline and the third is public opinion on the balance between development and preservation of the river valley and cultural heritage.

Meewasin receives a grade of **exceeds expectations for balance**. Half of the valley is dedicated to conservation in the form of habitat lands and the river while the other half is dedicated to various human uses. There are approximately the same number of publicly accessible points on the river both north and south of Saskatoon and on the east and west banks of the river. On the other hand, the area north of Saskatoon has a greater average distance between access points. The shoreline within the city is almost all publicly accessible and in Corman Park 20% of the shoreline is publicly accessible. The public has indicated that they would like to see Meewasin balance the preservation of the river valley environment and cultural heritage with development.

The valley becomes vibrant when people come to it and interact with each other and the cultural and natural environments. Providing sites and amenities to allow people to use the valley can increase vibrancy. We have selected two indicators to measure vibrancy: the amount and type of Meewasin trail, and the amount of public green space.

Meewasin receives a grade of **meets expectations for vibrancy**. There are 57.5 kilometres of Meewasin Trail including multi-purpose primary trail, interpretive trail, and equestrian trail. Important areas such as the south and northeast parts of Saskatoon do not have an extensive trail system yet. There are 481 hectares of green space within the valley to accommodate both active and passive recreation. This accounts for about 7% of the total Meewasin Valley.

The objectives, ends statements, indicators and results are as follows:

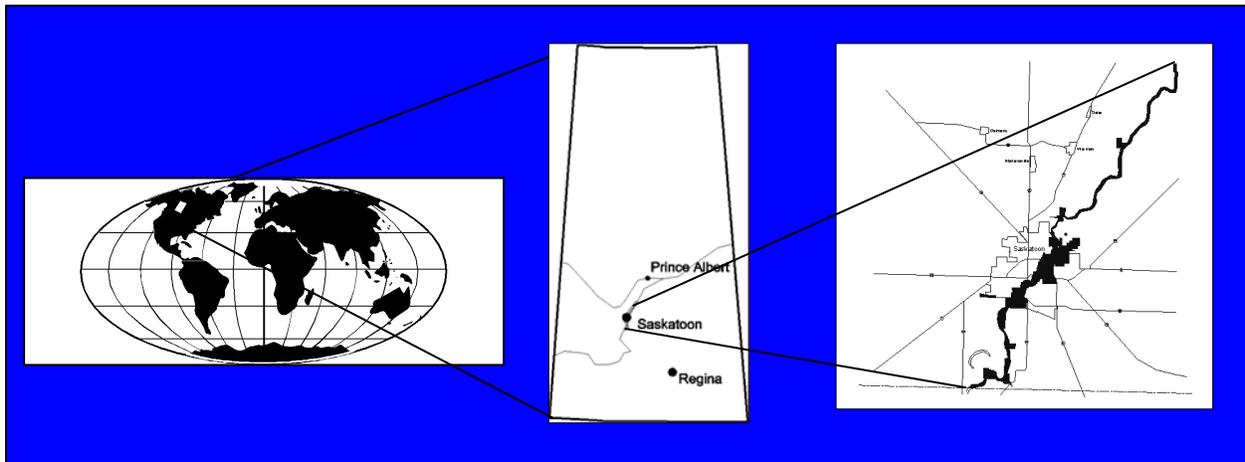
Objective	Ends Statements	Indicator	Status
Health	<ul style="list-style-type: none"> • Meewasin will strive for no net loss of habitat within its jurisdiction • Meewasin will strive to increase the amount of habitat under its protection and management. 	Amount of wildlife habitat	As of 2003 there were 1541 ha of habitat in the Meewasin Valley. This represents 23% of the total Valley. Of this, 1140 hectares of the total habitat are in 12 large parcels. Meewasin increased the amount of habitat under its protection due to the acquisition of two conservation easements.
Balance	<ul style="list-style-type: none"> • Meewasin will strive for a balance of land uses between human use and conservation 	Amount of Protected Land and land use mix in the protected	Land use is divided equally between human use and conservation.

Objective	Ends Statements	Indicator	Status
Balance	<ul style="list-style-type: none"> • Meewasin will balance the number of public access points to the river in Corman Park to the north and south of Saskatoon, and on the east and west banks of the South Saskatchewan River • In the City of Saskatoon the shoreline will be publicly accessible • In the RM of Corman Park there will be a balance of publicly accessible and private access shoreline 	land Amount of publicly accessible shoreline and number of public access points to the river	Each of the four shoreline areas has 5 or 6 points of access. The shoreline south of Saskatoon has access points which are much more closely spaced than those north of the city. In the City of Saskatoon, 94% of the shoreline is publicly accessible and in Corman Park 20 % of the shoreline is publicly accessible
Balance	<ul style="list-style-type: none"> • The citizens of Saskatoon believe that Meewasin balances development with the need to protect the river valley and cultural heritage. 	Saskatoon residents' opinions	In 2003, 86% of the citizens of Saskatoon surveyed felt that conserving and restoring the natural and cultural heritage resources of the Meewasin Valley was important or very important.
Vibrancy	<ul style="list-style-type: none"> • Meewasin will provide a trail system within and connecting to the Meewasin Valley that will accommodate a variety of users. 	Amount of each type of Meewasin Trail	There are 57.5 kms of Meewasin Trail. This breaks down as follows: Primary Trail 36.8 km, Interpretive Trail 14.9 km, and Equestrian trail 5.8 km.
Vibrancy	<ul style="list-style-type: none"> • Meewasin will ensure adequate green space for both active and passive recreational use of the valley. 	Amount of green space	There are 481 hectares of green space in the valley. This represents 7.3% of the Meewasin Valley.

1. Meewasin in Context

The Meewasin Valley Authority has jurisdiction over 80 kilometres of the South Saskatchewan River valley and adjacent areas through the City of Saskatoon and the Rural Municipality (R.M.) of Corman Park. It was established in 1979 by an Act of the Saskatchewan Legislature and is a partnership of the City of Saskatoon, the Province of Saskatchewan and the University of Saskatchewan. Meewasin's mandate is to protect, and enhance through development, the natural and cultural resources of the river valley and adjacent area. The Meewasin Valley meanders through a variety of environments, from the flood plain and Aeolian areas in the south, the City of Saskatoon near the center, and the moraine and fertile lacustrine area to the east and north. The land varies from native prairie to broad cultivated fields, high-density urban development, golf courses, and gravel pits. Balancing the diverse and varied needs of humans and wildlife is the challenge of Meewasin.

Figure 1.1: Meewasin's Place in the World



2. Measuring Meewasin's Effectiveness

Since Meewasin's effectiveness in meeting its mandate and mission statement cannot be measured directly, Meewasin has developed a set of indicators to reflect the State of the Valley. These indicators measure the organization's effectiveness at meeting its ends statements. The ends statements represent the objectives of Meewasin's mission statement: *Health, Vibrancy and Balance*.

The six indicators that measure Meewasin's effectiveness are shown in the Table 2.1. The indicators, and the way in which they measure each ends statement, will be discussed further in Section 3, *Evaluating Meewasin's Health, Balance and Vibrancy*. This report will analyze the indicators and assign Meewasin a grade on each of the three objectives. The mark assigned will indicate whether Meewasin "Needs improvement", "Meets expectations" or "Exceeds expectations".

The report is not meant to be a broad evaluation of everything that Meewasin does but, rather, an evaluation of how the Meewasin Valley Authority's effectiveness has been played out on the land base of the Meewasin Valley.

Data has been collected and analyzed using Meewasin's Geographic Information System (GIS). A GIS is a computer system that combines digital mapping, digital aerial photographs, text-based databases, and a human operator. This allows us to record and analysis a vast amount of information about all of the features of the Meewasin Valley.

This is the third State of the Valley Report. Future reports will not only evaluate Meewasin's effectiveness for the year but also evaluate changes over time.

Table 2.1: Indicators of Meewasin's Effectiveness

Objective	Indicator
Health	Amount of Wildlife Habitat
Balance	Amount of Protected Land and the land use mix in the protected land
Balance	Amount of publicly accessible shoreline and number of points of public access to the river
Balance	Saskatoon Residents' opinions
Vibrancy	Amount of each type of Meewasin Trail
Vibrancy	Amount of green space

3. Evaluating Meewasin's Health, Balance and Vibrancy

3.1. Health

Introduction

Health of the valley is evaluated through the amount of habitat land and size of habitat land parcels. Habitat areas have been identified as those that are in a relatively natural state. A healthy valley ecosystem is able to support a broad variety of plant and animal species. The variety of species is known as biodiversity; the greater the number of species, the greater the biodiversity.

Habitat is measured in two separate ways. First, the total number of hectares of habitat has been measured. Second, the size of each of individual habitat parcel has been measured and the parcels have been categorized by size. This has been done because, generally, the larger the habitat parcel, the more viable it is. Larger parcels have a greater potential to sustain themselves over the long term. If there

are many hectares of habitat, but most of it is fragmented into small parcels, they are susceptible to invasion and encroachment. Thus, the long-term viability of this habitat is not good. On the other hand, if the same number of hectares were concentrated in a few large parcels of land, the chance of long term sustainability of this habitat is greatly enhanced.

Ends Statements

- Meewasin will strive for no net loss of habitat within its jurisdiction.
- Meewasin will strive to increase the amount of habitat under its protection and management.

Data

Table 3.1.1: Indicators for Health*

Indicator	Current Status*		
Total hectares of habitat in the Meewasin's protected land**	1541		
Habitat land as a percent of total protected land**	23%		
Total number of habitat parcels**	239		
Hectares and number of parcels of Habitat by parcel size **	Category	Total hectares	Number of parcels
	0-0.9 hectares	16.8	185
	1-4.9 hectares	45.7	20
	5-9.9 hectares	79.1	11
	10-49.9 hectares	259.2	11
	50-99.9 hectares	533.1	7
	>100	606.9	5

*as of September/2003

**Meewasin Valley Authority Jurisdiction and land under conservation easements

Figure 3.1.1: Habitat in the Meewasin Valley

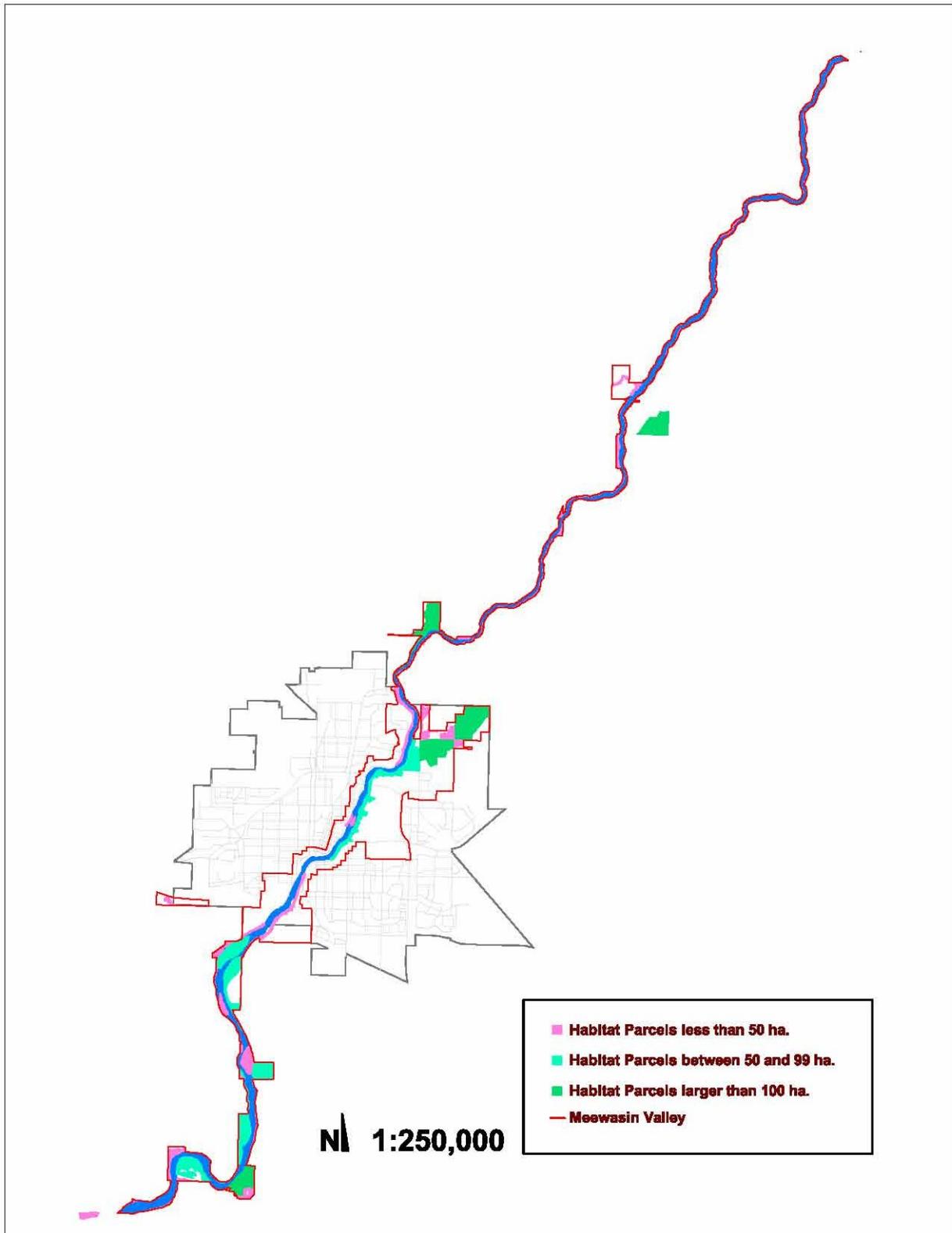


Figure 3.1.2 Number of Hectares of Habitat in the Meewasin Valley, by Parcel Size

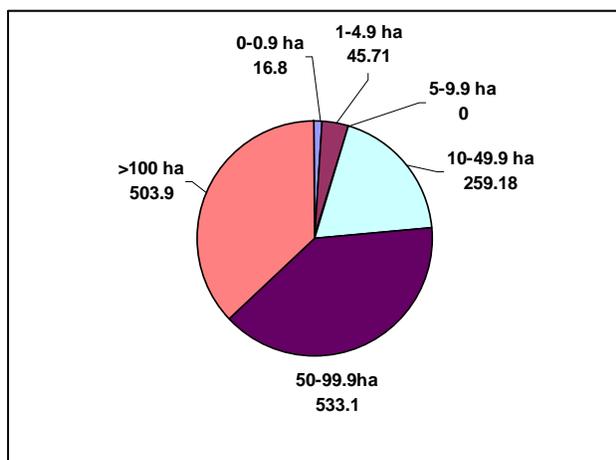


Figure 3.1.3 Number of Parcels of Habitat in the Meewasin Valley (ha)

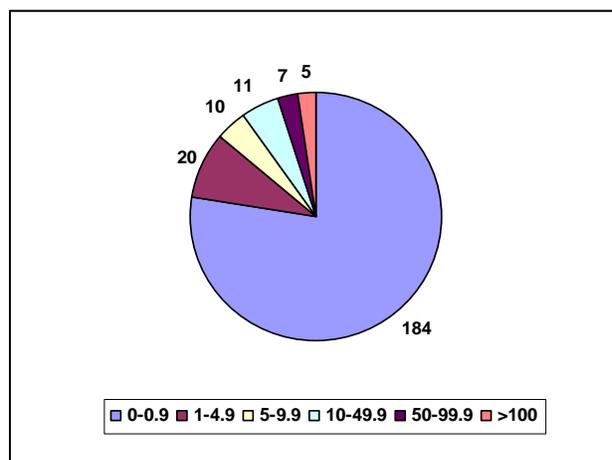


Table 3.1.2 Meewasin’s Habitat Land in Local Context*

Land base	Area (hectares)	Percent of total land
In the Meewasin Valley**	1541	23
Within 500 metres of the Meewasin Valley	3683	22
Within 1 km of the Meewasin Valley	4866	19
Within 2 km of the Meewasin Valley	6729	17

- As of 2003
- **Meewasin Valley Authority jurisdiction and conservation easements

Analysis and Discussion

Twenty-three percent, or 1541 hectares, of the Meewasin Valley is comprised of habitat. This may seem high, but it is understandable given the way in which Meewasin’s boundaries were determined. The present boundary has, for the most part, been in place since 1981. It has been expanded slightly over the years as Meewasin purchased land such as Wanuskewin Heritage Park, Beaver Creek North, Poplar Bluffs, Saskatoon Natural Grasslands, Maple Grove, and Paradise Beach. The 1981 boundary was designed to include natural areas along the river in Corman Park and the City of Saskatoon that are owned by Meewasin and its partners. Any land which Meewasin has purchased subsequently can be justified under its mandate, such as those with habitat value. Further, because Meewasin’s jurisdiction is in and along the South Saskatchewan River channel, much of the land, especially ravines and riverbank, is difficult to develop or cultivate and remains in a relatively natural state. Due to this, it is expected that the amount of habitat land should be fairly high.

The fact that Meewasin has 23% of its land base in habitat is admirable given that about 25% of the river valley runs through the City of Saskatoon and that it is located in the Moist Mixed Grassland ecoregion which is the most altered environment in the province¹. As shown in Table 3.1.2, this starts to become increasingly apparent when the amount of habitat in the lands immediately adjacent to the Meewasin Valley is considered. Within 500 metres of the Meewasin Valley, the amount of habitat land increases and the percentage remains fairly consistent at 22%. This happens for two main reasons. First, in Corman Park, especially in the area north of Saskatoon, the majority of the Meewasin Valley is restricted to the river channel itself. When the habitat that is found within 500 metres of the valley is included in the calculation, the total amount increases as most of the riverbank has remained in a relatively natural state. The second reason is that the large area immediately north-east of the City of Saskatoon is mostly moraine and contains two large swales. These features make this land undesirable for cultivation and it remains in a relatively natural state.

When looking at the area within both 1 and 2 kilometres of the Meewasin Valley the amount of habitat increases in total area but it starts to decrease considerably as a percentage of the total land base. The additional habitat is almost exclusively located along the riverbank, ravines running into the river and the north-east swale area. This 2 kilometre setback around the Meewasin Valley encompasses the largest part of the remaining habitat lands in and near the Meewasin Valley². Beyond this 2 kilometre setback, the amount of additional habitat would be relatively small and the percentage of habitat would continue to decrease significantly.

The City of Saskatoon's *Proposed Growth Concept Plan*³ shows expansion of the City to the northeast, into the largest habitat block in the Meewasin Valley. Some parts of this may be preserved because the swale portions of this parcel have been designated as unserviceable and the City of Saskatoon has committed to conserving or mitigating for the loss of important natural areas as part of sub-urban development.⁴ Several rare plants have been identified in this area marking these lands as important habitat to preserve.⁵ However, as long as urban development occurs the amount of habitat land will continue to diminish in this area. Native prairie habitat is being buried to accommodate sub-urban and country residential developments throughout the Saskatoon region and the viability of any remaining parcels will be threatened due to their relatively small size and high degree of fragmentation.

Meewasin recognizes that the pressures of urban expansion will create further loss of habitat in the north-east area. Given the reality of urban expansion, this loss is

¹ Saskatchewan Environment and Resource Management, 1997, page 44

² Weichel, 1992

³ City of Saskatoon, 1997

⁴ Draft Plan Saskatoon, Policy 9.3.2.d

⁵ Nelson Dynes & Associates Inc., 1998

unavoidable. To comply with its “no net loss of habitat” ends statement, Meewasin must acquire additional habitat land to compensate. This will require purchasing or obtaining conservation easements on habitat land. The weakness with this “no net loss” approach is that, although the amount of habitat in Meewasin’s jurisdiction will remain the same, the total amount of habitat in the local region will still be reduced.

There are two main factors to consider when measuring health of the valley through habitat measures. The first, the amount of habitat, has already been discussed. The second factor is the break down of these habitat units by parcel size. Table 3.1.1 shows that, although there have been 239 separate habitat parcels identified in the Meewasin Valley and its lands protected by easements, over three-quarters of these are smaller than 1 hectare. These should not be discounted, but the long-term viability of these small parcels is not as good as that of the larger parcels. On the positive side, there are 12 parcels of land which are larger than 50 hectares. These 12 parcels contain 1140 hectares of land in total. This represents 74% of the habitat in the Meewasin Valley or 17% of Meewasin’s protected land.

Some of these habitat parcels are relatively secure, while others are under threat. The most secure are those parcels owned by Meewasin and Wanuskewin Heritage Park because of the mandates of these organizations. Meewasin also holds conservation easements on three habitat areas. The other relatively secure parcels are the river islands due to their inaccessibility. The most vulnerable parcels are in the north east area due to urban development pressure. The other vulnerable parcels are those which are leased or rented out for agricultural purposes. Cultivation, grazing or haying could damage or destroy the integrity of these habitat lands.

Meewasin does have several options for protecting additional habitat land. The first is by purchasing land outright. This provides the highest potential for protection because, as the land owner, Meewasin can decide what to do with the land. The second option is to have one of Meewasin’s partners purchase land outright. This provides less protection because the land is not owned by Meewasin. The land could however fall under Meewasin’s jurisdiction, thereby requiring Meewasin’s approval for most proposed developments. The third option is to enter into a conservation easement agreement with the landowner. A conservation easement agreement is a legally binding, negotiated arrangement in which the landowner agrees to preserve designated habitat on their land in exchange for a tax benefit. Depending on the negotiated terms, conservation easements can offer a great deal of protection. The fourth option is to work with owners of habitat land in a volunteer stewardship arrangement. This option does not bind the landowner to any legal requirement to protect the habitat.

Evaluation and Mark

Positive

- 23% of the Meewasin Valley is habitat
- 12 parcels of land covering a total of 1140 hectares.
- land with significant habitat value has been purchased
- Conservation Easements have been purchased and others are being pursued on several pieces of natural land

Negative

- Habitat land in the Meewasin Valley has been and continues to be destroyed
- The majority of the remaining habitat is fragmented in small, scattered parcels

Final Mark

Health: meets expectations

3.2. Balance

Introduction

Balance refers to the ability for a number of activities and uses to co-exist, without one or more dominating the others. The mission statement specifies that there should be a balance between human use and conservation in the valley. Two main indicators represent balance. The first is both the amount of and land use mix of protected land in the Meewasin Valley and the second is the amount of public accessibility to the South Saskatchewan River shoreline.

Protected land is defined as that listed as part of the Conservation Zone or the Buffer Zone in *The Meewasin Valley Authority Act* and any land on which Meewasin holds a conservation easement.

The type of shoreline access is broken out into public and private. Publicly accessible shoreline is along parcels of land that are either owned by, or have had easements given to, Meewasin or one of its partners. It also includes open road allowances terminating at the river and any private land which, through the business located on it, allows people to access the river. Private shoreline is along private property where the owner has not opened the land to the public and along undeveloped road allowances, since many of these have been closed at the adjacent land owner's request. Creek and island shorelines are not included in either category.

Ends statements

- Meewasin will strive for a balance of land uses between human use and conservation.
- Meewasin will balance the number of access point to the river in Corman Park to the north and south of Saskatoon and on the east and west banks of the South Saskatchewan River.
- In the City of Saskatoon the shoreline will be publicly accessible.
- In the R.M. of Corman Park there will be a balance of publicly accessible and private access shoreline.
- The citizens of Saskatoon believe that Meewasin balances development with the need to protect the river valley and cultural heritage.

Data

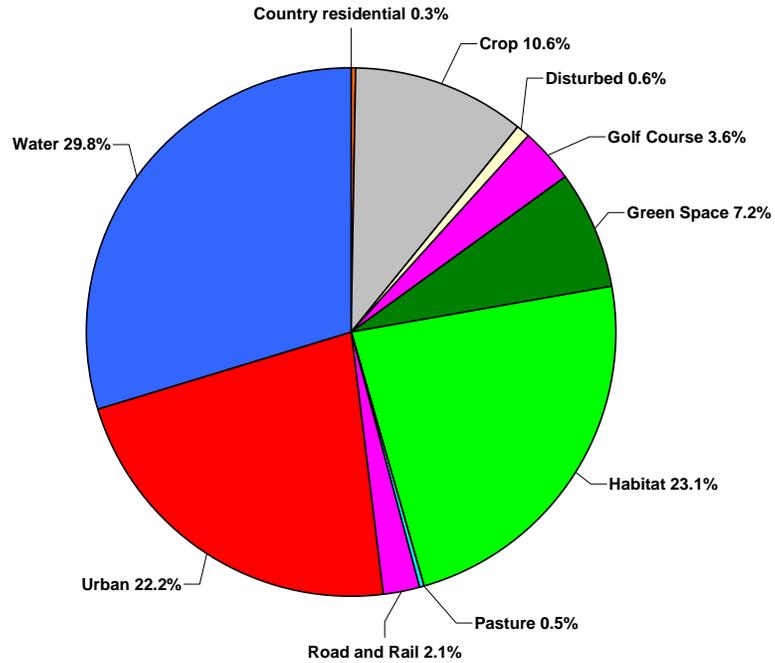
Table 3.2.1: Balance Indicators

Indicator		Current Status
Amount of land in the Meewasin Valley*		6552 ha.
Amount of publicly accessible shoreline*	in Saskatoon	27 km 94%
	in Corman Park	23 km 21%
	Total	50 km 37%
Number of points of public access*	in Saskatoon	The entire city except 1.8 km on the east bank
	in Corman Park	22
Public attitudes toward protection and preservation**	Important or very important to conserve and restore the natural and cultural heritage resources of the Valley	99% of respondents

* As of September, 2003

** As of 2003

Figure 3.2.1: Primary Land Uses in the Meewasin Valley



Current Use	1998 ha	2003 ha	1998%	2003%	Change (ha)
Country residential	20	19	0.3	0.3	-1.00
Crop	814	709	12.4	10.8	-105.00
Disturbed	35	42	0.5	0.6	7.00
Golf Course	238	238	3.6	3.6	0.00
Green Space	480	481	7.3	7.3	1.00
Habitat	1446	1541	22.1	23.1	95.00
Industrial	0	0	0.00	0.00	0.00
Institutional	0	0	0.00	0.00	0.00
Pasture	36	34	0.5	0.5	-2.00
Road and Rail	117	137	1.8	2.1	20.00
Urban	1367	1481	20.9	22.6	114.00
Water	2000	1983	30.5	30.3	-17.00
Total	6553	6664	100	100	na

Figure 3.2.2: Primary Land Uses in the Meewasin Valley

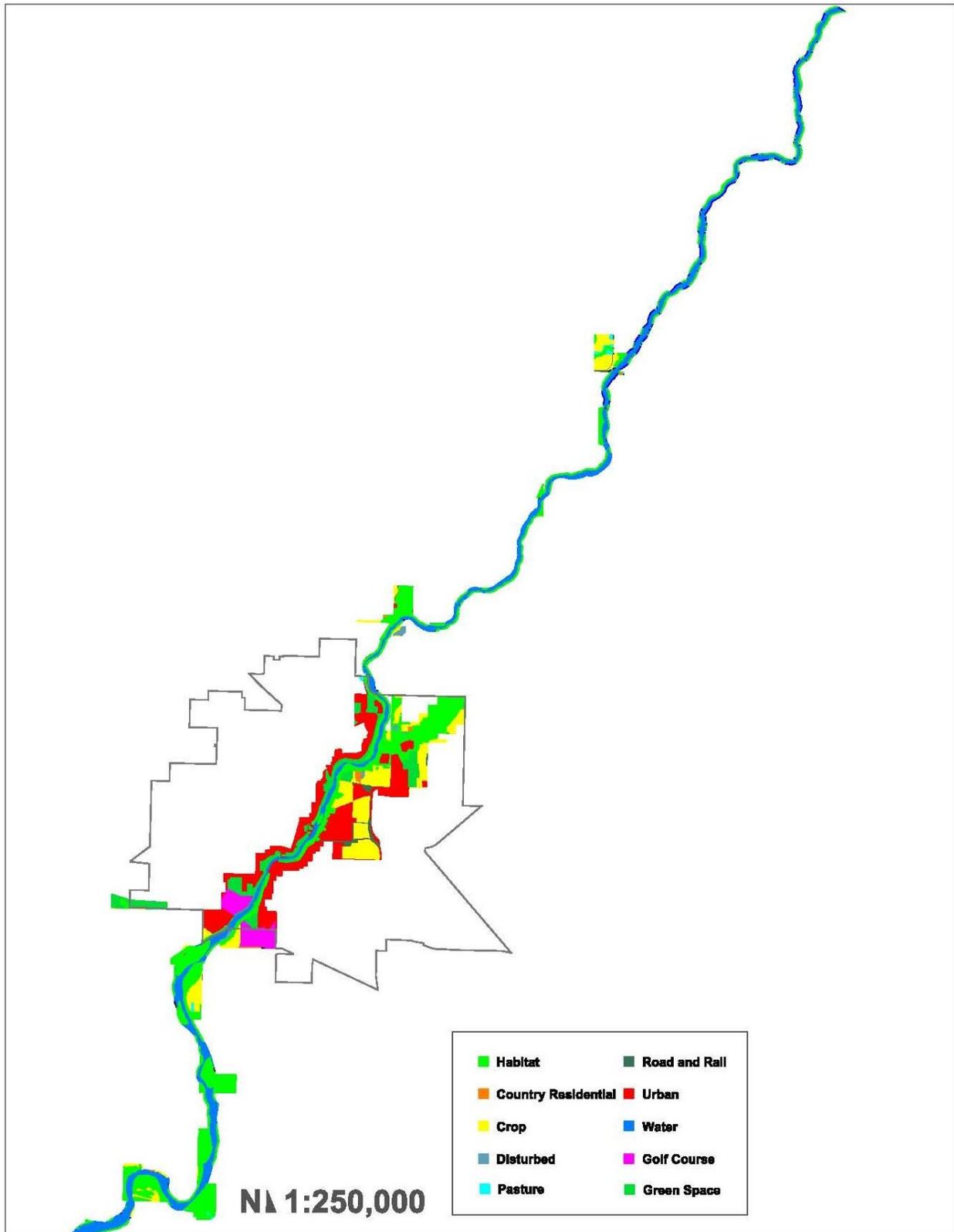
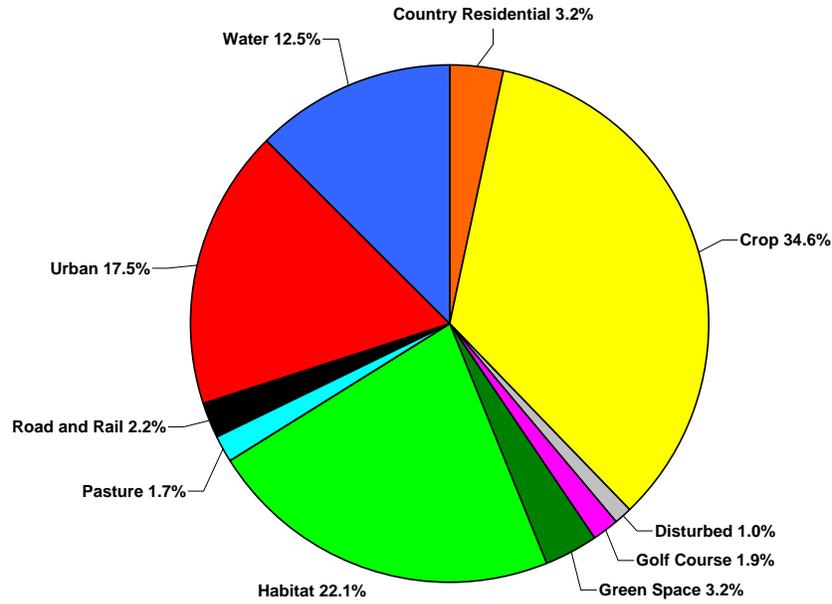


Figure 3.2.3: Primary Land Uses within 500 metres of the Meewasin Valley



Current use	1998 ha	2003 ha	1998%	2003%	Change (ha)
Country Residential	427	537	2.6	3.2	110.00
Crop	5847	5754	35.1	34.6	-93.40
Disturbed	158	161	0.9	1.0	3.00
Golf Course	318	318	1.9	3.2	0.00
Green Space	494	535	3.0	3.2	40.97
Habitat	3695	3683	22.2	22.1	-12.48
Industrial	0	6	0.0	0.0	6.10
Institutional	0	7	0.0	0.0	7.30
Pasture	315	286	1.9	1.7	-29.00
Road and Rail	344	368	2.1	2.2	24.00
Urban	2901	2908	17.4	17.5	6.91
Water	2151	2085	12.9	12.5	-66.00
Total	16651	16651	100.0	100.0	na

Figure 3.2.4: Primary Land Uses within 500 metres of the Meewasin Valley

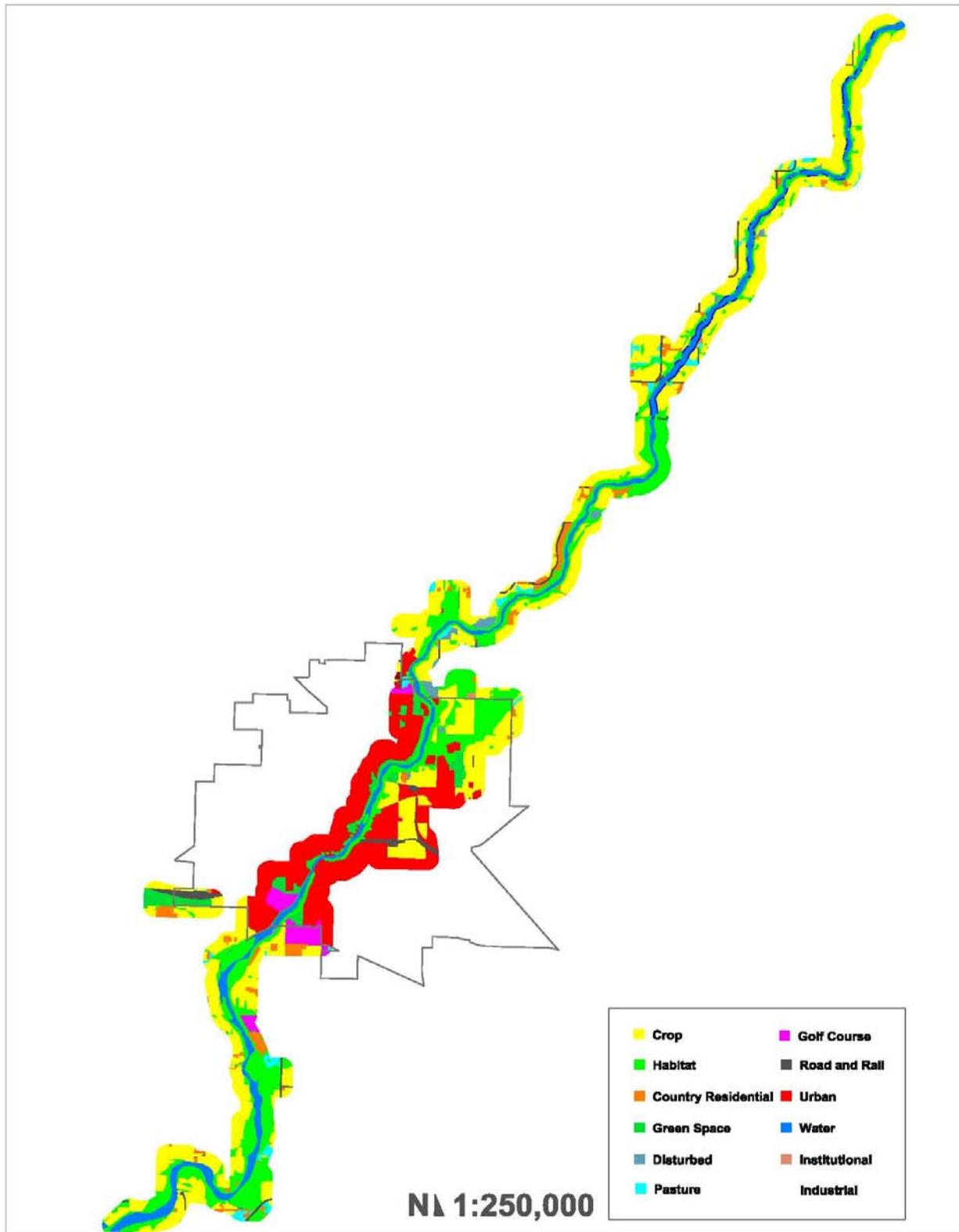
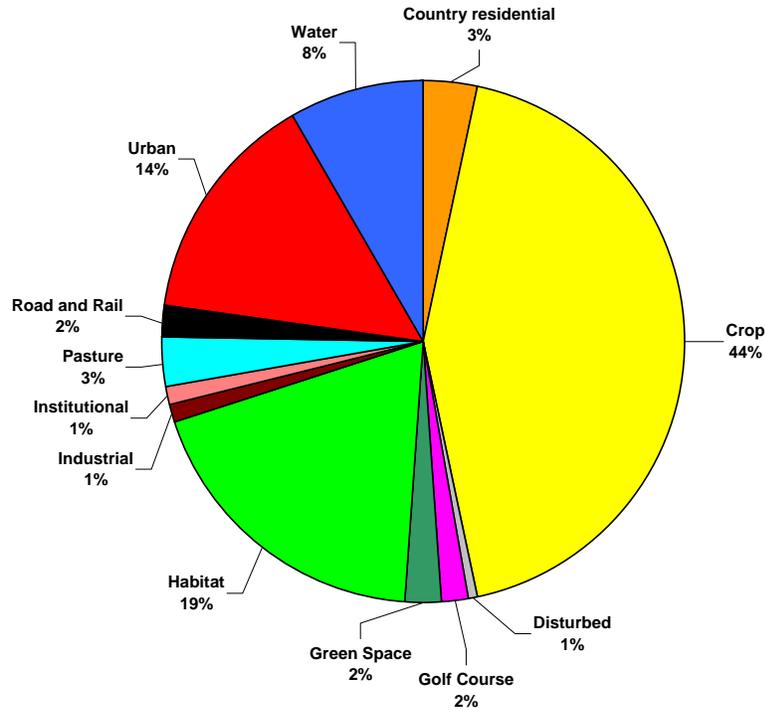


Figure 3.2.5: Primary Land Uses within 1 km of the Meewasin Valley



Current Use	1998 ha	2003 ha	1998%	2003%	Change (ha)
Country residential	702	828	2.7	3.2	126.85
Crop	11252	11133	43.8	43.4	-119.13
Disturbed	203	190	0.8	0.7	-13.19
Golf Course	388	392	1.5	1.5	3.15
Green Space	498	562	1.9	2.2	63.52
Habitat	4872	4866	19.0	19.0	-5.92
Industrial	251	324	1.0	1.3	72.97
Institutional	284	232	1.1	0.9	-52.18
Pasture	834	804	3.2	3.1	-29.97
Road and Rail	485	515	1.9	2.0	30.36
Unclassified	11	0	0.0	0.0	-10.53
Urban	3698	3699	14.4	14.4	1.38
Water	2198	2131	8.6	8.3	-66.69
Total	25676	25677	100	100	na

Figure 3.2.6: Primary Land Uses within 1 km of the Meewasin Valley

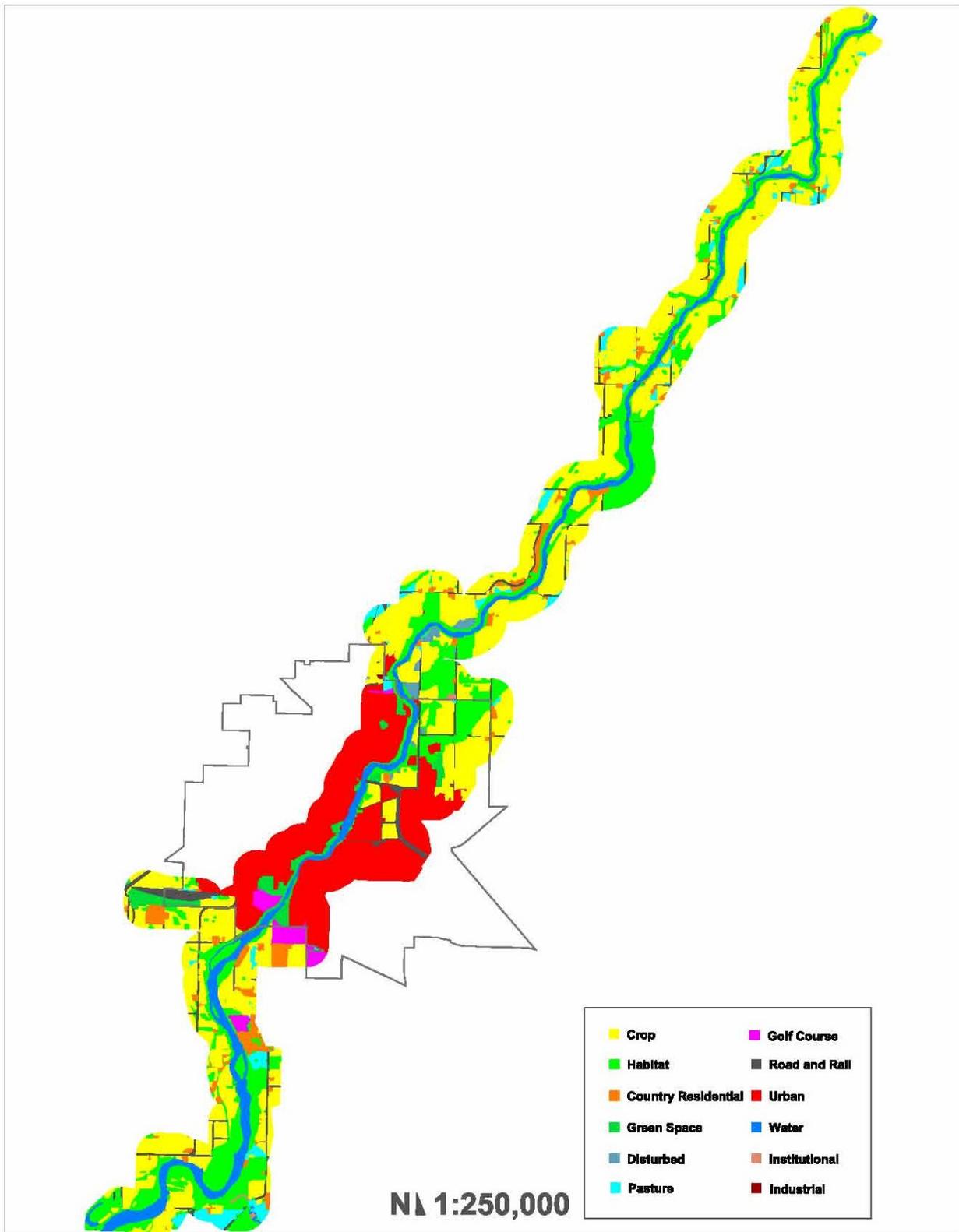
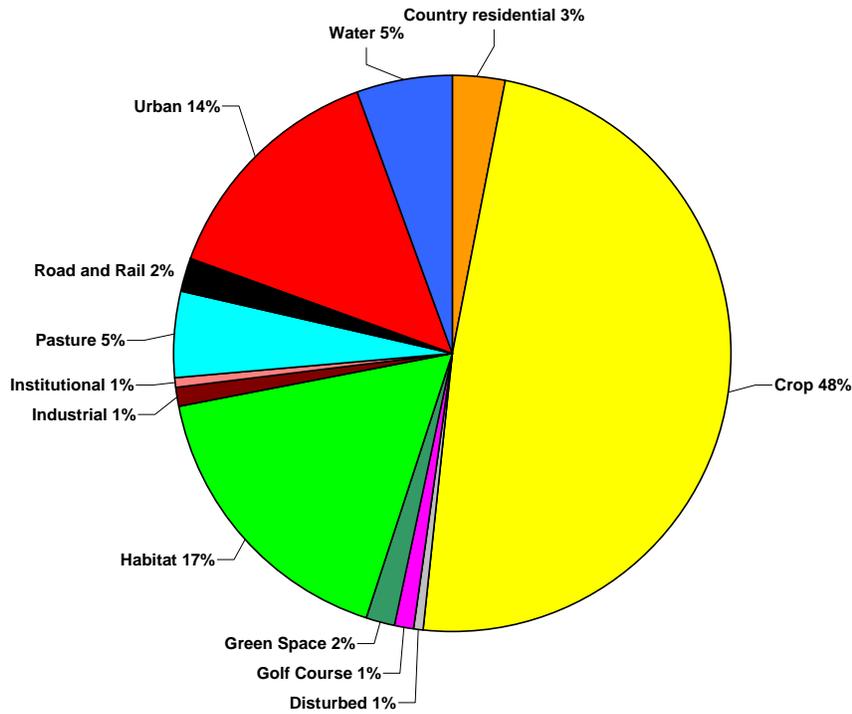


Figure 3.2.7: Primary Land Uses within 2 kms of the Meewasin Valley



Current Use	1998 ha	2003 ha	1998%	2003%	Change (ha)
Country residential	1110	1257	2.8	3.2	146.75
Crop	19447	19338	48.8	48.6	-108.33
Disturbed	210	209	0.5	0.5	-1.12
Golf Course	457	472	1.1	1.2	15.28
Green Space	502	625	1.3	1.6	123.11
Habitat	6747	6729	16.9	16.9	-18.40
Industrial	335	414	0.8	1.0	79.00
Institutional	286	234	0.7	0.6	-52.18
Pasture	1901	1993	4.8	5.0	91.65
Road and Rail	791	812	2.0	2.0	20.42
Unclassified	250	0	0.6	0.0	-249.73
Urban	5547	5537	13.9	13.9	-9.70
Water	2246	2179	5.6	5.5	-66.69
Total	39829	39799	100	100	na

Figure 3.2.8: Primary Land Uses within 2 kms of the Meewasin Valley

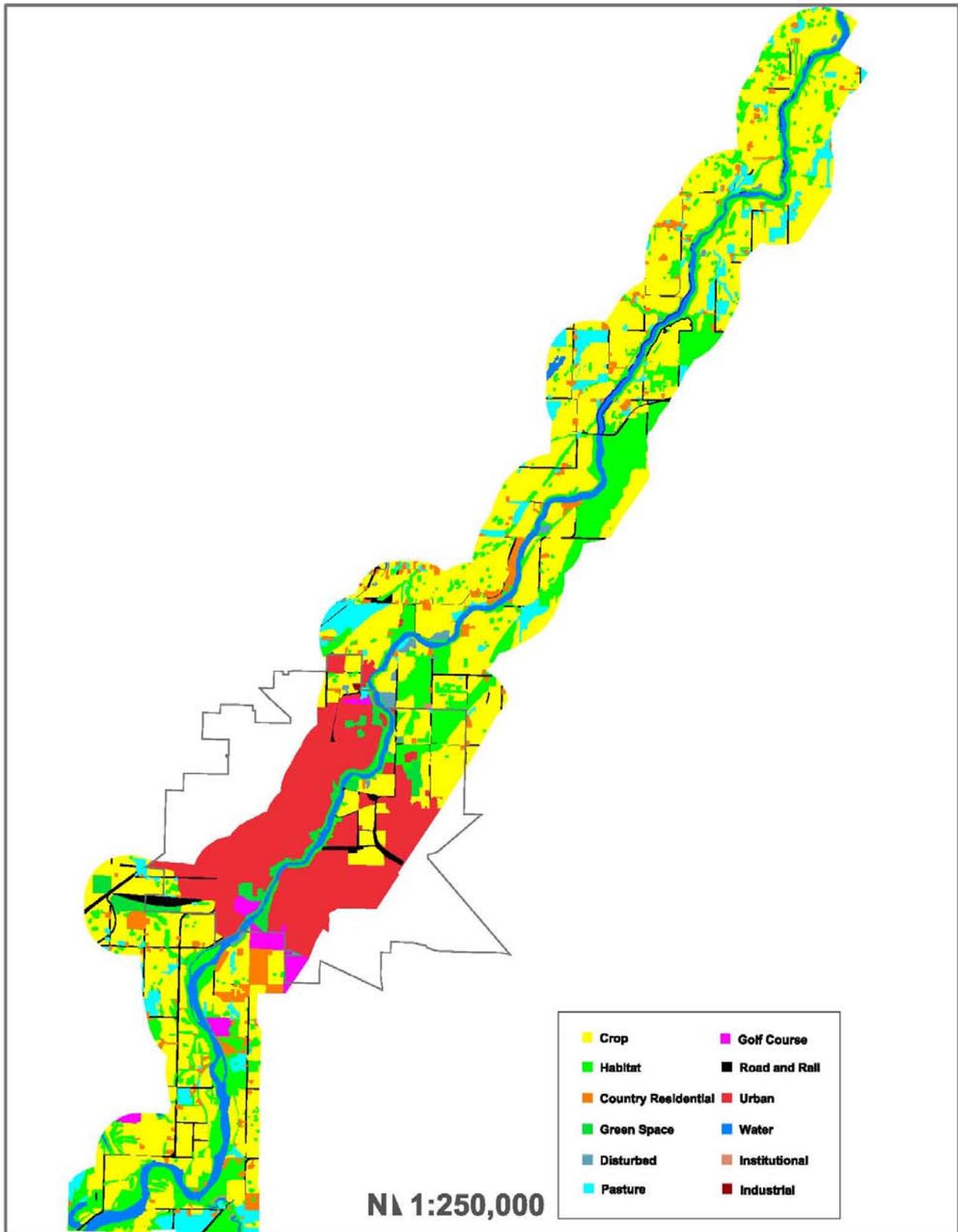


Figure 3.2.9: Shoreline Accessibility. By Type, in the Meewasin Valley

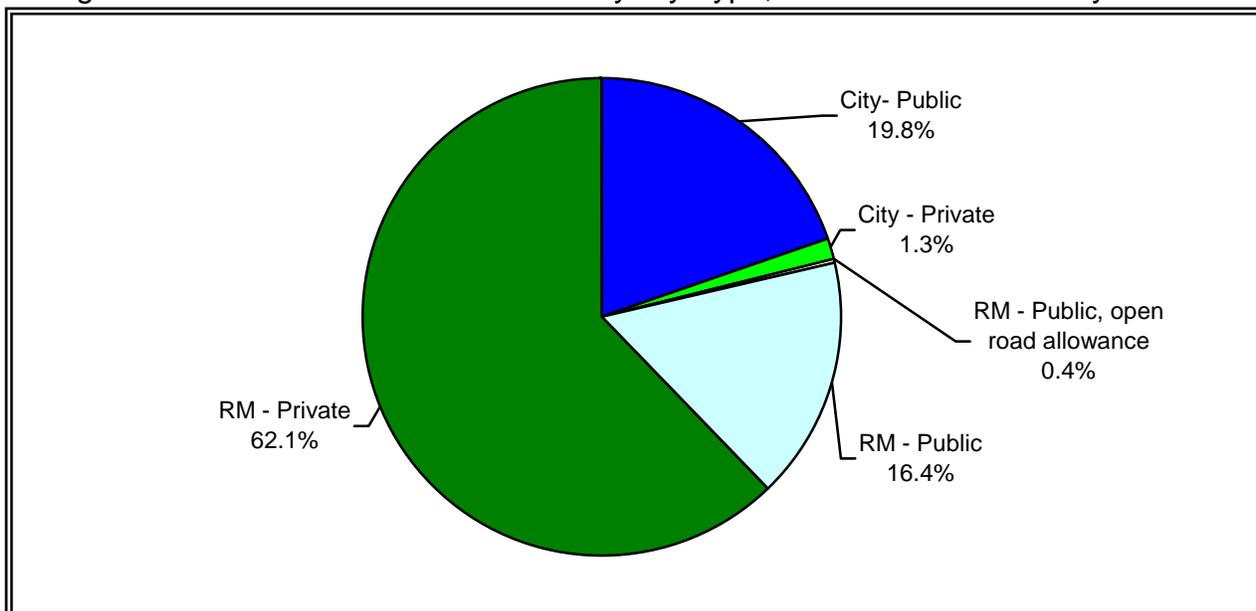


Figure 3.2.10: Shoreline Accessibility, By Type, in the City of Saskatoon

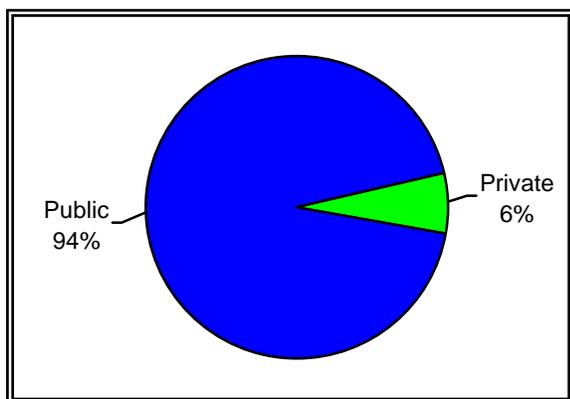


Figure 3.2.11: Shoreline Accessibility, By Type in the RM of Corman Park

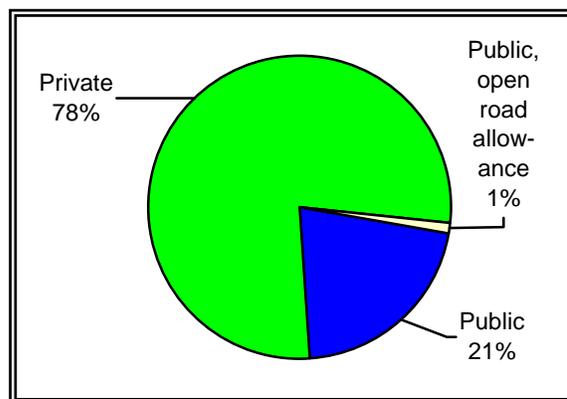


Table 3.2.2: Metres of Shoreline per Resident of Saskatoon and Corman Park

	City of Saskatoon Publicly Accessible Shoreline /resident*	R.M of Corman Park Publicly Accessible Shoreline/ resident**	Total Publicly Accessible Shoreline (City and R.M)/resident	Total Meewasin Valley Shoreline/ resident
Metres/person	0.13	2.84	0.23	0.65

*City of Saskatoon population in 2003: 205,300

**R.M of Corman park population in 2001: 8,093

Figure 3.2.12: Shoreline Accessibility in the Meewasin Valley

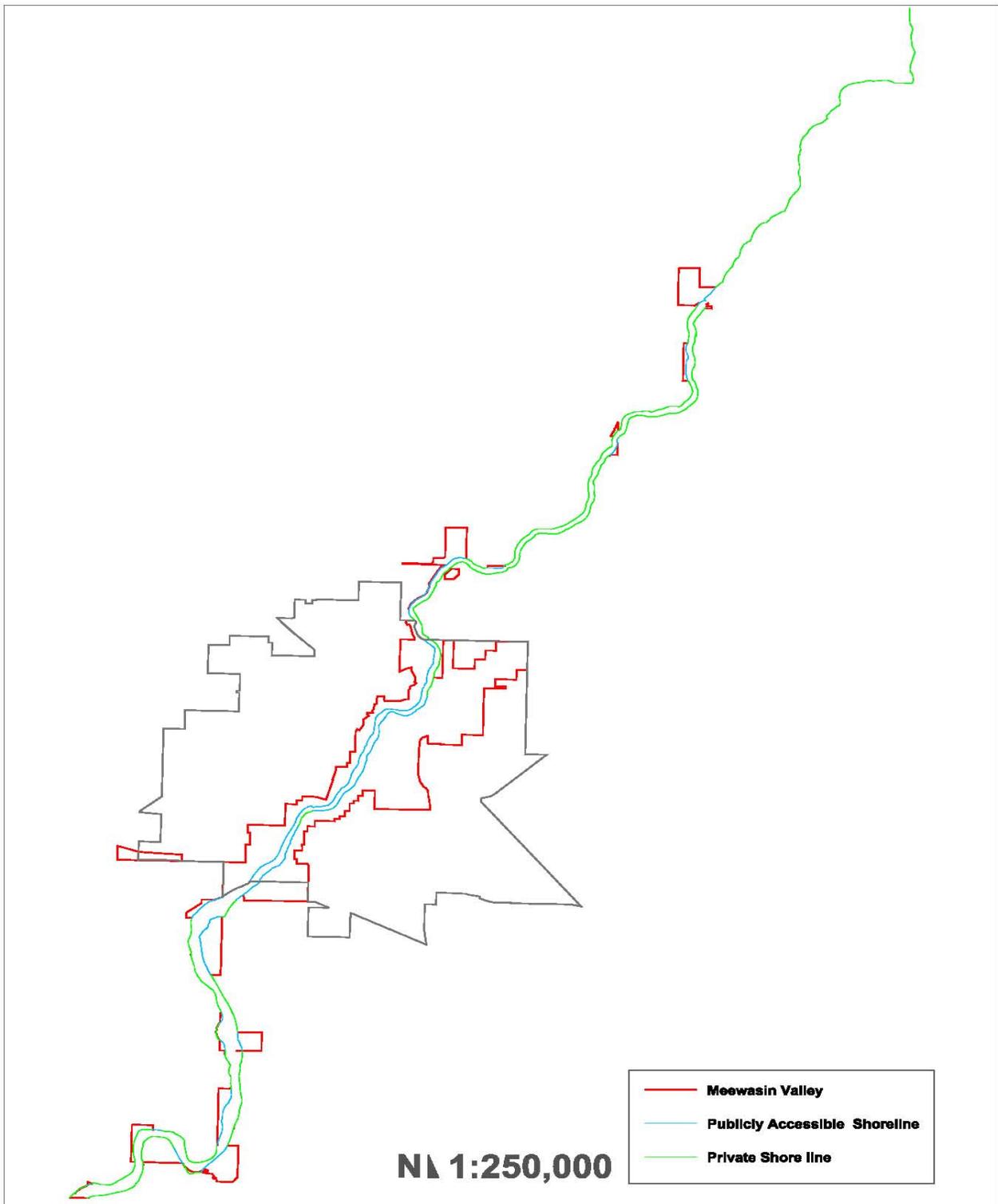
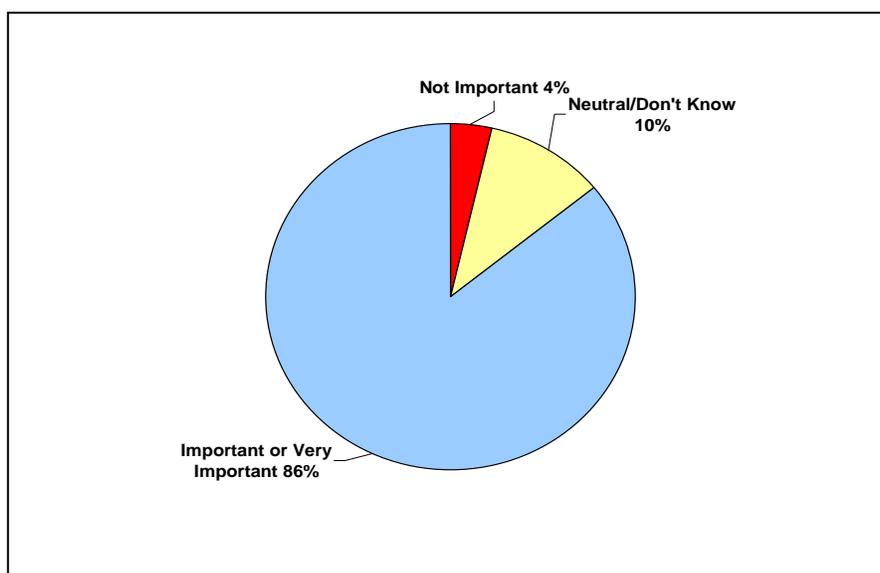


Table 3.2.3: Access Points to the South Saskatchewan River in the R.M. of Corman Park

Portion of River	Number of Points	Maximum Distance Between Points (km)	Average Distance Between Points (km)
East Bank South	5	5.4	2.8
West Bank South	6	4.5	2.6
East Bank North	6	6.1	3.9
West Bank North	5	12.4	5.3
Total	25	12.4	3.7

In 2003 a survey was conducted to measure public opinion on how much importance Meewasin should give to protecting the river valley environment and preserving cultural resources when making decisions on proposed developments. The results are shown below.

Figure 3.2.13: Public Opinion on Conserving and Restoring the Natural and Cultural Heritage Resources of the Valley



Analysis and discussion

The Meewasin Valley covers 6552 hectares owned by the Province of Saskatchewan, the City of Saskatoon, the University of Saskatchewan, Meewasin Valley Authority and private landowners. It includes a broad variety of land uses. Meewasin’s mission statement directs the agency to balance these land uses and their associated activities. Figure 3.2.1 shows the mix of primary land uses within the Meewasin Valley. When the combined percentage of the conservation land uses is compared with the combined percentages of human land uses it is revealed that these two broad groups are very balanced; i.e. they each represent roughly half of the total land use. The conservation

land uses are the river and habitat lands. The human use land uses are all of the others. This reflects a good balance between human use and conservation, indicating that Meewasin is probably doing a good job of meeting this objective. Further to this, although the river is the dominant land use, covering 30% of the Meewasin Valley, habitat and urban follow closely as the second and third most common land uses. The fourth most common land use is crop production. Although this is a human use, it can offer potential for restoration as habitat or for alternative use as a green space.

To place the land use mix within the Meewasin Valley in a local context, Figures 3.2.3 through 3.2.8 show the land use mix within 500 m, 1 km and 2 km of the Meewasin Valley respectively. The amount of crop production and developed urban land become the dominant land use in the areas immediately adjacent to the Meewasin Valley. Even within 500 metres of the Meewasin Valley, half of the land use is either crop or urban. This proportion gets larger as the setback is increased. Within 2 kilometres of the valley 63% of the land use is either crop or urban. This indicates that Meewasin has been fairly successful at achieving balance within the bounds of the valley.

The second indicator measuring balance is the amount and distribution of public access to the river. The river channel and the shore, up to the point where permanent vegetation begins, are crown land and theoretically public. The only shoreline that is being considered public in this report, however, is that which is along public land, open road allowances terminating at the river, and any private land allowing access the river, usually for business purposes. This definition is used because publicly accessible shoreline is only realistic as a concept if people can get to it without trespassing.

The number of kilometres of publicly accessible shoreline in the Meewasin Valley and the number of access points are both being used to measure public access because they approach the idea of balance from two different angles. The number of kilometres of publicly accessible shoreline addresses the issue of quantity. It is important to offer enough shoreline to balance the needs of a broad spectrum of different users. This has been achieved very successfully within the City of Saskatoon where 94% of the shoreline is public. The only places within the city without public access are along Saskatchewan Crescent West and on the north east bank near Peturrson's Ravine. The Saskatchewan Crescent West shoreline has been privately held for most of Saskatoon's settlement history and will likely remain that way. The shoreline by Peturrson's ravine is private, but the public has traditionally been permitted access along the bank and shoreline. A private developer owns it and, when it is sub-divided, the shoreline will most likely become public. In the R.M. of Corman Park the proportion of publicly accessible to private shoreline is considerably different. Twenty-one percent of the shoreline is publicly accessible and the access tends to be much more fragmented.

As well as the number of kilometres of public accessibility, the number of publicly accessible points and the distribution of these points also determine access to the river. Since almost the entire city is accessible, only the R.M. has been analyzed for this indicator. Table 3.2.3 reveals that the number of publicly accessible points is relatively

equal for the four shoreline areas in the R.M. It also reveals that the area south of the city has better access than the area to the north. The west bank south has the best public access. It offers 6 points, which are an average of 2.6 km apart, a maximum of 4.5 km apart. The west bank north has the poorest access. It has 5 access points but they are an average of 5.3 km apart and a maximum of 12.4 km apart.

We have defined balance as a number of activities co-existing without one dominating; therefore, Meewasin has tried to gauge public opinion on how important protecting the river valley and cultural heritage resources should be when making decisions on proposed developments within the Meewasin Valley. A 2003 survey revealed that 86% of respondents felt that it was either important or very important to conserve and restore the natural and cultural heritage resources of the Meewasin Valley. This indicates that the public supports Meewasin's mandate to balance human use and conservation.

Evaluation and Mark

Positive

- there is an even division between conservation land uses and human land uses
- there is an even division between urban land use and habitat land use
- the public supports the concept of balancing the preservation and protection of the river valley and cultural resources with development proposals
- there is a balance between publicly accessible and private shoreline, with 37% of the total shoreline in the valley publicly accessible

Negative

- the distance between points along the river with public accessibility is much greater north of Saskatoon than it is south of Saskatoon

Mark

Balance: exceeds expectations

3.3. Vibrancy

Introduction

The valley becomes vibrant through people coming to the valley, interacting with each other and the cultural and natural environment. Providing sites and amenities to allow people to use the valley can increase vibrancy.

Two indicators have been developed to measure vibrancy: the number of kilometres of Meewasin trail and the amount of green space. The total trail length is sub-divided into the three main types of Meewasin trail: primary, equestrian and interpretive. Green space is land in the Meewasin Valley that is open and has public access. It includes urban parks and other non-habitat areas at Maple Grove

and Poplar Bluffs. Any land which was included as habitat has not been included here; therefore, the indicator may appear low since a lot of habitat land, such as Beaver Creek is also open to the public.

Ends Statements

- Meewasin will provide a trail system within and connecting to the Meewasin Valley which will accommodate a variety of users
- Meewasin will ensure adequate green space for a variety of both active and passive recreational uses

Data

Table 3.3.1: Vibrancy Indicators

Indicator		Current Status*
Kilometres of Meewasin Trail*	Primary	36.8
	Interpretive	14.88
	Equestrian	5.81
Amount of Green Space (ha)		481

* As of September/2004

Table 3.3.2: Meewasin Trail Length by Trail Type

Trail type**	Length (m)	User ratio (m/person)***
Primary	36,800	0.17
Equestrian	5,810	0.03
Interpretive	14,880	0.07
Total	57,490	0.27

* As of September/2004

** Primary trails have only been built in the City of Saskatoon and interpretive trails are all in the R.M of Corman Park

*** Number of metres of trail per resident of the City of Saskatoon and the R.M of Corman Park

Table 3.3.3: Green Space In and Adjacent to the Meewasin Valley*

Land base	Area (hectares)	% of total land use
Meewasin Valley	481	7.3
Within 500 metres of the Meewasin Valley	535	3.2
Within 1 kilometre of the Meewasin Valley	562	2.2
Within 2 kilometre of the Meewasin Valley	625	1.6

*as of September/2003

Figure 3.3.1: The Meewasin Trail

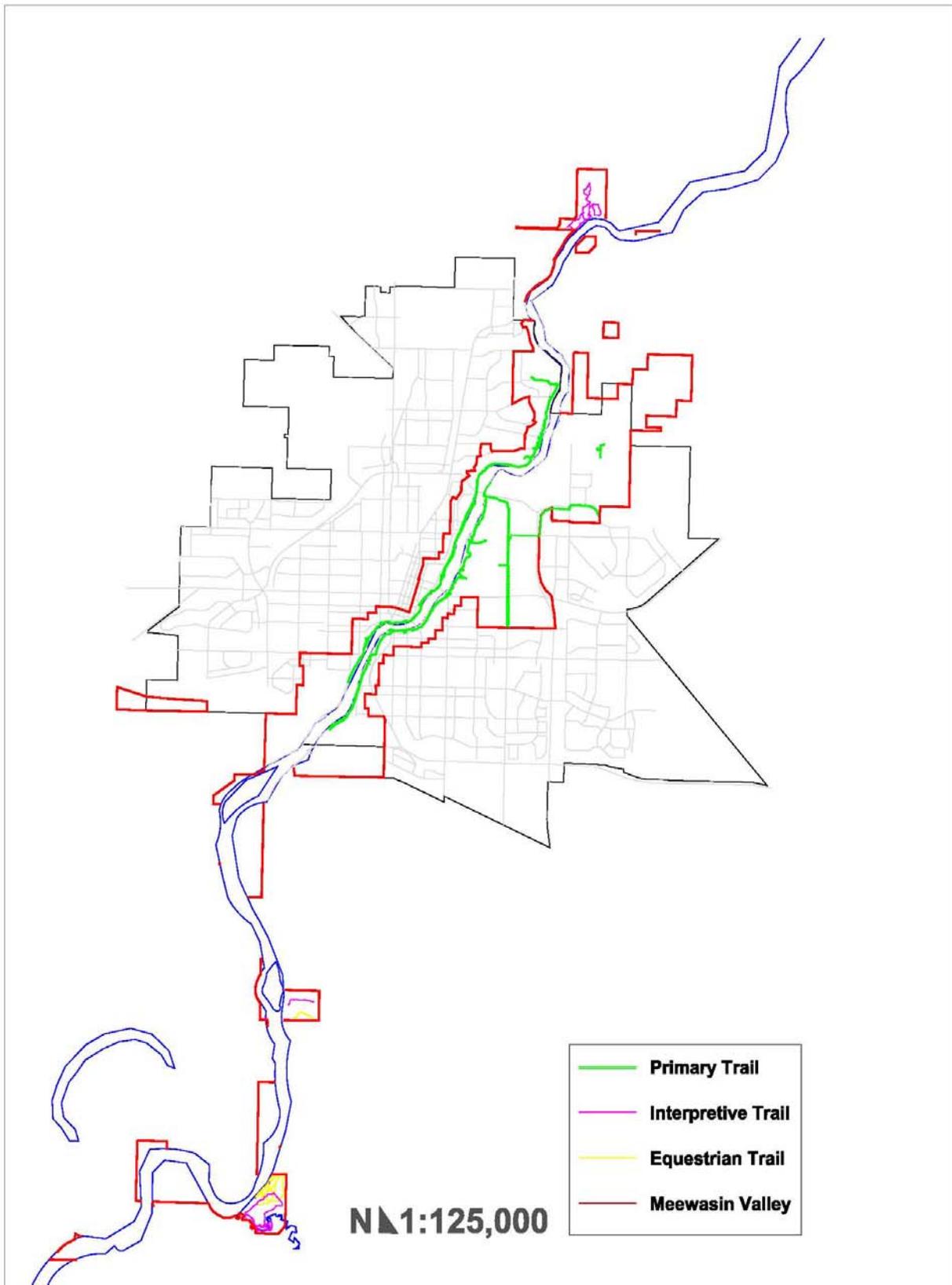
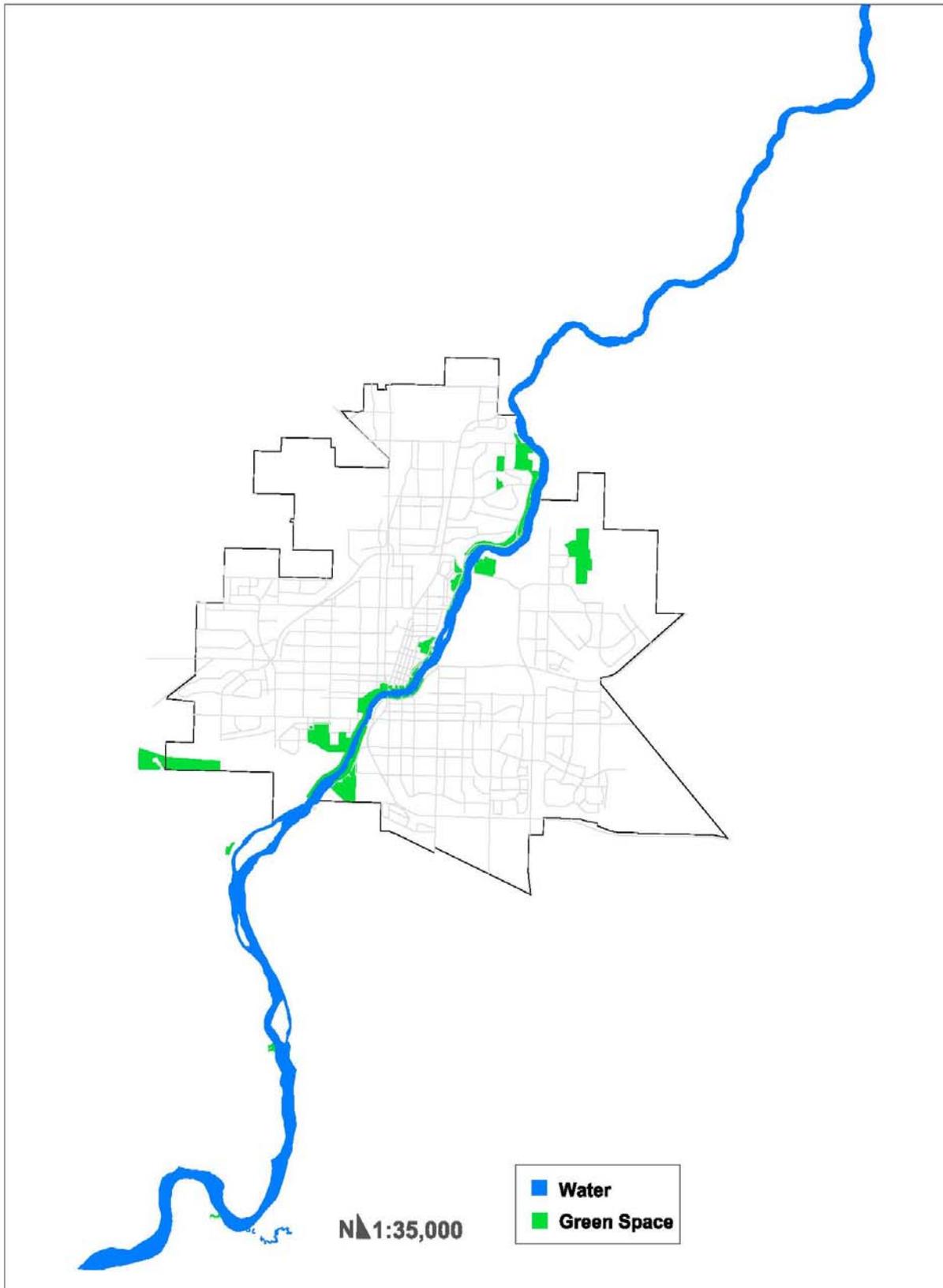


Figure 3.3.2: Green Space in the Meewasin Valley



Analysis and discussion

Meewasin considers the trail system to be one of its flag ship projects and one of its most successful in terms of public use. The trail system was started in 1980 and continues to evolve following Meewasin's 1990 *Trail Systems Plan*. This plan identifies a number of different trail types. Primary, secondary and tertiary trails are multi-purpose trails within the city. The primary trail is the main Meewasin Trail, secondary trails are loops or connecting trails and tertiary trails are narrow, casual trails. Interpretive trails are designed to allow people access to and through areas and sites with interpretive value for natural or cultural heritage. Equestrian trails offer horse-back riders an opportunity to enjoy the valley without conflict with other users. Ski trails allow cross-country skiers to take advantage of the valley in the winter. For the purposes of this report, primary and secondary trails have been combined, because they serve a very similar purpose, and tertiary and ski trails were not measured as part of this analysis because they are fairly informal and change frequently, making them difficult to track.

The primary trail system totals 36.8 kilometres, all within the city limits. This represents 0.17 metres per resident of Saskatoon. The trail system began in the core of the city and has been working its way along and back from the river. There are, however, several significant trail linkages missing within the city. The southern most part of the city is in the process of being serviced by trail on either bank. There is no river crossing in this area. The north-east area of Meewasin's urban jurisdiction has some trail development, but it is neither complete nor continuous at this time.

The trail system is not extensively developed in the R.M. of Corman Park. Meewasin's 100 Year Concept Plan, (1978) envisions a trail system paralleling the river in the valley. Other than interpretive trails at four sites augmented with equestrian trails at two of the sites, and a canoe launch constructed, there has been little development. There is a total of 114.88 kilometres of interpretive trail, located at Beaver Creek, Cranberry Flats, Poplar Bluffs, and Wanuskewin Heritage Park. In addition, there is a total 5.81 kilometres of equestrian trail at Beaver Creek and Cranberry Flats. As mentioned above, there is no primary trail in the R.M.

Green space makes up 7.3% of the Meewasin Valley. Green space is defined as land open to the public and not having significant habitat value. Most of the land parcels that have been categorized this way are the urban riverbank parks. Although they represent a small part of the land base, they are extremely important in keeping the valley vibrant. These are the spaces where people congregate and where events and festivals happen. They offer opportunities for both passive and active recreation. Maintaining or increasing the amount of green space is important because it focuses human activity, especially active recreation, away from habitat lands. Small neighbourhood parks and schoolyards have not been included in this analysis.

Evaluation and Mark

Positive

- Ongoing development of the very popular Meewasin Trail
- there are a number of green spaces in the R.M. and the city which focus people on the river

Negative

- the trail system is weak in the south and north east portions of the Saskatoon and the whole of Corman Park

Mark

Vibrancy: meets expectations

4. Summary and Conclusions

Overall, Meewasin has been following its mission statement and meeting its mandate. It is not meeting expectations for the objective of health, is meeting them for vibrancy, and is exceeding expectations for the objective of balance.

The valley is technically *healthy*. It has a large percentage of its jurisdiction in habitat, especially when compared with the surrounding area. Meewasin has taken steps to increase the amount of habitat under its jurisdiction by purchasing and pursuing conservation easements on habitat land. The valley suffered habitat loss due to urban expansion in the Silverspring neighbourhood. A major pressure on habitat in Meewasin Valley is the increasingly popular development of rural and urban residential areas. Meewasin's challenge in the future is to maintain or increase the amount of habitat under its jurisdiction as urban and agricultural pressures increase.

The valley is *vibrant*. A trail system with primary, interpretive and equestrian components has been established and there is green space that provides space for people to gather for active and passive recreation. Meewasin's challenge is to extend the trail system to serve all areas under its jurisdiction.

The valley is *balanced*. Half of Meewasin's jurisdiction is devoted to conservation in the form of the river and habitat land. The other half of the land base is devoted to human use. It is also balanced in that the two most commonly occurring land-based uses, habitat and urban development, each account for approximately the same percentage of land cover. The citizens of Saskatoon support the idea of balancing the river valley environment and cultural heritage with proposed developments. In the R.M. there are roughly the same number of access points to the river both north and south of Saskatoon and on the east and west banks of the South Saskatchewan River. There is also a mix of public and private access to the

shoreline. Meewasin's challenge is to increase the number of access points to the river north of Saskatoon so that the distance between points decreases.

Bibliography

City of Saskatoon. December 1997. *Plan Saskatoon Draft*.

Hilderman Witty Crosby Hanna and Associates. 1990. *Meewasin Valley Trail Systems Plan*. Meewasin Valley Authority.

Moriyama, Raymond. 1978. *The Meewasin Valley Project: 100 Year Conceptual Master Plan*.

Nelson Dynes and Associates Inc. 1998. *Vegetation Inventory of Saskatoon and Area*. Meewasin Valley Authority.

Saskatchewan Environment and Resource Management. August 1997. *Saskatchewan's Representative Areas Network Final Action Plan*.

Weichel, Bert. 1992. *An Inventory of the Remaining Natural Areas in and around Saskatoon*. Saskatoon Nature Society.

Appendix A: Terms Used

Meewasin Valley:	The land described by <i>the Meewasin Valley Authority Act</i> , Schedules A and B.
Protected Land:	The land within the Meewasin Valley and any Conservation Easements granted to the Meewasin Valley Authority
Habitat:	Areas that are in a relatively natural state
Green Space:	Open space that is on public land but is not of particular habitat value; e.g. urban riverbank parks
Conservation Easement:	An agreement between a land owner and an agency which has been approved under the provincial <i>Conservation Easement Act</i> that protects natural lands or sites of historic or archaeological significance while the land owner involved retains ownership of the land and often gains other benefits

Appendix B: Meewasin's Legal and Policy Tools for Carrying out its Mandate

Legislation:

- *Meewasin Valley Authority Act*
- *Development Plan*
- *Conservation Easement Act*

Policy:

- Development Review Policy
- North East Policy
- Land Acquisition Policy
- River Edge Industrial Location Policy
- Natural Areas Protection Policy

Bylaws:

- 001: Public Parks Bylaw
- 002: Use of Vehicles Bylaw
- 003: Development Review Exemption Bylaw