

**Regional District
Of Nanaimo**

**2015
Recreation Facility and
Field Use Analysis**

Final Report

November 19th, 2015

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Introduction

In February 2015 PERC was retained by the Regional District of Nanaimo (RDN) to undertake an independent analysis of the geographic residency of the users of specific public recreation facilities that are supported by RDN taxpayers. The information from the analysis would be used for three purposes;

- For general management information about where users reside to support marketing campaigns and other service delivery decisions,
- To provide a basis for apportioning the net public subsidy to specific members of the RDN,
- To fulfill the requirements of existing facility cost sharing agreements for a survey of facility use every five years.

PERC has completed that assignment and is pleased to present the results in this report. It is hoped that the information will be useful in its own right, and that the methodology will also be helpful for future attempts to repeat the analysis on a periodic basis.

Background

Since 2000 the Regional District of Nanaimo entered into agreements with its municipal members to share the operating costs of specific recreation facilities (i.e. pools and arenas) and specific sports fields in electoral areas and in the municipalities. These agreements specify that at least some of the costs will be shared on the basis of proportionate usage from residents of participating jurisdictions.

Usage of these facilities and sports fields has been determined using three different types of collection methods. For sports fields, usage has been determined by tabulating residential addresses of members of rental groups as determined from lists supplied by the organizations representing both youth and adult organized leagues and associations. For aquatic and arena facilities, usage is determined by surveys of drop in participants during public swim and skate sessions, as well as analysis of the residency of members of user groups and of registrants to programs at the facilities.

Deliverables

The terms of reference for this project called for a final report to be delivered as an electronic document suitable for printing as well as a searchable electronic database for more flexible future use.

The report must include:

- In percentage terms, a breakdown of users of Recreation Facilities and sports fields that reside in District 68 by area of residence (i.e. which of the participating members of the RDN the user resides in),
- In percentage terms, a breakdown of users of sports fields that reside in District 69 by area of residence (i.e. which of the participating members of the RDN the user resides in),

- In percentage terms, a breakdown of users of Ravensong Aquatic Centre, Oceanside Place and Northern Community Recreation Programs that reside in District 69 by area of residence (i.e. which of the participating members of the RDN the user resides in).

The user data will be analyzed for area of residency only, and that area will be attributed to a geographic member of the RDN (or “other” designation). The data base will be provided in Microsoft Excel format with one worksheet for each of the facility/sports field/program registration categories as follows.

District 68 Users for Recreation Facilities (Arenas and Pools) and Sports Fields

- City of Nanaimo
- District of Lantzville
- Electoral Area A
- Electoral Area B
- Electoral Area C

District 69 Users for Sports Fields, Oceanside Place & Northern Community Recreation Services (community recreation programs)

- City of Parksville
- Town of Qualicum Beach
- Electoral Area E
- Electoral Area F
- Electoral Area G
- Electoral Area H

District 69 Users of Ravensong Aquatic Centre

- City of Parksville
- Town of Qualicum Beach
- Electoral Area F
- Electoral Area G
- Electoral Area H

Once the consultants were retained to deliver on the above described outcomes, it was decided that the Oliver Woods Community Centre in Nanaimo might, at some point in the future, become a regional use recreation facility and be added to the list of shared cost facilities within the RDN. Therefore, it was decided to investigate how much information was available about usage of this facility. Similarly, there was some interest in analyzing the area of residency of the outdoor tennis complexes in Arrowsmith, Qualicum Beach and Nanaimo, and the Kin Outdoor pool in Nanaimo. Attempts were made to solicit group membership data for all these facilities. However, results were mixed. For some, sufficient data was available to make some estimates of area of residency, but for others, the data was insufficient to make any conclusions as to proportionate usage from each jurisdiction within the RDN.

Methodology

Typically, a recreation facility has three modes of use; namely

- Drop in uses – where a patron makes a decision on a use-by-use basis to use the facility, and typically pays a user fee to use a facility during a public use session;

- Program uses – where a user typically pre-commits, through a registration process, to a series of uses, usually involving some form of instruction, and then attends for most or all of those programmed uses;
- Rental uses – where a group or individual rents a space or a portion of a space and then controls of the uses and users of that rented space for the period of the rental.

In the case of the three public swimming pools and the three arena sites in the scope of this study, all three modes of use apply in significant portions and all three were measured. For sports fields, the Kin Pool, and the tennis court complexes, the vast majority of use relates to the rental category, with only incidental use in the program or drop in types of use. Therefore, only data on user group residency was used to determine overall area of use of all users.

Based on the three modes of use, three types of data were collected using three separate techniques.

Pool and Arena User Survey

Since the pools enjoy a significant amount of drop in use, it was decided that public drop in users would be sampled and each would be asked to provide their residential address. A variety of days of the week and times of day were chosen during February and again for the period mid-May to early June, at each pool where there was space available in the pool for drop in use. A team of two researchers (i.e. students in the recreation and tourism program at Vancouver Island University) were assigned to most of the identified sessions and one researcher for the less busy sessions in June. They set up a large sign that illustrated what they were doing (see ***Appendix A***) and approached all parties as they exited the building, asking three questions:

1. How many members of the party used the facility (i.e. changed into a bathing suit or used equipment in the associated fitness centre in the case of a pool, or put on skates in the case of an arena),
2. How many of those used the facility for drop in use (i.e. a paid use that was not part of a registered program or group rental),
3. The detailed residential address of the party.

The teams found that they were able to approach the vast majority of parties leaving the facility. They missed approaching about 7% of the parties during particularly busy periods. The vast majority of parties that were approached agreed to answer all three questions. About 13% declined to participate, primarily due to lack of time or they had previously taken the survey in phase one.

There is no reason to indicate that the survey periods in February and May/June of 2015 were atypical of users or uses during other months of that year. There is also no reason to assume that the year 2015 is atypical of recent years. Therefore, the consultants believe that this methodology, which solicits residency from a large sample of facility users from each pool, is quite valid and reliably represents all drop-in users of each pool with an accuracy of about +/- 4% nineteen times out of twenty.

Analysis of use of each pool's operating format indicates that drop in use represents about 50% of all use; with program uses representing a further 40% and rentals representing the final 10% of all uses. This is consistent across all three pools, and is quite consistent with BC's public indoor pools.

Drop-in use of the three arenas in the scope of this study was also surveyed during the month of February 2015. This was chosen as one of the most typical months of arena use. The survey format and process was similar to the one used for the pool, but the sample sizes were smaller to account for the lower proportion of drop-in use in arenas. The teams found that they were able to approach the vast majority of parties leaving the facility. They did not miss approaching any parties. The vast majority of parties that were approached agreed to answer all three questions. About 2% declined to participate, primarily due to lack of time. Staff members were able to determine that about 10% of arena use is attributed to the drop-in category, about 25% to the program category, and the remaining 65% was attributed to the user group rental category.

The list of pool and arena sessions surveyed is included in *Appendix A*.

Program Registration Database

Both the City and Regional District of Nanaimo utilize a sophisticated program registration system called CLASS. This system records and reports on all registrations and registrants including their detailed address. Therefore, this information is available in report form and can be sorted by facility and session.

For the arenas, pools, and Northern Recreation Programs, the CLASS data was extracted and analyzed from the City's and RDN's databases. All programs for the previous twelve months were used in the analysis.

For the pools that information was used to determine breakdown by residency of the 40% of all pool uses that relate to program uses. For arenas, it was used to determine the 25% of all uses associated with this category of use.

For the RDN, the program registration data base was also used to determine, for management purposes, the residency of all registrants in programs which did not have a pool or arena base of facility provision. This was used for the Northern Community Recreation Services analysis.

Because the program data base is so accurate, it is assumed that the usage information that comes from this source is 100% accurate.

User Group Membership Lists

All significant user groups that rented local sports fields, arenas, pools and tennis courts were identified by the City and the RDN staff. Each was requested to provide a list of all members along with the residential address for each member. This proved to be a somewhat more involved process than it was first thought, as many groups either did not have, or were in the process of updating their lists. Repeated attempts were made to solicit all significantly sized groups to the point where information was obtained from any groups that were of significant size. These lists were then formatted by the RDN staff in a manner where addresses could be categorized into areas of residency and checked.

The information was then used to provide 100% of field use analysis, 65% of arena use analysis and 10% of pool use analysis. It was also used to provide information for tennis court use in District 69 and use of the Kin Pool in Nanaimo. However, insufficient data was received to determine use of Oliver Woods Community Centre, the Nanaimo tennis court complex at Bowen Park or the Lawn Bowling Green at Bowen Park. Whereas pools, arenas and sports fields are used intensively by the same groups all season long, group rental use by Oliver Woods is characterized

by many groups that use the facility on a “one off” basis. Those groups are difficult to incent to provide membership residency lists, and many don’t have any record of the residency of their members.

Overall, information was received from 50 user groups which collectively represented 5128 users of indoor pools, arenas, an outdoor pool, tennis courts, and sports fields. This is actually 25% more groups than provided information in 2010, but they represent 25% fewer members, suggesting that user groups are trending toward a larger number of mostly smaller leagues and clubs.

Because almost all of the significant facility and field user groups responded with residency information of their members, this source of data is considered to be about 99% accurate.

Analysis of Pool Use

The use of the three aquatic venues was calculated and analyzed as follows in the next two subsections. All three categories of use where used to derive usage in each case.

District 68 Pools: Nanaimo Aquatic Facilities

Usage for the Nanaimo Aquatic Centre and the Beban Park Pool are combined because the membership survey and the program database don’t distinguish between the two. The raw data (users and uses) used to start the analysis is summarized in **Figure One**. The first row represents the actual number of drop in swims recorded by the survey teams in the sample survey conducted in February and May/June of 2015. The second row represents the number of times a resident of each jurisdiction registered for a program based at a Nanaimo pool, not the number of program uses. The third row represents the number of members of all groups that rented space at the two Nanaimo aquatic facilities that reside in each of the jurisdictions.

Figure One
Summary of Raw Usage Data at Nanaimo Pools

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop in	7	6	9	12	12	0	0	915	11	7	37	96	1113
Program	180	67	153	75	1	6	0	5127	0	0	218	0	5827
Rentals	9	6	10	5	0	0	0	287	1	1	15	11	345

In order to use the raw data in **Figure One**, it is first turned into percentages. That is done in **Figure Two**. This determines the percentage of each category of use that comes from residents of each of the jurisdictions.

Figure Two
Summary of Raw Usage Data for Nanaimo Pools in Percentage Terms

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop in	0.6	0.5	0.8	1.1	1.1	0.0	0.0	82.2	1.0	0.6	3.3	8.6	100
Program	3.1	1.1	2.6	1.3	0.0	0.1	0.0	88.0	0.0	0.0	3.7	0.0	100
Rentals	2.6	1.7	2.9	1.4	0.0	0.0	0.0	83.2	.3	.3	4.3	3.2	100

However, the raw percentages are not usable as the first row represents only a sample of uses, the second row represents program registrations rather than uses, and the third row represents only a percentage of members rather than uses. To properly determine how these percentages relate to total uses of the facility, they are multiplied by the proportion of use that each category of use makes up of the total annual facility uses.

In this case, the percentage breakdowns for the first row are multiplied by .5 to indicate that public uses make up 50% of total facility uses. The second row percentages are multiplied by .4 to indicate that programs represent another 40% of total facility uses. And, the third row percentages are multiplied by .1 to represent the fact that group rentals constitute only 10% of all annual facility uses. The resultant proportions can then be added to equal 100% of uses that are derived from each of the areas of residency. **Figure Three** shows that final analysis. Only **Figure Three** can be used as a basis for determining residency of uses.

Figure Three
Proportion of Nanaimo Pool Uses from Each Jurisdiction

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop-in	0.3	0.3	0.4	0.5	0.5	0.0	0.0	41.1	0.5	0.3	1.7	4.3	50
Program	1.2	0.5	1.1	0.5	0.0	0.0	0.0	35.2	0.0	0.0	1.5	0.0	40
Rentals	.3	.2	.3	.1	0.0	0.0	0.0	8.3	0.0	0.0	.4	.3	10
Total	1.8	1.0	1.8	1.1	.5	0.0	0.0	84.6	.5	.3	3.6	4.6	100

It is important to note that when attributing the net costs for each of the participating jurisdictions, the percentages in **Figure Three** cannot be used as they are now. Non-participating jurisdictions need to be netted out, as they will pay nothing, and their share needs to be distributed to the participating jurisdictions before final calculations are made. In this case, since only Nanaimo and Lantzville and Electoral Areas A, B, and C contribute to District 68 pools, the remaining 7% of uses need to be netted out and the result is as follows:

- Electoral Area A taxpayers would pay 1.9% of the net cost,
- Electoral Area B taxpayers would pay 1% of the net cost,
- Electoral Area C taxpayers would pay 1.9% of the net cost,
- District of Lantzville taxpayers would pay 3.9% of the net cost,
- The City of Nanaimo taxpayers would pay 91.2% of the net cost.

And the total would be 100% of the costs. The figures in the bullets above can be used to calculate, averaging with previous sets of percentages, the portion of costs associated with Nanaimo pools to each of the participating jurisdictions.

District 69 Pool: Ravensong Aquatic Centre

Usage for the Ravensong Aquatic Centre is summarized in the next three figures. The raw data (users and uses) used to start the analysis is summarized in **Figure Four**. The first row represents the actual number of drop in swims recorded by the survey teams in the sample survey conducted in February and May/June of 2015. The second row represents the number of registrations a

resident of each jurisdiction made in the program category for a program based at Ravensong. The third row represents the number of members of all groups that rented space at Ravensong that reside in each of the jurisdictions.

Figure Four
Summary of Raw Usage Data at Ravensong

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop-in	0	0	0	9	96	76	27	1	94	112	1	27	443
Program	0	0	0	156	513	490	190	23	664	446	1	71	2554
Rentals	0	0	0	6	9	31	4	7	41	27	0	2	127

In order to use the raw data in *Figure Four*, it is first turned into percentages. That is done in *Figure Five*. This determines the percentage of each category of use that comes from residents of each of the jurisdictions.

Figure Five
Raw Usage Data for Ravensong in Percentage Terms

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop in	0	0	0	2	22	17	6	0	21	25	0	6	100
Program	0	0	0	6	20	19	7	1	26	17	0	3	100
Rentals	0	0	0	5	7	24	3	6	32	21	0	2	100

However, the raw percentages are not usable as the first row represents only a sample of uses, the second row represents program registrations, and the third row represents only members, not uses. To properly determine how these percentages relate to total uses of the facility, they are multiplied by the proportion that each category of use makes up of the total annual facility uses.

In this case, the percentage breakdowns for the first row are multiplied by .5 to indicate that public uses make up 50% of total facility uses. The second row percentages are multiplied by .4 to indicate that programs represent another 40% of total facility uses. And, the third row percentages are multiplied by .1 to represent the fact that group rentals constitute only 10% of all annual facility uses. The resultant proportions represent the correct “weight” of each row, and therefore, can then be added to equal 100% of uses that are derived from each of the areas of residency. *Figure Six* shows that final analysis. Only *Figure Six* can be used as a basis for determining the residency of uses of this facility.

Figure Six
Proportion of All Ravensong Uses from Each Jurisdiction

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop in	0	0	0	1.0	10.8	8.6	3.0	0.1	10.6	12.6	0.1	3.0	50
Program	0	0	0	2.4	8.0	7.7	3.0	0.4	10.4	7.0	0.0	1.1	40
Rentals	0	0	0	0.5	0.7	2.4	0.3	0.6	3.2	2.1	0.0	0.2	10
Total	0	0	0	3.9	19.6	18.7	6.3	1.0	24.2	21.8	0.1	4.3	100

It is important to note that when attributing the net costs for each of the participating jurisdictions, the percentages in **Figure Six** could not be used as they are now. Jurisdictions which don't participate in the cost would need to be netted out, as they would pay nothing, and their share would need to be distributed to the participating jurisdictions before final calculations are made. In this case, if the only jurisdictions that participate in the cost sharing are Electoral Areas F, G, H and Parksville and Qualicum Beach, then the remaining 9.3% use by Electoral Area E, Nanaimo, Lantzville, and Other would be netted out, and the results would be as follows:

- Electoral Area F taxpayers would pay 21.6% of the net cost,
- Electoral Area G taxpayers would pay 20.7% of the net cost,
- Electoral Area H taxpayers would pay 7.0% of the net cost,
- The City of Parksville taxpayers would pay 26.8% of the net cost,
- The Town of Qualicum Beach taxpayers would pay 24.0% of the net cost.

The total would then equal 100% of the net cost. The figures in the bullets above can be used to calculate, averaging with previous sets of percentages, the portion of costs associated with Ravensong Aquatic Centre to each of the participating jurisdictions.

Analysis of Arena Use

There are three arena sites in the study area; two in the City of Nanaimo and one in Parksville. The majority of all uses in these arenas are attributed to group rentals. So, user groups were surveyed to determine the area of residency of their members. Since a significant number of programmed uses were relatively easy to collect, it is also added to the analysis. And, while only about 10% of arena use is by way of drop-in public use sessions, a small sample of these users was collected during exit interviews of drop-in users during the month of February.

District 68 Arenas: (City of Nanaimo Arenas)

Usage for the two arena facilities which are located within the City of Nanaimo is summarized in the next three figures. The raw data (users and uses) used to start the analysis is summarized in **Figure Seven**. The first row represents the sample of drop-in uses. The second represents the number of times a resident of each jurisdiction registered for a program based at those arenas, not the number of uses. The third row represents the number of members of all groups that rented ice that reside in each of the jurisdictions.

Figure Seven
Summary of Raw Usage Data at Nanaimo Arenas

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop in	11	1	4	2	2	0	0	381	11	0	7	45	464
Program	162	96	134	27	8	8	0	3571	0	0	121	0	4127
Rentals	140	12	44	16	2	6	1	1723	10	2	99	124	2179

In order to use the raw data in **Figure Seven**, it is first turned into percentages. That is done in **Figure Eight**. This determines the percentage of each category of use that comes from residents of each of the jurisdictions.

Figure Eight
Raw Usage Data for Nanaimo Arenas in Percentage Terms

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop in	2.4	0.2	0.9	0.4	0.4	0.0	0.0	82.1	2.4	0.0	1.5	9.7	100
Program	3.9	2.3	3.2	0.7	0.2	0.2	0.0	86.5	0.0	0.0	2.9	0.0	100
Rentals	6.4	0.6	2.0	0.7	0.1	0.3	0.0	79.1	0.5	0.1	4.5	5.7	100

However, the raw percentages are not usable as the first row represents only a sample of the survey of drop-in users. The second represents the program registrations rather than uses, and the third row represents only a percentage of members rather than uses. To properly determine how these percentages relate to total uses of the facility, they are multiplied by the proportion of use that each category of use makes up of the total annual facility uses.

In this case, the percentage breakdowns for the first row are multiplied by .1 to indicate that drop in uses account for only 10% of uses. The second row was multiplied by .25 as programs account for a further 25% of total facility uses. The last row percentages are multiplied by .65 to indicate that they represent the remaining 65% of total facility uses. The resultant proportions can then be added to equal 100% of uses that are derived from each of the areas of residency. *Figure Nine* shows that final analysis. Only *Figure Nine* can be used as a basis for determining the residency of uses.

Figure Nine
Proportion of All Nanaimo Arena Uses from Each Jurisdiction

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop in	0.2	0.0	0.1	0.0	0.0	0.0	0.0	8.2	0.2	0.0	0.2	0.9	10
Program	1.0	0.6	0.8	0.2	0.0	0.0	0.0	21.6	0.0	0.0	0.7	0.0	25
Rentals	4.2	0.4	1.3	0.5	0.1	0.2	0.0	51.4	0.3	0.1	3.0	3.7	65
Total	5.4	1.0	2.2	0.7	0.2	0.2	0.0	81.2	0.5	0.1	3.8	4.7	100

It is important to note that when attributing the net costs for each of the participating jurisdictions, the percentages in *Figure Nine* cannot be used as they are now. Non-participating jurisdictions need to be netted out, as they will pay nothing, and their share needs to be distributed to the participating jurisdictions before final calculations are made. In this case, since only Nanaimo and Lantzville and Electoral Areas A, B, and C contribute to District 68 arenas, the remaining 6.4% of uses need to be netted out and the result is as follows:

- Electoral Area A taxpayers would pay 5.8% of the net cost,
- Electoral Area B taxpayers would pay 1.0% of the net cost,
- Electoral Area C taxpayers would pay 2.3% of the net cost,
- District of Lantzville taxpayers would pay 4.1% of the net cost,
- The City of Nanaimo taxpayers would pay 86.8% of the net cost.

And the total would be 100% of the costs. The figures in the bullets above can be used to calculate, averaging with previous sets of percentages, the portion of costs associated with Nanaimo arenas to be paid by each of the participating jurisdictions.

District 69 Arena: Oceanside Place Arena

Usage for Oceanside Place, is summarized in the next three figures. The raw data (users and uses) used to start the analysis is summarized in **Figure Ten**. The first row represents the survey of drop-in users during public skate sessions. The second represents the number of times a resident of each jurisdiction registered for a program based at Oceanside arena. The third row represents the number of members of all groups that rented ice at Oceanside Place that reside in each of the jurisdictions.

Figure Ten
Summary of Raw Usage Data at Oceanside Arena

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop in	0	0	0	4	50	34	13	8	84	25	0	10	228
Program	0	0	0	68	88	130	29	24	180	99	2	62	682
Rentals	0	1	0	84	69	156	24	37	229	101	2	14	717

In order to use the raw data in **Figure Ten**, it is first turned into percentages. That is done in **Figure Eleven**. This determines the percentage of each category of use that comes from residents of each of the jurisdictions.

Figure Eleven
Raw Usage Data for Oceanside Place in Percentage Terms

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop in	0	0	0	1.8	21.9	14.9	5.7	3.5	36.8	11.0	0.0	4.4	100
Program	0	0	0	10.0	12.9	19.1	4.3	3.5	26.4	14.5	0.3	9.1	100
Rentals	0	0.1	0.0	11.7	9.6	21.8	3.3	5.2	31.9	14.1	0.3	2.0	100

However, the raw percentages are not usable as the first row represents only a sample of drop-in uses, not all such uses. The second row represents registrants at Oceanside programs. The third row represents only a percentage of members not uses. To properly determine how these percentages relate to total available uses of the facility, they are multiplied by the proportion of use that each category of use makes up of the total annual available facility uses. In this case, the percentage breakdowns for the first row are multiplied by .1 to indicate that public uses make up 10% of available facility uses according to the survey of users during public skate sessions. The second row percentages are multiplied by .25 to indicate that 25% of all arena use is attributed to program registrants. And, in the third row, all figures are multiplied by .65 to indicate that the remaining 65% of available facility uses is attributed to those users who rent space in the arena. The resultant proportions can then be added to equal 100% of uses that are derived from each of the areas of residency. **Figure Twelve** shows that final analysis. Only **Figure Twelve** can be used as a basis for determining the residency of uses.

Figure Twelve
Proportion of All Oceanside Arena Uses from Each Jurisdiction

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Drop in	0	0	0	0.2	2.2	1.5	0.6	0.4	3.7	1.1	0.0	0.4	10
Program	0	0	0	2.5	3.2	4.8	1.1	0.9	6.6	3.6	0.1	2.3	25
Rentals	0	0.1	0	7.6	6.3	14.1	2.2	3.4	20.8	9.2	0.2	1.3	65
Total	0	0.1	0	10.3	11.7	20.4	3.8	4.6	31.0	13.9	0.3	4.0	100

It is important to note that when attributing the net costs for each of the participating jurisdictions, the percentages in **Figure Twelve** could not be used as they are now. Non-participating jurisdictions would need to be netted out, as they would pay nothing, and their share would need to be distributed to the participating jurisdictions before final calculations are made. In this case, since the costs of the Oceanside Arena would be shared only by Parksville, Qualicum Beach and Electoral Areas E, F, G, and H, the remaining 9% of uses from non participating jurisdictions needs to be netted out. The result would be as follows:

- Electoral Area E taxpayers would pay 11.3% of the net cost,
- Electoral Area F taxpayers would pay 12.8% of the net cost,
- Electoral Area G taxpayers would pay 22.4% of the net cost,
- Electoral Area H taxpayers would pay 4.2% of the net cost,
- The City of Parksville taxpayers would pay 34.0% of the net cost,
- The Town of Qualicum Beach taxpayers would pay 15.3% of the net cost,

And the total would be 100% of the costs. The figures in the bullets above can be used to calculate, averaging with previous sets of percentages, the portion of costs associated with Oceanside Place arena to each of the participating jurisdictions.

Analysis of Sports Field Use

Almost all available capacity for sports fields within the Regional District of Nanaimo is rented to groups. Therefore, the analysis of usage relates exclusively to a breakdown in the membership of those groups. The raw data (users) used to start the analysis is summarized in **Figure Thirteen**. Each row in this table represents the actual number of members in all the groups that use each of the categories of sports fields in one portion of the Regional District. The assumption is that each group, and therefore each member, used the fields weekly and, therefore, about the same as all other users. Based on that assumption, the number of members relates directly to the proportion of use from each of the jurisdictions.

Figure Thirteen
Summary of Raw Membership Data for Sports Field Use

Location of Facilities	A	B	C	E	F	G	H	NA	PV	QB	LZ	Other	Total
District 68 Fields	83	17	109	40	8	6	6	2959	13	2	143	171	3557
District 69 Fields	2	1	1	192	230	320	69	44	422	199	2	141	1623

In order to use the raw data in *Figure Thirteen*, it is first turned into percentages. That is done in *Figure Fourteen*. This determines the percentage of each category of use that comes from residents of each of the jurisdictions.

Figure Fourteen
Summary of Percentage Breakdown of Field Usage

Location of Facilities	A	B	C	E	F	G	H	NA	PV	QB	LZ	Other	Total
District 68 Fields	2.3	.5	3.1	1.1	.2	.2	.2	83.2	.4	.1	4.0	4.8	100.1*
District 69 Fields	.1	.1	.1	11.8	14.2	19.7	4.3	2.7	26.0	12.3	.1	8.7	100.1*

★ Totals don't add to 100 due to rounding

It is important to note that when attributing the net costs for each of the participating jurisdictions, the percentages in *Figure Fourteen* cannot be used as they are now. Non participating jurisdictions need to be netted out, as they will pay nothing, and their share needs to be distributed to the participating jurisdictions before final calculations are made. In this case, since only Nanaimo and Lantzville and Electoral Areas A, B, and C contribute to District 68 fields, the remaining 7.0% of uses need to be netted out and the result is as follows:

- Electoral Area A taxpayers would pay 2.5% of the net cost,
- Electoral Area B taxpayers would pay .5% of the net cost,
- Electoral Area C taxpayers would pay 3.3% of the net cost,
- District of Lantzville taxpayers would pay 4.3% of the net cost,
- The City of Nanaimo taxpayers would pay 89.4% of the net cost,

And the total would be 100% of the costs. The figures in the bullets above can be used to calculate, averaging with previous sets of percentages, the portion of costs associated with District 68 field use to each of the participating jurisdictions.

And, since only Parksville, Qualicum, and Electoral Areas E, F, G, and H contribute to District 69 fields, the remaining 11.8% of uses need to be netted out, and the result is as follows:

- Electoral Area E taxpayers would pay 13.4% of the net cost,

- Electoral Area F taxpayers would pay 16.1% of the net cost,
- Electoral Area G taxpayers would pay 22.3% of the net cost,
- Electoral Area H taxpayers would pay 4.8% of the net cost,
- The City of Parksville taxpayers would pay 29.5% of the net cost,
- The Town of Qualicum Beach taxpayers would pay 13.9% of the net cost,

And the total would be 100% of the costs. The figures in the bullets above can be used to calculate, averaging with previous sets of percentages, the portion of costs associated with District 69 field use to each of the participating jurisdictions.

Analysis of Use of Other Facilities

Data for the uses associated with the Oliver Woods Community Centre are incomplete. In fact, only one of the user groups responded. So, it is impossible to draw any conclusions about use of the Community Centre from what has been collected. The same is true of groups using the Bowen Park tennis courts and its Lawn Bowling Green. The only reliable data that was available was for the users of the tennis courts in District 69 and for the use of Kin Outdoor Pool. Both of these are primarily used by user groups which responded to the request for membership addresses. Both are summarized below as *Figure Fifteen* and *Figure Sixteen*.

Figure Fifteen
Summary of Users of Kin Outdoor Pool

Area of residency	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Rental Members	6	0	9	4	0	0	0	141	3	0	9	17	189
Percentage	3.2	0.0	4.8	2.1	0.0	0.0	0.0	74.6	1.6	0.0	4.8	9.0	100

Figure Sixteen
Summary of Usage of District 69 Tennis Courts

Area of Residency	A	B	C	E	F	G	H	NA	PV	QB	LZ	OTHER	Total
Rental Members	0	2	0	33	9	37	4	12	50	52	0	15	214
Percentage	0.0	0.9	0.0	15.4	4.2	17.3	1.9	5.6	23.4	24.3	0.0	7.0	100.0

Analysis of Northern Recreation Services Registrants

The RDN also provided data from its CLASS program data base that related to programs not accommodated within arenas or pools. This data is summarized in the following two figures.

Figure Seventeen summarizes raw data which relates to all programs for the most recent twelve month period. It represents all program uses.

Figure Seventeen
Summary of Raw Usage Data for RDN Programs

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	Other	Total
Program Uses	60	43	13	541	622	1024	252	140	1240	720	13	80	4748

In order to use the raw data in *Figure Seventeen*, it is first turned into percentages. That is done in *Figure Eighteen*.

Figure Eighteen
Summary of Raw Usage Data in Percentage Terms

Category of Use	A	B	C	E	F	G	H	NA	PV	QB	LZ	Other	Total
Program Uses	1.3	.9	.3	11.4	13.1	21.6	5.3	2.9	26.1	15.2	.3	1.7	100.1*

* totals don't add to 100 due to rounding of data

The information in *Figures Seventeen and Eighteen* are provided only to support management and marketing decisions.

Trending Changes in Use

For some of the facilities in the figures above, information has been gathered three times over the past fifteen years. To illustrate the trends and changes in utilization of those facilities and fields, *Figure Nineteen* summarizes that information.

Figure Nineteen
Summary of Raw Usage Data in Percentage Terms

Jurisdiction	Pools			Arenas			Sports Fields			Population
	2005	2010	2015	2005	2010	2015	2005	2010	2015	2011
Nanaimo	88.6	88.8	91.2	88.6	84.1	86.8	86.7	85.3	89.4	82.8
Lantzville	3.2	4.7	3.9	3.2	5.0	4.1	6.0	7.1	4.3	3.6
EA A	4.2	3.7	1.9	4.2	5.8	5.8	3.4	3.4	2.5	6.8
EA B	1.7	1.1	1	1.7	.2	1.0	.3	.6	.5	4.0
EA C	2.3	1.7	1.9	2.3	4.9	2.3	3.6	3.6	3.3	2.8
EA E	NA	NA	NA	11.2	13.3	11.3	11.2	12.0	13.4	12.8
EA F	12.6	16.2	21.6	12.6	9.6	12.8	12.6	20.2	16.1	16.7
EA G	21.4	17.6	20.7	21.4	23.3	22.4	21.4	17.1	22.3	16.1
EA H	4.6	8.1	7.0	4.6	2.6	4.2	4.6	5.0	4.8	7.9
Parksville	31.4	28.2	26.8	31.4	35.1	34.0	31.4	28.2	29.5	27.0
Qualicum Beach	18.8	29.8	24.0	18.8	15.8	15.3	18.8	17.5	13.9	19.6

Summary

Based on the analysis above, the consultants are able to draw a number of conclusions.

1. The methodology used for this project is sufficiently valid and reliable to be used to apportion net costs of operation for pools, arenas, and sports fields. While no data is perfect, the consultants assert that the information available and its analysis generate results which are more reliable and valid than industry standard levels of confidence. Industry standard level of confidence in survey data is plus or minus 5% nineteen times out of twenty. For this study, the combination of data sources with different levels of reliability are complicated to combine into a cohesive confidence level. However, the overall result is almost certainly within 2% nineteen times out of twenty.
2. This means that if the methodology were repeated consistently, use by area of residency would have to shift by more than 2% for it to be reliably picked up (nineteen times out of twenty) by the process.
3. This level of reliability is better than in past surveys of use. The methodology is improving over time, rendering results which are more reliable.
4. The information available for the Oliver Woods Community Centre and the Bowen Park tennis complex and Lawn Bowling Green are not sufficient to make any overall assessment about the area of residency of users.
5. The methodology used for this project could fairly easily be incorporated into the City and RDN operating plan and implemented internally in future, negating the need for retaining outside expertise to achieve the same outcome. However, the RDN and the City may wish to have an objective outside agency to collect the data on their behalf.
6. In future iterations of this study, it will be important to give user groups lots of lead time and incentives to cooperate by collecting and submitting residential addresses of their members.

Appendix A – Details of Pool and Arena Use Survey

Survey Schedule for Three Public Pools and Arenas

Beban Pool-Nanaimo				
Date	Day	Time	Program Covered	Hours
16-Feb	Monday	5:00 to 8:00 pm	Leisure Only Swim	3
17-Feb	Tuesday	7:00 to 9:00 am	Everyone Welcome	2
19-Feb	Thursday	4:00 to 7:00 pm	Leisure Only Swim	3
01-Mar	Sunday	12:00 to 4:00 pm	Everyone Welcome	4
11-May	Monday	6:15 to 8:15 pm	Leisure Only Swim	2
12-May	Tuesday	7:30 to 9:30 am	Everyone Welcome	2
14-May	Thursday	5:15 to 7:15 pm	Leisure Only Swim	2
17-May	Sunday	2:15 to 4:15 pm	Everyone Welcome	2
09-Jun	Tuesday	2:00 to 3:30 pm	Adult and Senior	1.5
10-Jun	Wednesday	2:00 to 3:30 pm	Adult and Senior	1.5
11-Jun	Thursday	10:30 to 12:30	Everyone Welcome	2
				25

Nanaimo Aquatic Centre Nanaimo				
Dates	Day	Time	Program Covered	Hours
23-Feb	Monday	7:00 to 9:00 am	Everyone Welcome	2
17-Feb	Tuesday	4:30 to 7:00 pm	25m length	2.5
19-Feb	Thursday	7:30 to 9:30 pm	Everyone Welcome and 25m length	2
28-Feb	Saturday	1:30 to 4:00 pm	Everyone Welcome and Waves	2.5
18-May	Monday	1:00 to 3:00 pm	Everyone Welcome	2
19-May	Tuesday	5:15 to 7:15 pm	25m length	2
21-May	Thursday	7:45 to 9:45 pm	Everyone Welcome and Waves	2
23-May	Saturday	2:15 to 4:15 pm	Everyone Welcome and Waves	2
				17

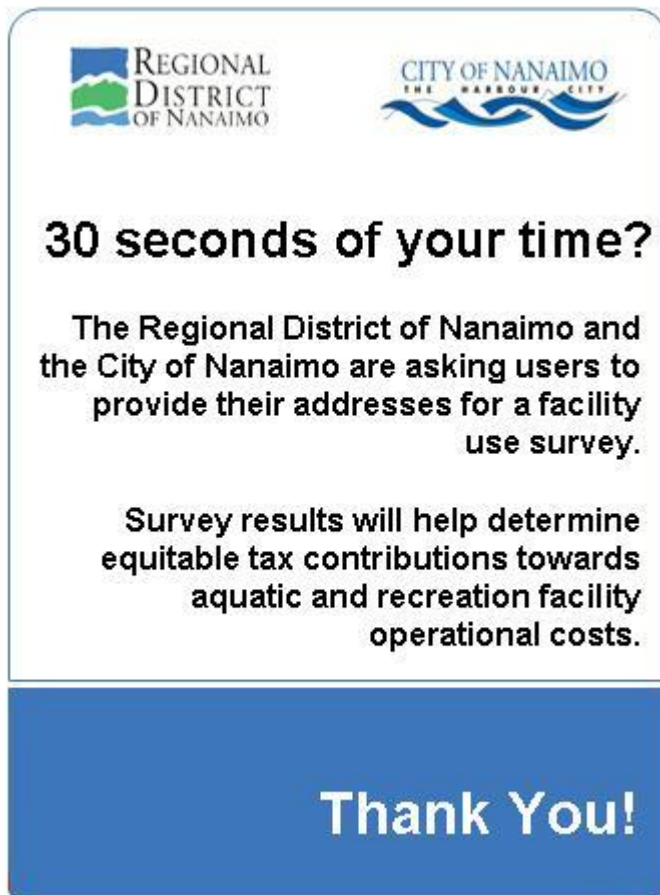
Ravensong Aquatic Centre-Qualicum Beach				
Dates	Day	Time	Program Covered	Hours
15-Feb	Sunday	11:00 to 4:00 pm	Family Swim & Everyone Welcome	5
16-Feb	Monday	7:00 to 9:00 am	Early Bird	2
17-Feb	Tuesday	8:00 to 10:00 pm	Aquafit and widths	2
15-Mar	Sunday	2:00 to 5:15 pm	Everyone Welcome	3.25
23-May	Saturday	2:15 to 4:15 pm	Everyone Welcome	2
24-May	Sunday	3:15 to 5:15 pm	Everyone Welcome	2
25-May	Monday	6:30 to 8:30 pm	Everyone Welcome	2
26-May	Tuesday	7:00 to 9:00 am	Early Bird	2
				20.25

Nanaimo Ice Centre- Nanaimo				
Dates	Day	Time	Program Covered	Hours
25-Feb	Wednesday	11:00 to 1:30 pm	Adult and Adult Leisure Skate	2.5
20-Feb	Friday	2:00 to 4:00 pm	Everyone Welcome	2
22-Feb	Sunday	3:30 to 5:30 pm	Everyone Welcome	2
08-Mar	Sunday	3:30 to 5:30 pm	Everyone Welcome	2
15-Mar	Sunday	3:30 to 5:30 pm	Everyone Welcome	2
				10.5

Frank Crane Arena- Nanaimo				
Dates	Day	Time	Program Covered	Hours
17-Feb	Tuesday	7:00 to 8:30 pm	Everyone Welcome	1.5
21-Feb	Saturday	1:30 to 3:00 pm	Everyone Welcome	1.5
22-Feb	Sunday	11:30 to 1:30pm	Family Skate	2
				5

Oceanside Place Arena Parksville				
Dates	Day	Time	Program Covered	Hours
18-Feb	Wednesday	4:00 to 5:30 pm	Everyone Welcome	1.5
21-Feb	Saturday	2:30 to 4:00 pm	Everyone Welcome	1.5
22-Feb	Sunday	1:45-3:45pm	EW Family Skate	2
07-Mar	Saturday	2:30 to 4:00 pm	Everyone Welcome	1.5
18-Mar	Wednesday	7 to 8:30 pm	Everyone Welcome	1.5
19-Mar	Thur	12:45 to 2:15	Everyone Welcome	1.5
26-Mar	Thursday	1 to 3 pm	Everyone Welcome	2
				11.5

Copy of Sign at Each Survey Station (different sign for City and RDN facilities)





30 seconds of your time?

The Regional District of Nanaimo is asking users to provide their addresses for a facility use survey.

Survey results will help determine how tax contributions are shared to fund this facility.

Thank You!

Appendix B – Calculations for Cost Sharing

The body of the report provides information separately for each type of facility. However, the facility sharing agreement for Nanaimo facilities stipulates that the cost of the City’s pools and arenas be lumped together. The following figure does that.

**Figure Nine
Proportion of All Nanaimo Arena Uses from Each Jurisdiction**

Category of Use	Area A	Area B	Area C	Nanaimo	Lantzville	Total
Total of Pool Use	1.9	1.0	1.9	91.2	3.9	100
Total of Arena Use	5.8	1.0	2.3	86.8	4.1	100
Total of All Facility Use	3.85	1.0	2.1	89.0	4.0	100

It is important to understand that this study did not determine the total number of uses of Nanaimo pools or arenas. It simply determined the percentages of use. So, all the consultants can do to combine the two initial rows above is to calculate an average and assume that the total number of uses of arenas was similar to the total number of uses of pools. If they are not, the more accurate total percentage on the bottom row would migrate more toward the percentage in the row above that had more uses.

The only other way of approaching this problem is to calculate the net costs of pools and use the breakdown of use in the bulleted list on page six to apportion those costs and then calculate the net of arenas and use the breakdown of use in the bulleted list on page nine to apportion those costs. Then the two totals can be combined to get all sharable costs for Nanaimo recreation facilities. While this wouldn’t make much difference to the net financial contribution to Electoral Area B, it would make a significant difference to jurisdictions like Electoral Area A and the City of Nanaimo, where the percent of use of pools varies significantly from the percentage of use of arenas.