

Marco Bijvank, CORS Secretary
April 2023

**RE: Canadian Operational Research Society
Annual Membership Report 2022–2023**

Dear Marco,

I am pleased to submit a copy of the 2022–2023 Annual Membership Report of the Canadian Operational Research Society for the CORS Council consideration. It documents the membership activities experienced by the Society over the past year. Included are historical statistics for the last 10 years. The report provides Council with the information it needs to assess the health and well-being of the Society; to monitor the effectiveness of membership processes and practices; and to identify areas where policy initiatives or changes may be required.

Sincerely,

Erla Anderson
CORS Membership Services

OVERALL

As shown in Table 1 and Figure 1, total membership in the Canadian Operational Research Society at the end of the 2022–2023 membership year (March 31) was 473¹, which was 139 less than the 2021–2022 membership year. Membership retention and efforts to encourage former members to rejoin should remain a priority for the society.

Table 1: CORS Membership 2013–2014 to 2022–2023 as of March 31

Membership Year	Total Membership	Change in Membership	Growth Rate
2013–2014	479	17	3.7%
2014–2015	440	–39	–8.1%
2015–2016	424	–16	–3.6%
2016–2017	469	45	10.6%
2017–2018	407	–62	–13.2%
2018–2019	483	76	18.7%
2019–2020	409	–74	–15.3%
2020–2021	415	+6	1.5%
2021–2022	612	+197	47.5%
2022–2023	473	–139	–22.7%

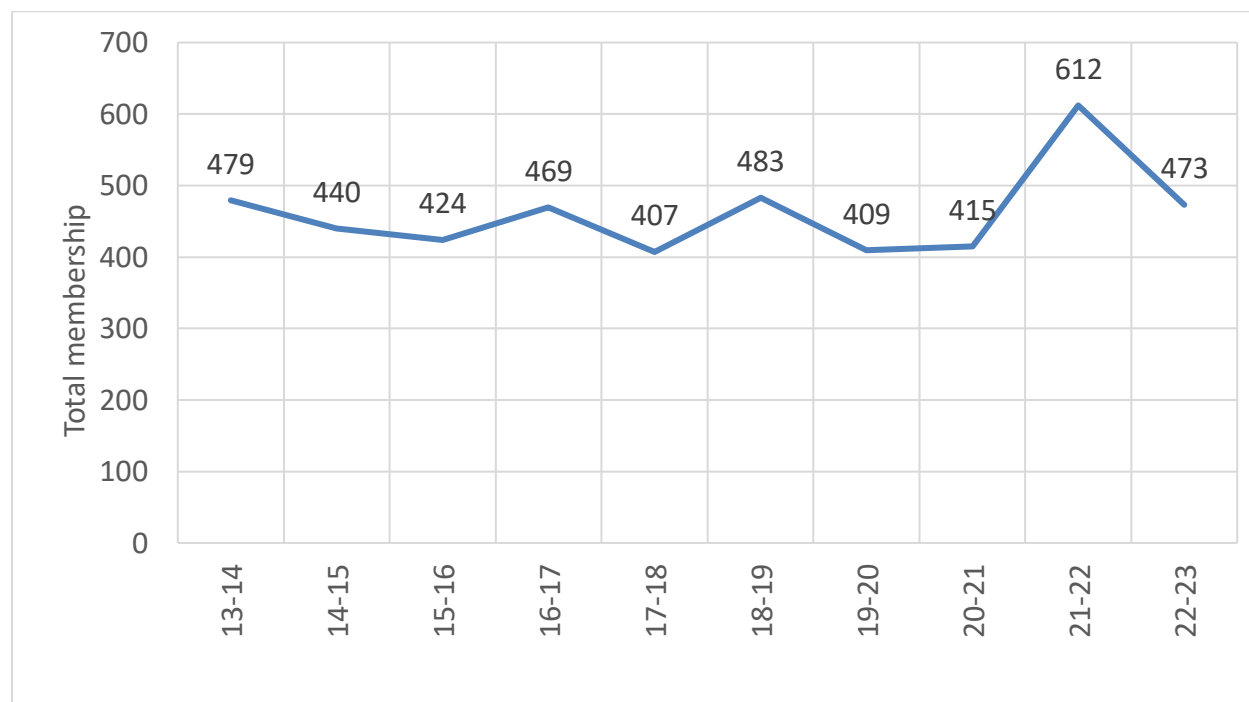


Figure 1: CORS Membership 2013–2014 to 2022–2023 as of March 31

¹ See the “Discontinued Members” section for details.

MEMBERSHIP BY MEMBER TYPE

The distribution of CORS membership by member type is presented by absolute number in Table 2, by percentage of total membership in Table 3 and graphically in Figure 2. In the 2022–2023 membership year, 260 or 55% of the membership were Regular Members, 16 or 3% were Retired Members, 186 or 39% were Student Members, and 11 or 3% were Emeritus Members. Efforts should continue to recruit student members to the Society by 1) CORS members in academia promoting the benefits of membership to their students, 2) coordinators promoting the CORS Diploma at their institutions, 3) practical application articles in the CORS Bulletin, and 4) professional development activities/opportunities by local chapters.

Table 2: CORS Membership by Member Type 2013–2014 to 2022–2023

<i>Member Type</i>	<i>2013–2014</i>	<i>2014–2015</i>	<i>2015–2016</i>	<i>2016–2017</i>	<i>2017–2018</i>	<i>2018–2019</i>	<i>2019–2020</i>	<i>2020–2021</i>	<i>2021–2022</i>	<i>2022–2023</i>
Regular	282	250	252	290	231	268	244	246	309	260
Retired	15	12	16	13	17	22	15	11	14	16
Student	174	170	149	158	151	184	141	148	278	186
Emeritus	8	8	7	8	8	9	9	10	11	11
Total	479	440	424	469	407	483	409	415	612	473

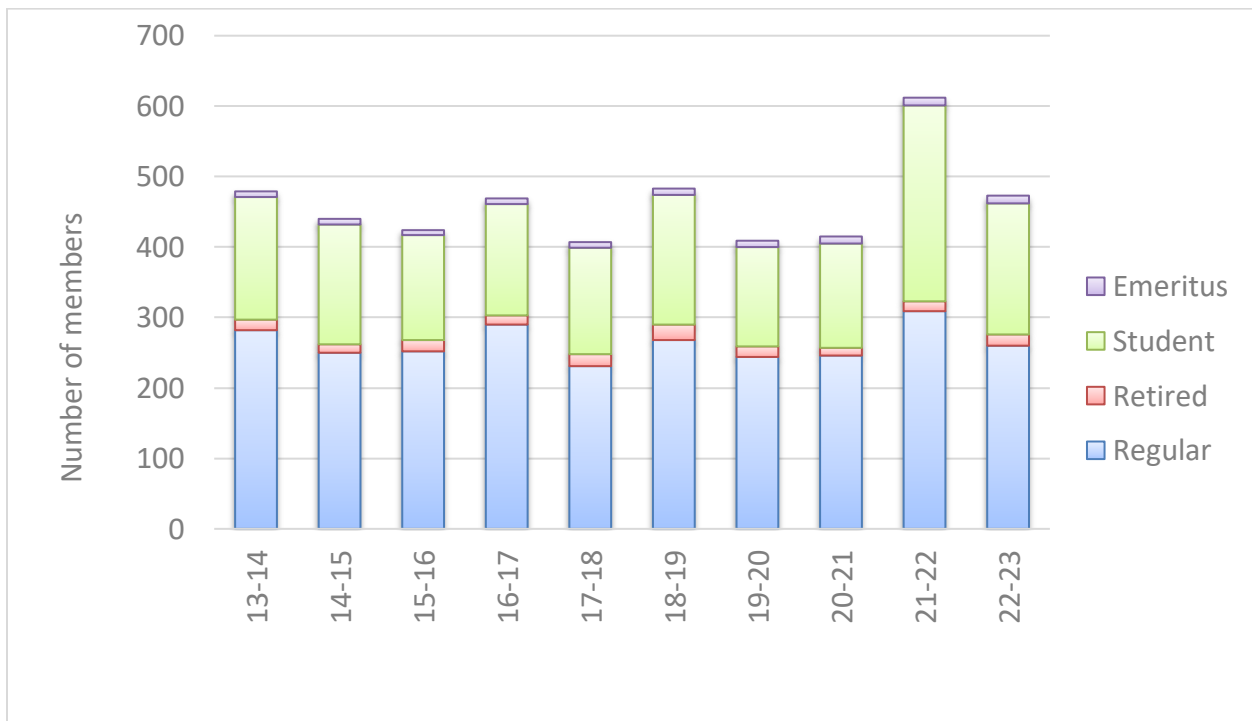


Figure 2: CORS Membership by Member Type 2013–2014 to 2022–2023

MEMBERSHIP BY SECTION (CHAPTER)

The distribution of the Society’s membership by section and chapter is presented in Table 4. The term “chapter” is used for student groupings. The International Section consists of members living outside of Canada. The Hamilton Student Chapter and the Okanagan Student Chapter are new this year.

The SW Ontario Section is the largest with 58 or 12% of the total membership.

The distribution of the Society’s membership by section and member type as of March 31 is presented in Table 5 and Figure 3. Four (4) sections and no chapters experienced a gain in members over the 2021–2022 membership year. The Edmonton Section experienced the largest gain (+7). There was a loss in members in 13 sections and chapters. The Okanagan and Hamilton Student Chapters are new this year with 10 and 11 members respectively.

The Toronto Student Chapter has the largest number of Student Members at 32 or 17% of the student membership, followed by the Vancouver Section with 30 or 16%. One Emeritus Membership was awarded in the 2022–2023 membership year.

Table 4: CORS Membership by Section (Chapter) 2013–2014 to 2022–2023

<i>Section (Chapter)</i>	<i>2013–2014</i>	<i>2014–2015</i>	<i>2015–2016</i>	<i>2016–2017</i>	<i>2017–2018</i>	<i>2018–2019</i>	<i>2019–2020</i>	<i>2020–2021</i>	<i>2021–2022</i>	<i>2022–2023</i>
Vancouver	77	34	28	37	18	24	25	23	44	47
Okanagan Student	-	-	-	-	-	-	-	-	-	10
Edmonton	19	11	14	16	11	10	11	9	13	20
Calgary	23	24	26	34	23	27	22	19	23	19
Saskatoon	13	12	9	10	12	18	15	15	13	15
Winnipeg	5	4	8	10	4	5	2	1	1	4
SW Ontario	55	53	58	63	40	49	46	48	67	58
Waterloo Student	9	11	7	14	23	24	21	25	28	10
Toronto	58	53	51	62	55	63	57	54	67	52
Toronto Student	26	29	25	25	24	38	29	29	59	32
Hamilton Student	-	-	-	-	-	-	-	-	-	11
Ottawa	29	36	23	16	14	26	19	21	33	28
Kingston	10	13	11	13	12	11	7	6	11	8
Montreal	70	76	80	41	38	45	42	46	58	43
Montreal Student	-	-	-	26	40	39	30	31	59	27
Quebec	29	31	19	17	14	12	15	16	18	16
Quebec Student	-	-	13	11	15	13	8	7	9	3
Atlantic	25	29	26	33	34	43	32	32	41	33
International	27	20	20	37	26	36	28	33	68	37
Total	479	440	424	469	407	483	409	415	612	473

Table 5: CORS Membership by Section (Chapter) and Member Type March 31, 2023

<i>Section or Chapter</i>	<i>Regular</i>	<i>Retired</i>	<i>Student</i>	<i>Emeritus</i>	<i>Total</i>
Vancouver	16	1	30	-	47
Okanagan Student	-	-	10	-	10
Edmonton	9	-	11	-	20
Calgary	14	1	3	1	19
Saskatoon	9	1	5	-	15
Winnipeg	1	-	3	-	4
SW Ontario	38	3	15	2	58
Waterloo Student	-	-	10	-	10
Toronto	46	4	-	2	52
Toronto Student	-	-	32	-	32
Hamilton Student	-	-	11	-	11
Ottawa	18	1	9	-	28
Kingston	5	-	2	1	8
Montreal	40	-	-	3	43
Montreal Student	-	-	27	-	27
Quebec	16	-	-	-	16
Quebec Student	-	-	3	-	3
Atlantic	25	2	5	1	33
International	23	3	10	1	37
Total	260	16	186	11	473

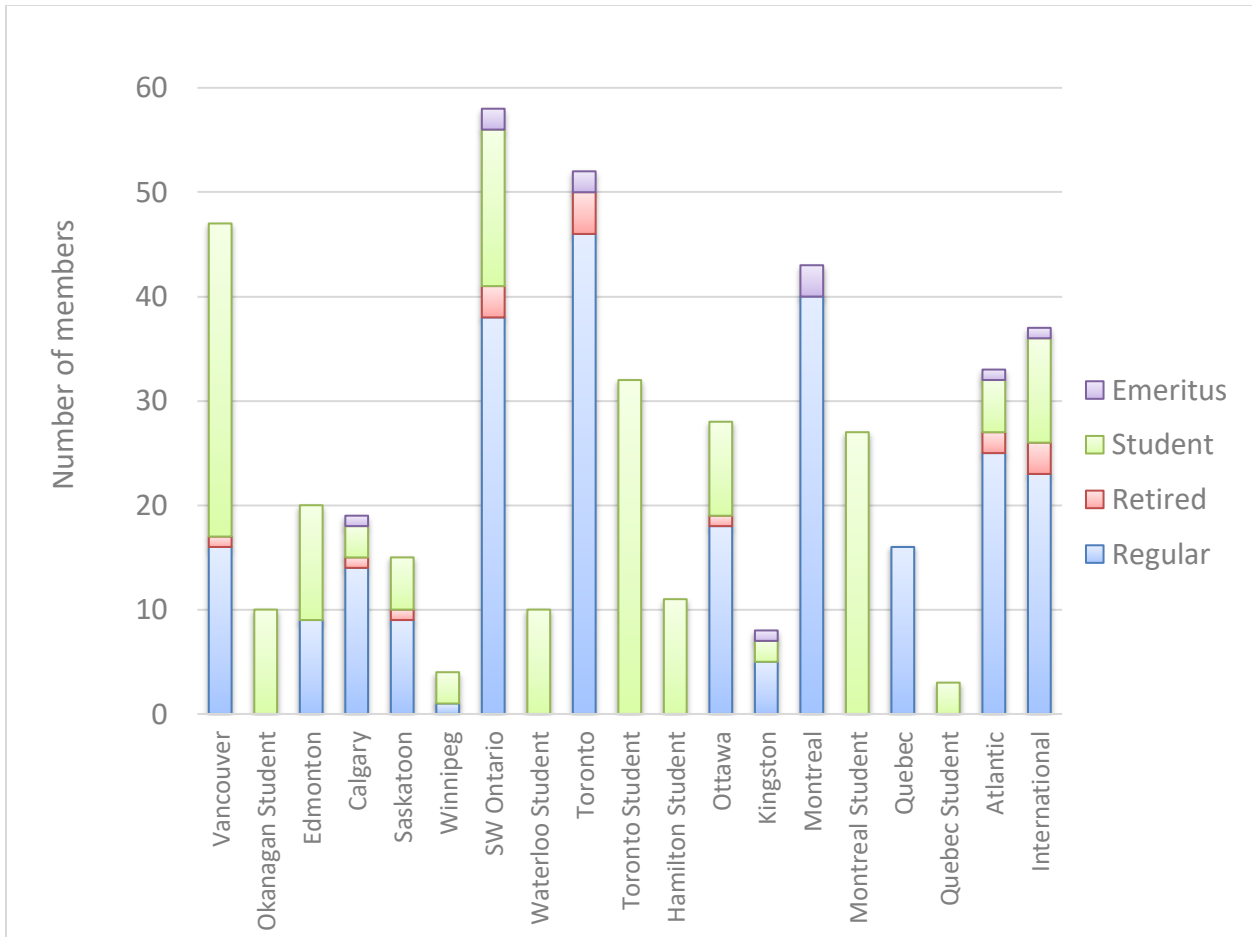


Figure 3: CORS Membership by Section (Chapter) and Member Type March 31, 2023

DURATION OF MEMBERSHIP

Table 6 and Figure 4 provide a snapshot of the CORS membership based on how long an individual has retained membership in the Society. In the 2022–2023 membership year, 168 (36%) had been in the Society for two years or less. In the 2021–2022 membership year, this category constituted 46% of the membership. The percentage of members in the 2–5-year category was 17% this year and 16% last year.

Table 6: CORS Membership by Duration of Membership in the Society as of March 31, 2023

<i>Duration of Membership</i>	<i>Regular</i>	<i>Retired</i>	<i>Student</i>	<i>Emeritus</i>	<i>Total</i>
2 Years or Less	37	1	130	-	168
2–5 Years	34	1	47	-	82
5–10 Years	49	1	9	-	59
10–15 Years	49	1	-	-	50
15–20 Years	28	-	-	4	32
20–25 Years	32	1	-	-	32
More than 25 Years	32	11	-	7	50
Total	260	16	186	11	473

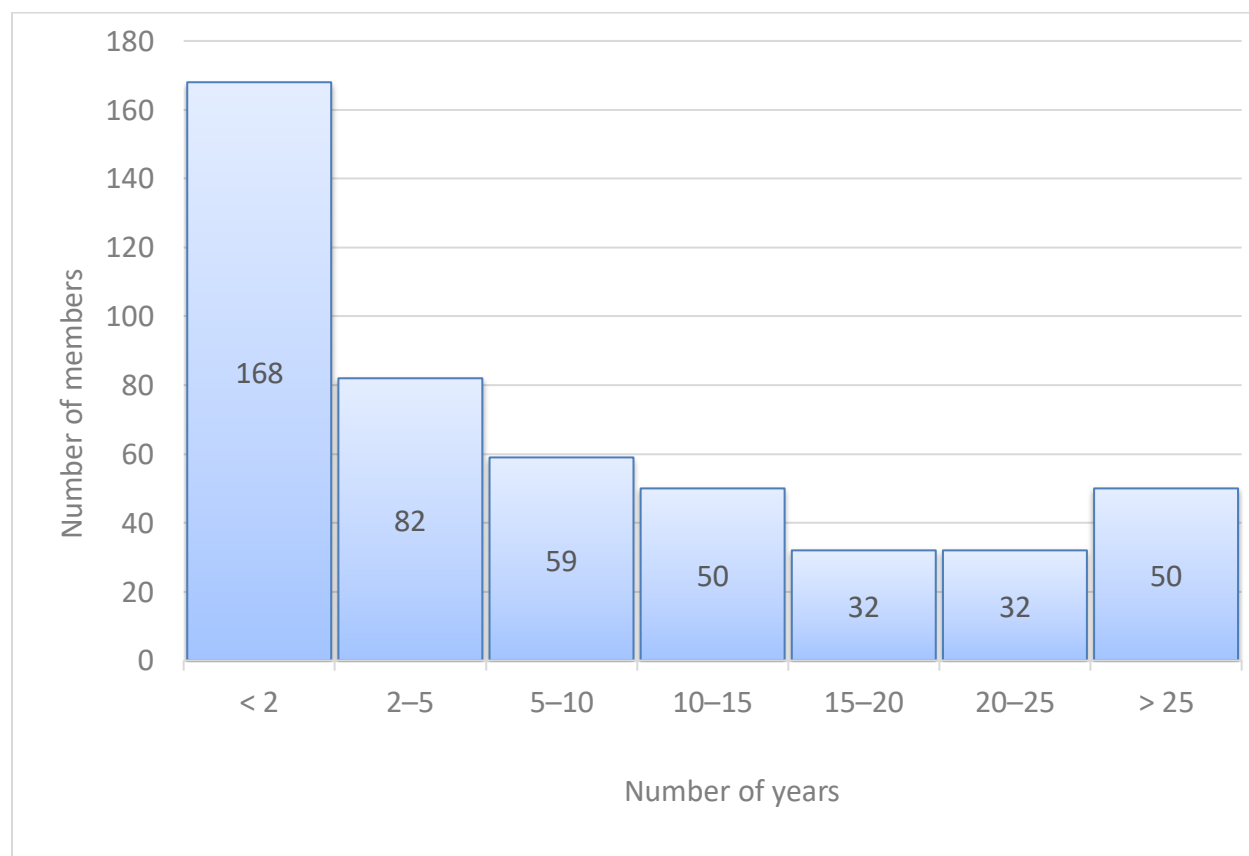


Figure 4: CORS Membership by Duration of Membership in the Society as of March 31, 2023

NEW MEMBERSHIPS

As shown in Table 7 and in Figure 5, the number of people who joined the society in the 2022–2023 membership year was 138, which is 170 less than in the 2021–2022 membership year. Included in the number of new memberships are 21 memberships that were reinstated, i.e., individuals who rejoined the Society after a lapse in their membership. The actual number of “new” members, i.e., individuals with no previous association with CORS, is therefore 117. In the tables and figures below, reinstated memberships are included with the new memberships. As shown in Table 8 and in Figure 6, the number of new Regular Members who joined was 30 (67 less than in the 2021–2022 membership year). The number of new Student Members was 105 (103 less than in the 2021–2022 membership year). There were three new Retired Members.

The CORS Diploma program, requiring membership, has proven over the years to be effective in the recruitment of Student members. Over the past three membership years, the number of CORS Diplomas issued was 34 in 2022–2023, 36 in 2021–2022, and 12 in 2020–2021. Students can request to apply for the CORS Diploma on the CORS membership form: 56 requests were received during the 2022–2023 membership year, with some applications still in process. A distribution of the new memberships by section (chapter) over the past several membership years is presented in Table 9. For the 2022–2023 membership year, this distribution is shown in Table 10 and in Figure 7. The Vancouver Section had the greatest number of new memberships with 29 or 21% of the new memberships. The SW Ontario Section (including the Waterloo Student Chapter) was second largest, with 23 or 17% of the new memberships.

Table 7: New CORS Memberships 2013–2014 to 2022–2023

<i>Membership Year</i>	<i>Total New Members</i>
2013–2014	141
2014–2015	171
2015–2016	132
2016–2017	211
2017–2018	129
2018–2019	192
2019–2020	133
2020–2021	136
2021–2022	308
2022–2023	138

Table 8: New CORS Memberships by Member Type 2013–2014 to 2022–2023

<i>Member Type</i>	<i>2013–2014</i>	<i>2014–2015</i>	<i>2015–2016</i>	<i>2016–2017</i>	<i>2017–2018</i>	<i>2018–2019</i>	<i>2019–2020</i>	<i>2020–2021</i>	<i>2021–2022</i>	<i>2022–2023</i>
Regular	47	55	45	95	36	76	43	44	97	30
Retired	-	2	2	2	1	3	1	1	3	3
Student	94	114	85	114	92	113	89	91	208	105
Total	141	171	132	211	129	192	133	136	308	138

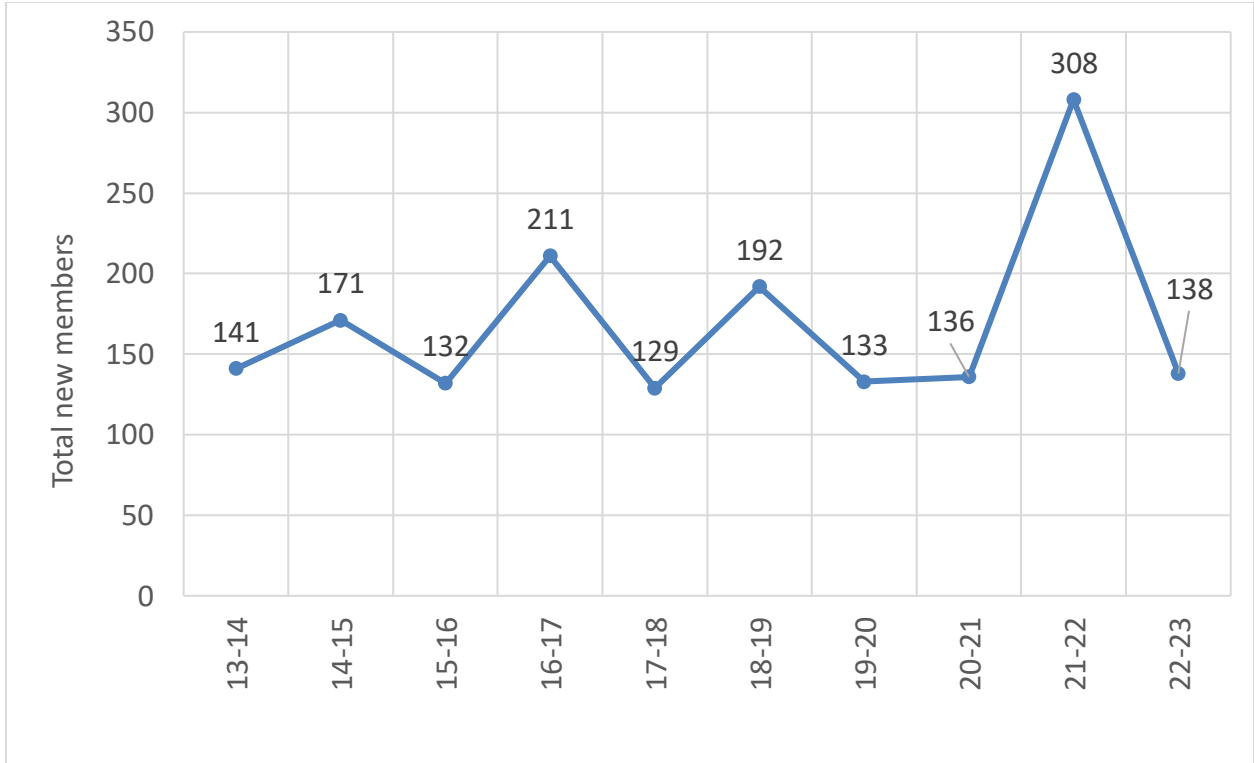


Figure 5: New CORS Memberships 2013–2014 to 2022–2023

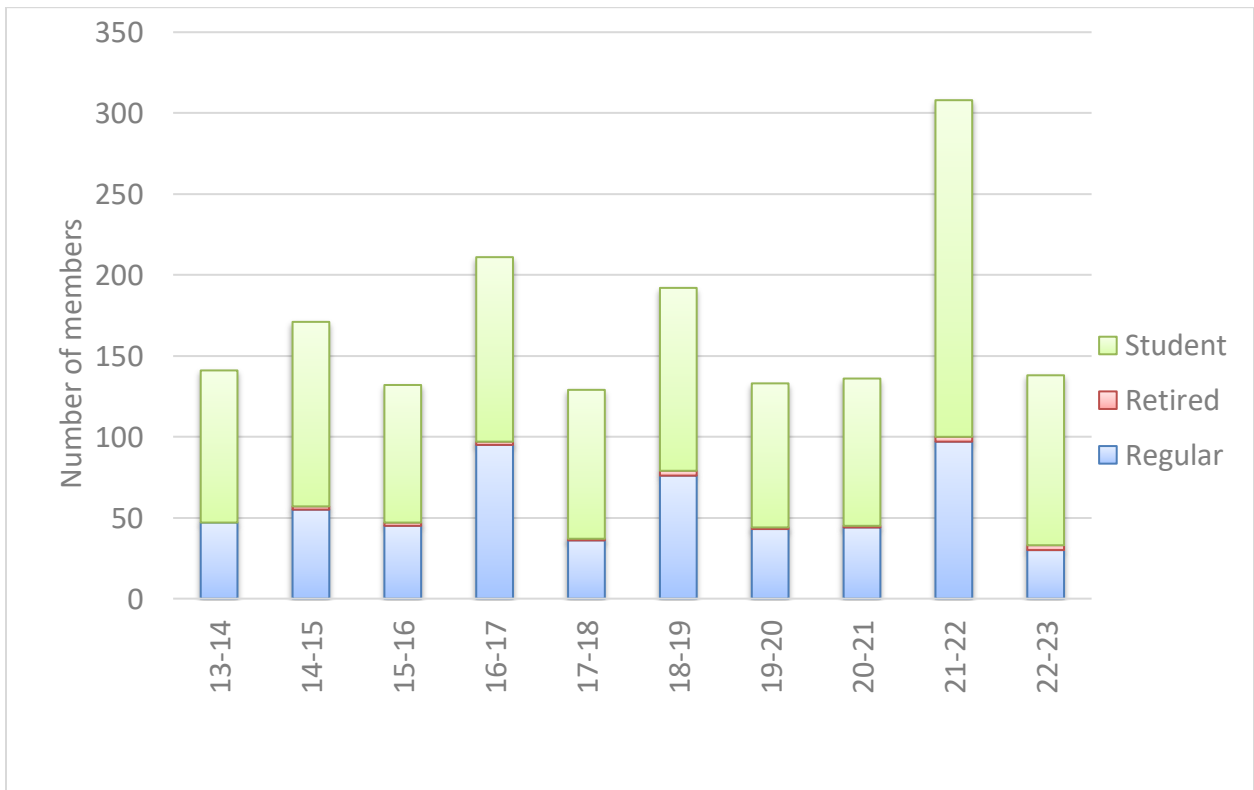


Figure 6: New CORS Memberships by Member Type 2013–2014 to 2022–2023

Table 9: New CORS Memberships by Section (Chapter) 2013–2014 to 2022–2023

<i>Section (Chapter)</i>	<i>2013–2014</i>	<i>2014–2015</i>	<i>2015–2016</i>	<i>2016–2017</i>	<i>2017–2018</i>	<i>2018–2019</i>	<i>2019–2020</i>	<i>2020–2021</i>	<i>2021–2022</i>	<i>2022–2023</i>
Vancouver	47	14	12	23	3	11	13	12	30	29
Okanagan Student	-	-	-	-	-	-	-	-	-	7
Edmonton	7	2	6	8	4	2	4	1	4	10
Calgary	5	8	11	22	6	9	5	5	10	5
Saskatoon	1	2	1	4	4	9	3	2	4	4
Winnipeg	2	-	3	5	1	2	1	-	-	3
SW Ontario	10	17	18	25	8	16	15	14	31	19
Waterloo Student	4	7	3	10	13	14	11	12	18	4
Toronto	4	11	5	16	7	13	6	8	18	1
Toronto Student	12	22	14	20	17	26	22	17	37	11
Hamilton Student	-	-	-	-	-	-	-	-	-	7
Ottawa	6	18	2	3	4	13	5	6	17	9
Kingston	-	8	2	4	3	6	2	2	8	1
Montreal	20	30	32	10	5	11	6	9	18	1
Montreal Student	-	-	-	13	22	19	19	18	46	10
Quebec	7	12	1	1	2	-	1	3	4	1
Quebec Student	-	-	8	6	7	4	4	4	7	1
Atlantic	2	11	2	13	11	16	6	7	14	6
International	12	8	10	26	12	21	10	16	42	8
Total	141	171	132	211	129	192	133	136	308	138

Table 10: New CORS Memberships in 2022–2023 by Section (Chapter) and Member Type

<i>Section</i>	<i>Regular</i>	<i>Retired</i>	<i>Student</i>	<i>Total</i>
Vancouver	6	1	22	29
Okanagan Student	-	-	7	7
Edmonton	2	-	8	10
Calgary	5	-	-	5
Saskatoon	1	-	3	4
Winnipeg	-	-	3	3
SW Ontario	3	2	14	19
Waterloo Student	-	-	4	4
Toronto	1	-	-	1
Toronto Student	-	-	11	11
Hamilton Student	-	-	7	7
Ottawa	2	-	7	9
Kingston	1	-	-	1
Montreal	1	-	-	1
Montreal Student	-	-	10	10
Quebec	1	-	-	1
Quebec Student	-	-	1	1
Atlantic	3	-	3	6
International	4	-	4	8
Total	30	3	105	138

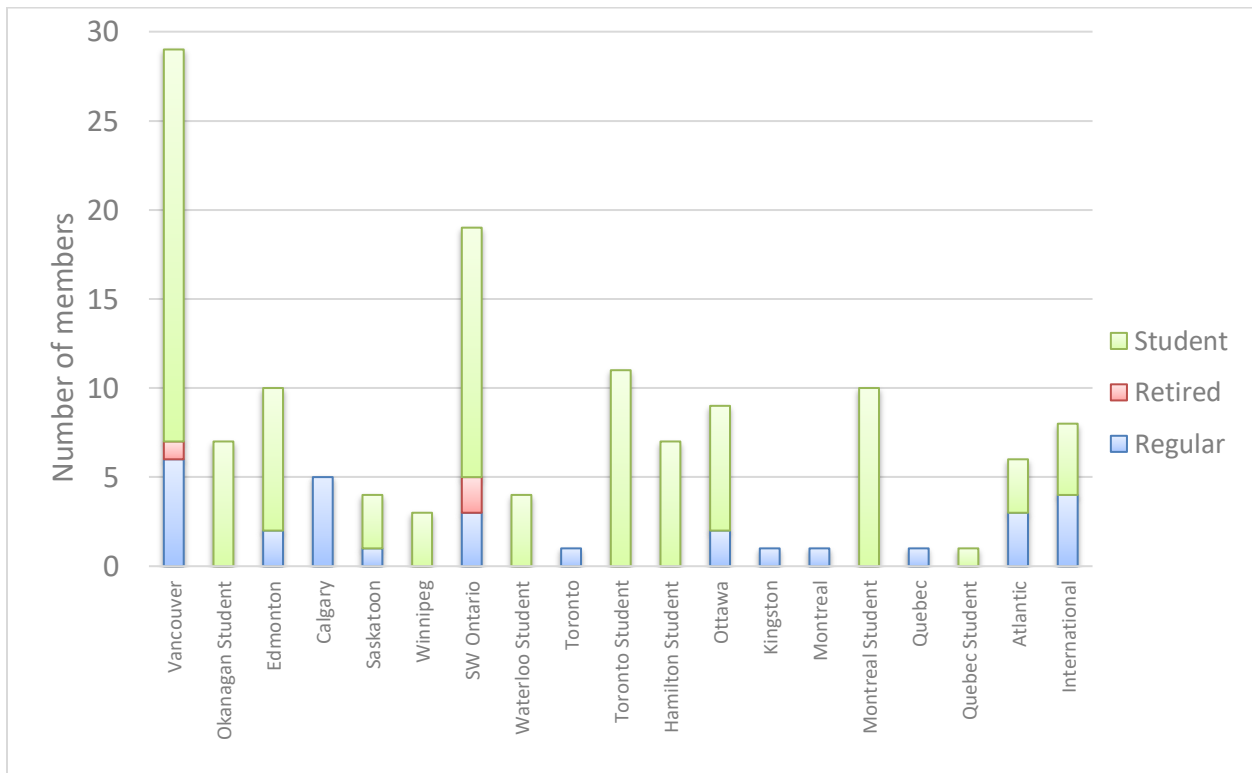


Figure 7: New CORS Memberships in 2022–2023 by Section (Chapter) and Member Type

DISCONTINUED MEMBERS

In the 2022–2023 membership year, members were discontinued if they did not pay their dues by October 1, 2022 meaning that payment was six months overdue. Also, members are discontinued at their request, or if there was no way to contact them by post or email due to invalid information. As shown in Table 12 and in Figure 8, of the 233 memberships discontinued in the 2022–2023 membership year, 78 (33%) were Regular Members, one was a Retired Member, and 154 (66%) were Student Members.

The distribution of discontinued memberships by section and chapter is provided in Table 13. Discontinued memberships by section (chapter) and member type for the 2022–2023 membership year is presented in Table 14 and in Figure 9. The greatest number of discontinued memberships occurred in the Montreal Section (including students), at 54 members (23% of the discontinued memberships).

The duration of the memberships that were discontinued in the 2022–2023 membership year by member type is provided in Table 15 and Figure 9. Of the memberships that were discontinued 113 (49%) had been held for two years or less. In the 2021–2022 membership year, this figure was 6%, and in the 2020–2021 membership year, this figure was 30%. In the 2–5 year category, 78 (33%) of the discontinued memberships occurred. Also, 191 (82%) of the discontinued memberships in the 2022–2023 membership year had been held for five years or less.

The number of CORS members who registered for the CORS Annual Conference is stated below. In 2018 and 2019, 65–70% of conference attendees became or continued being CORS members for the following membership year (2018–2019 and 2019–2020, respectively). CORS gave free memberships for the 2018 fiscal year to all attendees of the 2017 joint IFORS/CORS conference in Quebec City who also paid for their membership for 2017–2018 before registering for the conference. The 2020 CORS Conference was cancelled. The 2021 CORS Conference was held virtually. The 2022 CORS Conference was held in Vancouver.

The date indicates the last registration received for that year’s conference.

2020 Conference = 36 CORS members (out of 43 total registrants) as of March 30, 2020
 2019 Conference = 149 CORS members (out of 231 total registrants) as of May 27, 2019
 2018 Conference = 188 CORS members (out of 265 total registrants) as of June 5, 2018

Table 11: Discontinued CORS Memberships 2013–2014 to 2022–2023

<i>Discontinued Reason</i>	<i>2013–2014</i>	<i>2014–2015</i>	<i>2015–2016</i>	<i>2016–2017</i>	<i>2017–2018</i>	<i>2018–2019</i>	<i>2019–2020</i>	<i>2020–2021</i>	<i>2021–2022</i>	<i>2022–2023</i>
Lost Contact	-	-	-	-	-	-	-	-	1	1
Withdrew	28	20	25	10	14	3	10	12	16	10
In arrears	90	124	101	82	134	68	161	89	39	222
Total	118	144	126	92	148	71	171	101	56	233

Table 12: Discontinued CORS Memberships by Member Type 2013–2014 to 2022–2023

<i>Member Type</i>	<i>2013–2014</i>	<i>2014–2015</i>	<i>2015–2016</i>	<i>2016–2017</i>	<i>2017–2018</i>	<i>2018–2019</i>	<i>2019–2020</i>	<i>2020–2021</i>	<i>2021–2022</i>	<i>2022–2023</i>
Regular	48	59	49	41	74	29	73	35	27	78
Retired	3	6	1	2	1	-	7	6	2	1
Student	67	79	76	49	73	42	91	60	27	154
Total	118	144	126	92	148	71	171	101	56	233

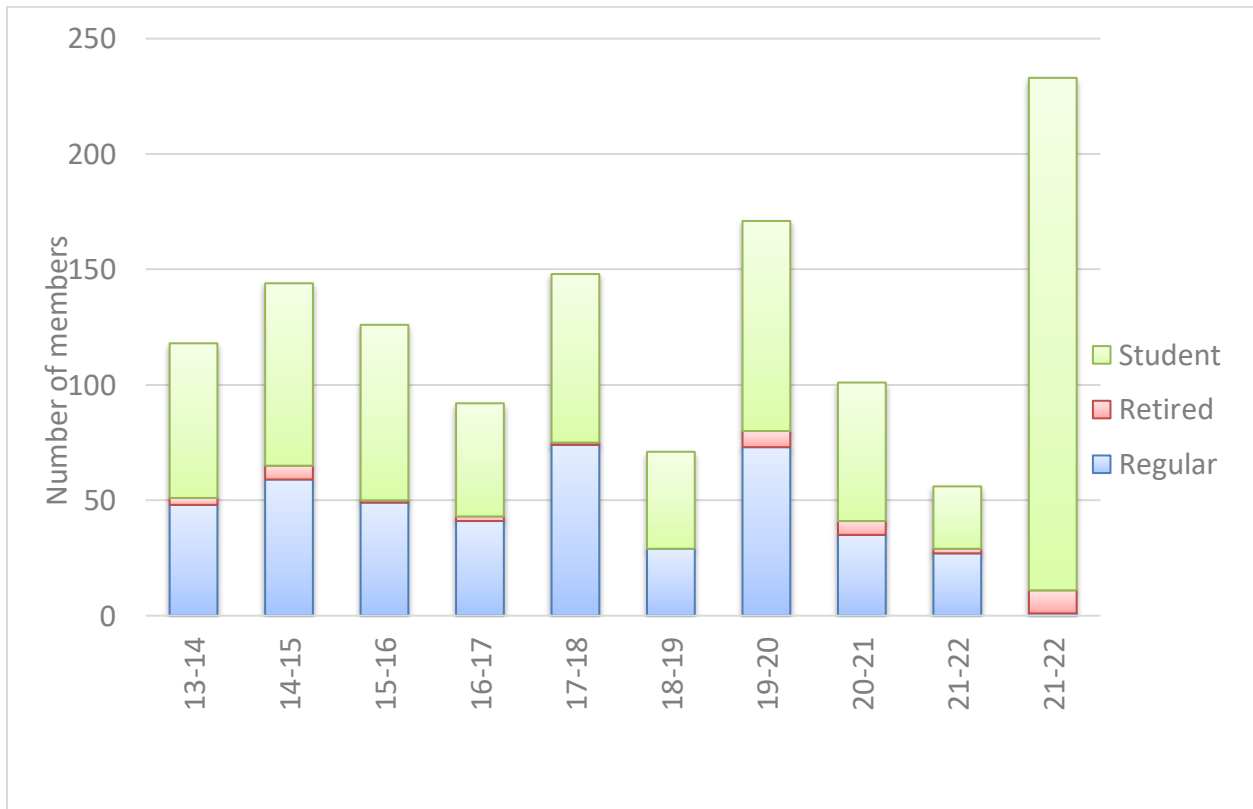


Figure 8: Discontinued CORS Memberships by Member Type 2013–2014 to 2022–2023

Table 13: Discontinued CORS Memberships by Section (Chapter) 2013–2014 to 2022–2023

<i>Section (Chapter)</i>	<i>13–14</i>	<i>14–15</i>	<i>15–16</i>	<i>16–17</i>	<i>17–18</i>	<i>18–19</i>	<i>19–20</i>	<i>20–21</i>	<i>21–22</i>	<i>22–23</i>
Vancouver	12	47	16	5	20	5	9	13	4	12
Okanagan Student	-	-	-	-	-	-	-	-	-	-
Edmonton	7	9	3	3	10	4	1	2	-	4
Calgary	8	2	7	7	14	3	6	7	3	7
Saskatoon	-	1	2	2	3	-	5	1	4	1
Winnipeg	4	-	1	1	6	-	2	1	-	-
SW Ontario	15	13	16	9	23	4	13	9	6	22
Waterloo Student	-	-	-	1	5	7	8	5	3	21
Toronto	27	23	20	5	10	5	16	11	6	15
Toronto Student	-	-	-	8	13	11	21	15	4	26
Hamilton Student	-	-	-	-	-	-	-	-	-	-
Ottawa	9	9	15	9	5	1	8	4	3	12
Kingston	1	3	5	-	1	4	3	3	2	3
Montreal	10	17	21	9	4	6	13	4	5	19
Montreal Student	-	-	-	15	6	10	22	9	6	35
Quebec	6	5	7	4	2	2	1	-	1	3
Quebec Student	-	-	-	4	3	3	5	4	2	6
Atlantic	8	2	4	3	5	3	20	5	2	13
International	11	12	9	5	18	3	18	8	5	34
Total	118	144	126	92	148	71	171	101	56	233

Table 14: Discontinued CORS Memberships in 2022–2023 by Section (Chapter) and Member Type

<i>Section</i>	<i>Regular</i>	<i>Retired</i>	<i>Student</i>	<i>Total</i>
Vancouver	6	-	6	12
Okanagan Student	-	-	-	-
Edmonton	1	-	3	4
Calgary	3	-	4	7
Saskatoon	1	-	-	1
Winnipeg	-	-	-	-
SW Ontario	7	-	15	22
Waterloo Student	-	-	21	21
Toronto	14	1	-	15
Toronto Student	-	-	26	26
Hamilton Student	-	-	-	-
Ottawa	5	-	7	12
Kingston	2	-	1	3
Montreal	19	-	-	19
Montreal Student	-	-	35	35
Quebec	3	-	-	3
Quebec Student	-	-	6	6
Atlantic	5	-	8	13
International	12	-	22	34
Total	78	1	154	233

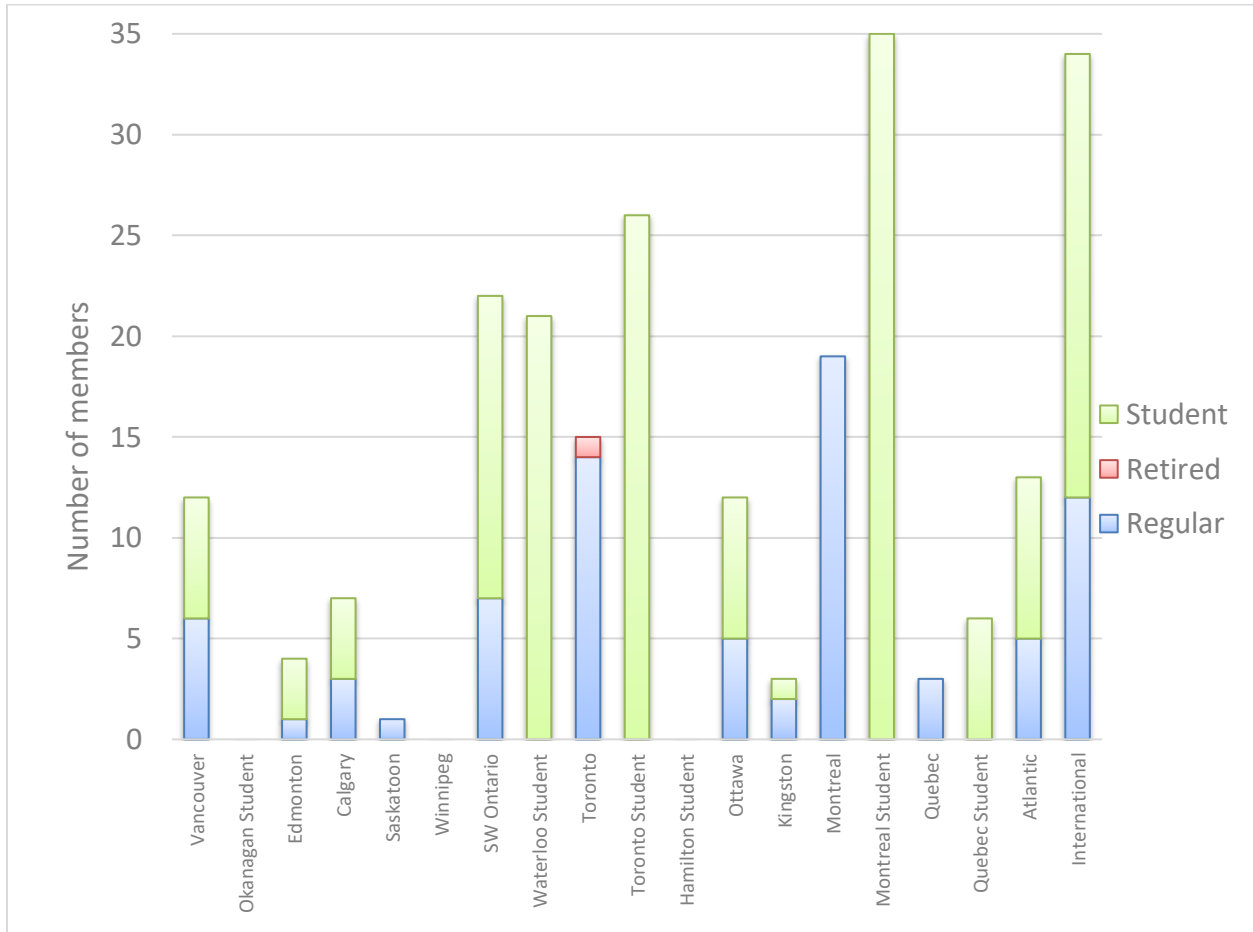


Figure 9: Discontinued CORS Memberships in 2022–2023 by Section (Chapter) and Member Type

Table 15: Duration of CORS Memberships Discontinued in 2022–2023 Membership Year

<i>Category</i>	<i>Regular</i>	<i>Retired</i>	<i>Student</i>	<i>Total</i>
2 Years or Less	30	1	82	113
2–5 Years	23	-	55	78
5–10 Years	14	-	17	31
10–15 Years	6	-	-	6
15–20 years	5	-	-	5
20–25 Years	-	-	-	-
More than 25 years	-	-	-	-
Total	78	1	154	233

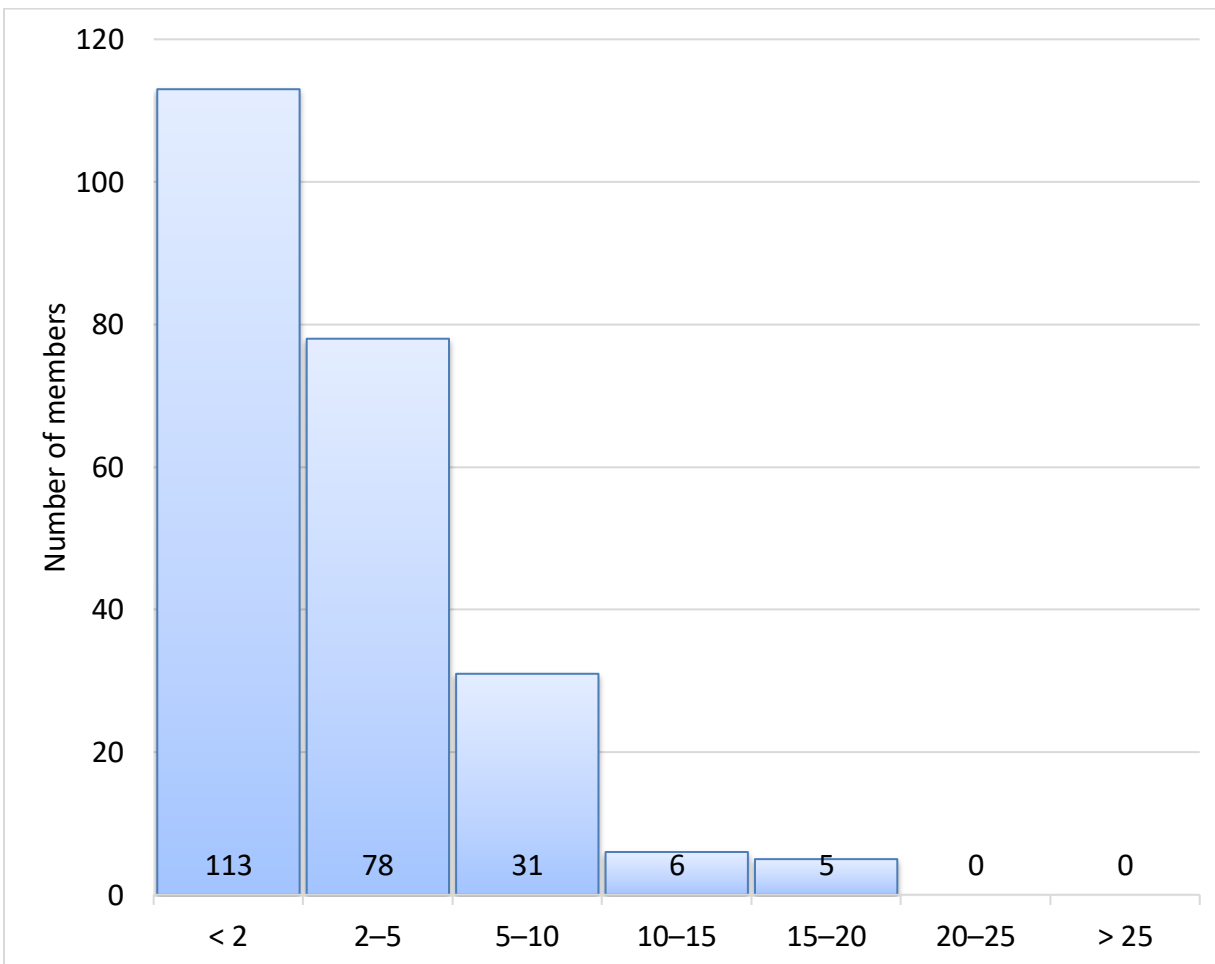


Figure 10: Duration of CORS Memberships Discontinued in the 2022–2023 Membership Year

PAYMENT STATUS OF MEMBERSHIP

A snapshot of the membership at the end of the 2022–2023 membership year in terms of the number of membership renewals processed before the payment due date of April 1, 2023 is provided in Table 16 and in Figure 11. The number of members who paid for the 2023–2024 membership year as of March 31, 2023 was 243 or 51%. By March 31, 2022, 47% had paid, and by March 31, 2021, 68% had paid. Refer to Table 16 and Figure 11 to identify those sections and chapters where efforts should be made to encourage renewals to improve membership retention. The invoicing process is conducted by email in January. Membership payments were made online, by credit card over the phone through Membership Services, or by cheque, and by e-transfer. Paying by credit card over the phone was discontinued this year, and e-transfers are used only when other methods are impossible. Table 17 shows how members paid their fees.

Table 16: Payment Status of CORS Membership by Section (Chapter) March 31, 2023

<i>Section (Chapter)</i>	<i>Dues Paid</i>	<i>Dues unpaid</i>	<i>Total Members</i>
Vancouver	15	32	47
Okanagan Student	3	7	10
Edmonton	11	9	20
Calgary	9	10	19
Saskatoon	9	6	15
Winnipeg	3	1	4
SW Ontario	34	24	58
Waterloo Student	8	2	10
Toronto	31	21	52
Toronto Student	12	20	32
Hamilton Student	3	8	11
Ottawa	17	11	28
Kingston	3	5	8
Montreal	23	20	43
Montreal Student	11	16	27
Quebec	10	6	16
Quebec Student	1	2	3
Atlantic	27	6	33
International	13	24	37
Total	243	230	473

METHOD OF PAYMENT

Table 17: Method of Payment of Transactions Conducted in the 2022–2023 Membership Year

<i>Method of Payment</i>	<i>Number</i>
Online Credit Card	465
Cheque	5
e-Transfer	2
Manual Credit Card	1
Total	473

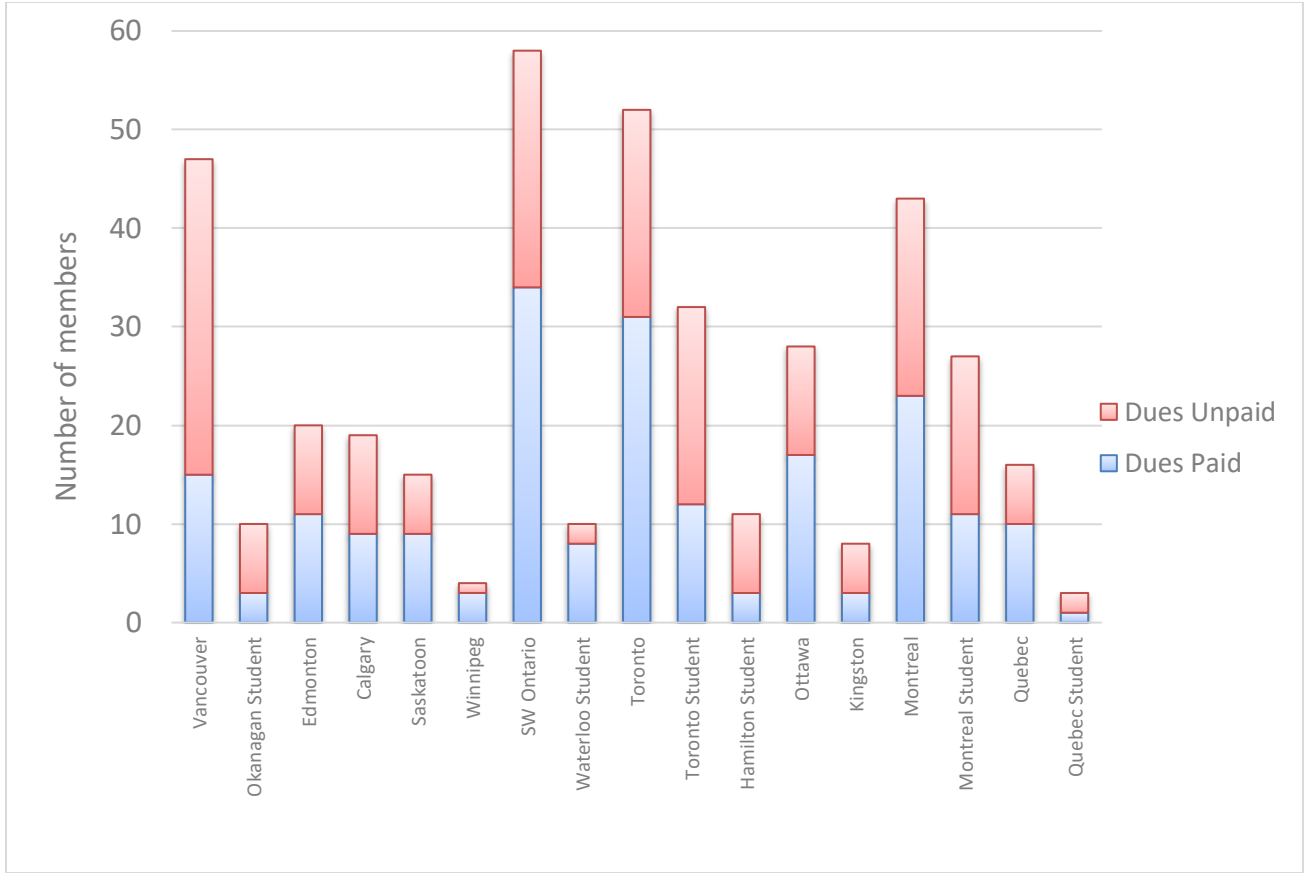


Figure 11: Payment Status of CORS Membership by Section (Chapter) as of March 31, 2023