CANADIAN ASSOCIATION FOR LABORATORY ACCREDITATION INC.

2016 Annual Report

CALA

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Ottawa, Ontario
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Chair's Report

We've all heard the saying, "May you live in interesting times". I was surprised to find out that the origin of this phrase is actually a Chinese curse. I had never thought of living in interesting times as a curse; quite the opposite actually – provided the interesting times lead to positive outcomes.

CALA is most definitely experiencing interesting times. Whether it's the development of new Association Management System (AMS) for CALA Members and staff, reviewing its programs, implementing strategic plans, understanding the implications of the latest version of ISO/IEC 17025, or installing a new President & CEO, there are many challenges and opportunities in CALA's future.

A major focal point of Board meeting agendas this year has been the ongoing AMS project: authorizing the release of funds and receiving updates of progress and expenditures. Despite some delays and resulting cost overruns, the Board remains committed to supporting this very necessary project to bring modern, efficient and integrated AMS to CALA and to its Members. Kudos to the CALA staff team for their relentless efforts to move this project toward completion.

The Board has also been guiding the implementation of CALA's current Strategic Plan. One of the five pillars of this plan is to, "identify, develop, and access new markets for our services." While it is important for CALA to explore new growth opportunities as a means of diversification, the Board has also assembled an ad hoc committee to establish and maintain a list of government contacts to promote and raise awareness of CALA and the benefits of accreditation to regulators. The goal is to make laboratory accreditation a requirement in new regulations governing the generation and use of analytical data and to amend old regulations where possible.

The Board has also been following the review and development of CALA program areas. Currently, as part of their duty to ensure fiscal responsibility, the Board is monitoring efforts to establish the viability of CALA's Training Program as it attempts to reach sustainability.

One of the important functions of the Board was the establishment of the *Strategy and Risk Committee*. This committee is tasked with the responsibility of identifying and assessing both real and potential risks that would impact the organization. Examples of short term and longer term risks would be the impacts of changes in the value of the Canadian dollar or the impacts of changes to ISO/IEC 17025 on CALA as an organization. These kinds of issues are continually monitored and evaluated by CALA management and vetted through this Board Standing Committee.

One of the most critical challenges facing CALA at this time is the search for a new President & CEO. At the time of writing this, the *CEO Search Committee* is in the midst of working with a professional

consultant firm to search out and screen applicants for this very important position. It is my hope to present CALA's new President & CEO during the AGM in Halifax this summer. Concurrently, I would like to take this opportunity to recognize and thank Charlie Brimley for an excellent job as CALA's President & CEO during the past eight years. Charlie has always represented CALA with integrity and distinction and has fostered its continued growth while maintaining a strong commitment to excellence, continuous improvement and service delivery. Congratulations Charlie, and best wishes for a long, happy and healthy retirement!

Much of my report so far has focused on current and future changes/opportunities for CALA; however, it gives me great pleasure to assure Members that there are certain constants, which will remain. One of CALA's hallmarks has always been to provide Members with excellence in the quality of service they receive. This will continue. First-rate service delivery to our Members must remain job 1. In fact, the majority of the above changes are being implemented with the intention to continue and/or improve upon CALA's performance in this critical area.

In view of this, I would like to express my sincere thanks and gratitude to the many people that have made CALA such a successful organization. Volunteers (assessors, and all those serving on CALA's various Panels, Councils and Boards) and staff members alike; CALA would not exist without your continued effort and skills.

CALA is a great organization of dedicated people with a clear Purpose and Mission. It stands for analytical excellence and quality in a world that is continually changing and evolving. In closing, I would urge anyone interested in becoming a CALA volunteer to contact the CALA office for more information. You won't regret it.

Here's to living in interesting times!

Dave Schellenberg
Chair

President & CEO's Message

I am writing my 2016 Annual Report message with some mixed feelings, since it will be the last Annual Report I will write as the CALA President & CEO. When this Report is publicly presented at the 2017 CALA AGM in Halifax on June 6, 2017, eight years (almost to the day) will have elapsed since I was appointed to the position of President & CEO and that appointment also took place in Halifax, Nova Scotia. In other words, I have come full circle and, in hind sight, it has been a very rewarding and enjoyable ride.

The primary purpose of this annual message is for the President & CEO to summarize notable highlights (both hits and misses) from the past year for the benefit of our Members and Stakeholders.

Key themes in CALA operations for 2016 continued to be the financial sustainability and efficiency of our programs and the continuation of our reputation for customer service excellence.

In early 2016 the Canadian Society for Association Executives (CSAE) published its first ever Canadian Association Census and held a key Forum for Association Chief Staff and Chief Elected Officers. These two CSAE initiatives allowed CALA to be objectively measured against 139 similar not-for-profit Industry/Trade Associations. I am extremely pleased to report that CALA scored very highly in the areas of:

- Operating Excellence,
- Product/Program Leadership,
- Customer/Member Intimacy, and
- Representational Effectiveness.

CALA was considered ahead of the curve when it comes to:

- Succession Plans in place for both the Board Chair & the Association CEO,
- Use of a Skills/Knowledge Matrix to measure Board nominations,
- Full reimbursement of Board (volunteer) expenses,
- Adoption of leading Association Trends, and
- Employing the Principles of Good Governance.

CALA was considered to be with the average when it came to:

- Board size and frequency of meetings,
- Number of standing committees,
- Board recruitment & nominating process, and
- Cost of Governance.

Finally, CALA was considered to be somewhat behind the curve compared to the average when it came to:

- Lack of a Standing Committee for Advocacy/Government Relations,
- Our 2-Member nomination process (most Associations either self-nominate or require 1 other Member to nominate), and

- The average age of our staff members (CALA older than the average, with no staff under 35 years of age).

CALA took steps in 2016 to address the lack of a Government Relations Committee through the formation of a new *Standing Committee on Regulatory Affairs*. The issue related to the average age of staff members is currently mitigated by CALA's succession planning efforts and the nomination issue is something that will be considered by the CALA Nominating Committee going forward.

During 2016, CALA undertook (using Brand Clarity, a professional outside firm) a review of its marketing and communications efforts related to the achievement of our Strategic Plan 2020. As a result CALA now has a new Marketing and Communications strategy and plan that can be used to assist us to complete the implementation of our Strategic Plan. CALA management and the CALA Board have reviewed the plan's recommendations and are prioritizing and operationalizing the recommendations out to 2020.

Expansion plans for our Accreditation Program had mixed results during 2016. Our strategy to target the oil and gas sector was negatively affected by both the Fort McMurray fires as well as the generally depressed economic state of this sector. During 2016, we spent considerable time exploring the viability of accrediting laboratories in fields outside our current scope.

Part of what I consider to be "expansion" of CALA products and services is our ongoing efforts to make improvements based on customer feedback. To simply meet expectations is no longer enough if CALA truly wishes to be known for the superior customer service. Good quality communications, trust and relationship building are all at the heart of the exceptional level of customer service we wish to deliver. In my opinion, it is the quality of the interactions we have with our Members and stakeholders that matters most in demonstrating exceptional customer service.

One good example comes from CALA's PT program. During 2016, our PT program implemented year one of a 2-3 year systemmatic review of the PT acceptance limits. Active involvement in this process by all key stakeholders was key to the success of this initiative. To date this review has received a very positive response from all concerned.

CALA's Training Program saw a significant contraction in its course offerings in 2016, consistent with the recommendations from the 2015 Training Program Review. At the end of 2016, by implementing these recommendations, the Training Program improved financially year over year from 2015, but this improvement was still measured as a "lower net loss" to run the program. The Training staff, in consultation with their Training Advisory Committee, reduced program net losses in 2016 by an additional 2.2%. If the program continues with its planned improvements, it shows every potential for a return to financial sustainability by 2018.

When it comes to determining new ways to more efficiently and effectively deliver our current (and future) services, arguably the most important work we have undertaken and continue to undertake is our efforts to renew CALA's aging Association Management System (AMS). While this work has taken much longer than expected and consumed far more resources (both financial and human) than originally anticipated, the proverbial light at the end of the tunnel has finally come into view. I was very encouraged by the progress that was made during 2016.

Based on our current progress, what is now being fostered is a growing anticipation for some well-deserved celebration as the new CALA system "GOES LIVE" with workable software for Membership Management, PT and Accreditation Programs in the fall of 2017. Unfortunately, one of my biggest regrets in retiring as the CALA CEO is that I will not be present to join in the celebration as this new flagship IT system goes online.

Another key metric that needs reporting back to the Members of CALA is how satisfied our Members are with the services that were offered to them in 2016. CALA's 2016 Member satisfaction survey showed that 89% of respondent laboratories were either satisfied or very satisfied with their overall customer service experience. In addition, 92% of respondents were also either satisfied or very satisfied with the total package of CALA products and services available to them during 2016.

The bottom line for me is that the incoming President & CEO will take-over a mature organization in the process of revitalizing itself. What better time for a new hand on the rudder!

In closing, I wish to thank all the members of the CALA Board of Directors for their continued leadership and guidance. I would also like to thank all those who volunteered their precious time and skills to CALA programs during the year. Notable in 2016 was the award of CALA's first 25-year volunteer service pin to one of the original pioneers involved in the creation of CAEAL/CALA, Mr. John Lawrence.

Finally a truly heartfelt thank you to my incredible staff team for their continued support, loyalty, dedication and hard work each and every day. You have made coming to work each day a true pleasure and you have made my eight years as the CEO extremely satisfying. It was an honour and a privilege to have worked with you all....keep up the great work!

C. Charles Brimley
President & CEO

Board of Directors

Chair
Mr. Dave Schellenberg
Appointed, Atlantic, Not-For-Profit
Fredericton, NB

Vice-Chair
Mr. Jeff Zimmer
Prairies and Northern, Not-For-Profit
Saskatoon, SK

Treasurer
Mr. R. Shane Harnish
At-Large, For-Profit
Edmonton, AB

Secretary
Ms. Jane Kaczmer
At Large
Cochrane, AB

Past Chair
Mr. Klas Ohman
Appointed
Calgary, AB

Mr. Al Colodey
Pacific & Yukon Region Not-For-Profit
North Vancouver, BC

Mr. Barry Loescher
At Large, For-Profit
Gabriola Island, BC

Ms. Anna Marie MacFarlane
Atlantic, Not-For-Profit
Charlottetown, PE

Ms. Glenna Pike
Ontario/Québec, For-Profit
Waterloo, ON

Ms. Rhonda Schop
At-Large, Not-For-Profit
Toronto, ON

Corporate Profile

Mission *The Canadian Association for Laboratory Accreditation Inc. (CALA) is a not-for-profit member-based association that instills public confidence in laboratory test results by providing internationally recognized accreditation, proficiency testing and training services.*

History

CALA was originally established as the Canadian Association for Environmental Analytical Laboratories (CAEAL) in 1989 to help Canadian environmental laboratories conform to internationally accepted standards of competence and proficiency. It did this by developing an accreditation program based on the assessment of a laboratory's quality management system, supported by the evaluation of analytical capability determined through proficiency testing.

Between 1994 and 2004, CALA operated in partnership with the Standards Council of Canada (SCC), an arrangement in which CALA undertook all site assessments of environmental laboratories, conducted the Proficiency Testing program, and made recommendations to the Standards Council on the accreditation of the laboratories.

In 2005, CALA resumed granting accreditation independently from the SCC for over 150 laboratories, while also maintaining a partnership arrangement as described above with the Standards Council of Canada and the Ontario Ministry of Environment (now the Ontario Ministry of Environment and Climate Change),

specifically for the accreditation of laboratories conducting tests under the *Ontario Safe Drinking Water Act* (OSDWA).

In November of 2005, the CALA Accreditation Program was officially recognized by the Asia Pacific Laboratory Accreditation Cooperation (APLAC) and the International Laboratory Accreditation Cooperation (ILAC).

The CALA Board of Directors has defined the ultimate goal of the organization as:

- ***CALA accredited laboratories are recognized as meeting world-class levels of scientific and management excellence.***

A series of subordinate policies focus on benefits for both the laboratories and the users of laboratory data, and ensures that Members' views are made known to regulatory and standards-related decision makers in Canada and internationally.

In 2007, CALA Members approved a broader scope of activities for CALA programs, expanding the organization's focus beyond simply environmental laboratories. The CALA corporate strategic plan included provisions for the expansion of accreditation activities. At that time, CALA-Accredited laboratories included the following additional types of testing: food, mineral, petroleum and coal.

At the June 2008 AGM, Members selected the new association name the Canadian Association for Laboratory Accreditation or "CALA" which facilitated a broader scope of accreditations beyond simply the environmental field. In October 2008, CALA officially launched its new identity and transitioned to a new "CALA" look. In the same year, CALA signed an Agreement directly with the Ontario Ministry of Environment (now the Ontario Ministry of Environment and Climate Change) for the accreditation of water-testing laboratories conducting tests under the OSDWA.

In 2009, CALA's international recognition from APLAC and ILAC was renewed for another four-year period. Later that year, CALA successfully hosted the 2009 joint meetings of ILAC and the International Accreditation Forum (IAF) in Vancouver.

In 2010, CALA's Board of Directors approved a new, more sustainable business model that completely removed the PT Program's subsidization of the Accreditation Program. Under this business model, the goal is for each CALA program area to become financially self-sustaining.

At the end of 2011, CALA had progressed on its goal to expand its scope of services beyond only environmental testing by having drafted the basis for an agreement with the Canadian Food Inspection Agency (CFIA). The agreement was subsequently formalized on February 1st, 2012.

In 2012, CALA, in conjunction with CFIA, undertook the development and implementation of food accreditation assessment procedures, and piloted a food microbiology PT Program.

In 2013, CALA implemented a PT scheme for food microbiology to support Canadian laboratories seeking a Canadian source of PT, and CALA's international recognition from APLAC and ILAC was renewed for another four-year period.

In 2014, the PT Program switched to the robust statistical procedure recommended in ISO 13528 – *Statistical methods for use in proficiency testing by inter-laboratory*

comparisons (Algorithm A). As well, the Standards Council of Canada selected a CALA staff member to participate on the ISO/CASCO working group tasked with reviewing and revising ISO/IEC 17025:2005 – *General requirements for the competency of testing and calibration laboratories*.

In 2015, the CALA Board of Directors approved two major long-term initiatives: the redevelopment of CALA's Association Management System and the CALA 2020 Strategic Plan, for the years 2016-2020. Due to insufficient participation, CALA discontinued the food microbiology PT scheme at the end of 2015.

In 2016, the CALA Accreditation Program underwent a scheduled re-evaluation by APLAC and met the requirements to maintain its signatory status with ILAC for another four (4) years. Also in 2016, incumbent CALA President & CEO Charlie Brimley informed the Board of his intent to retire at the 2017 AGM. A professional executive search firm was contracted to lead the search for CALA's next President and CEO.

MEMBERSHIP AND CLIENTS

At the end of 2016, there were 637 clients of CALA (see Table 1), including 506 CALA Members (see Table 2). The number of clients increased 1.2% from 2015, primarily as a result of an increase in public sector, Member clients.

CALA offers programs and services in four major areas as follows:

- Accreditation (see page 15 for details)
- Proficiency Testing (see page 19 for details)
- Training (see page 22 for details)
- International Activities (see page 24 for details)

Table 1. Components of CALA Clients

Type	Members	Non-Member Clients	Totals
Private	265	83	348
Public	198	48	246
Independent	43	0	43
Totals	**506**	**131**	**637**

Table 2. Components of the CALA Membership

Type	Institutional	Individual	Totals
Private	213	52	265
Public	111	87	198
Independent	0	43	43
Totals	**324**	**182**	**506**

Financial Report

CALA's total revenue for 2016 was $3.5 million, approximately 3.9% ($143,424) lower than budget, and 4.1% lower than the previous year results.

Evaluations as an income category on the Financial Statement are comprised of Proficiency Testing (PT) and Accreditation services. In 2016 the PT program eliminated the food PT studies, and as a result set targets that were lower than the previous year. Year-end results for the PT program were 1.2% ($19,241) below budget. Accreditation income for 2016 was $15,058 (1.0%) below 2015 results and ended the year slightly behind budget by $4,606 (0.3%).

The Training program did not achieve its growth targets in 2016. A program review which led to consolidation of course offerings combined with low registrations led to year end results that were 20.2% ($53,429) less than 2015 and 30.7% ($117,357) less than budget.

Total operating expenses for the fiscal year were approximately $3.3 million, down 6.3% from prior year and 6.3% lower than budgeted expenses of $3.6 million. Program-related costs were under budget by 10.2% for a total of $144,728. Salaries, general overhead and administrative costs were also below budget by 2.6% and 6.4% respectively. In 2016, we continued to focus on controlling and reducing administrative expenses while maintaining service levels. This is an ongoing annual strategy to ensure that CALA administrative expenses are monitored and kept within reasonable levels, further reducing the pressure on program areas.

CALA continues to work on the development of a new Association Management System (AMS) to improve client service and office efficiency. CALA made steady progress with the software developer towards a new AMS structure that will enable far better service delivery once fully implemented. The investments made in 2016 are recorded as intangible assets on the balance sheet. This project will continue into the 2017 fiscal year with an expected launch in fall of 2017.

Other income includes interest income, gains (or losses) on disposal of sales of investments, and unrealized gains on investments. Effective in 2012 with new not for profit accounting rules, unrealized gains on investment holdings are to be reported on the statement of operations (Income Statement) annually. In 2016, continued investment in the AMS has reduced the investment portfolio leading to lower interest income on investments and gains on disposal than seen in previous years.

Employees and volunteers are an integral part of our association and we are fortunate to have a very skilled and dedicated team working at CALA. While the economic value of volunteer time has not been captured in our financial statements, please note that

the association continues to benefit greatly from the generous contribution made by all of its volunteers, allowing us to operate such successful programs.

In summary, the Association maintained its strong financial position in 2016 through consistent, careful management of revenue, expenses and cash flow and, after factoring in amortization of capital assets, ended 2016 with an operating surplus of $111,066. This increase in net assets resulted in an ending accumulated surplus of $2.3 million. CALA is an organization that will continue to be successful through the diversity and versatility of the programs it offers and the strong management systems in place.

Welch LLP®

Report of the Independent Auditor on the Summarized Financial Statements

To the Members of the Canadian Association for Laboratory Accreditation Inc.

The accompanying summarized financial statements, which comprise the summarized statement of financial position as at December 31, 2016, the summarized statement of operations and changes in net assets and summarized statement of cash flows for the year then ended, and related note, are derived from the complete audited financial statements of the Canadian Association for Laboratory Accreditation Inc. (CALA) for the year ended December 31, 2016. We expressed an unmodified audit opinion on those financial statements in our report dated March 9, 2017.

These summarized financial statements do not contain all the disclosures required by Canadian accounting standards for not-for-profit organizations. Reading these summarized financial statements, therefore, is not a substitute for reading the audited financial statements of CALA.

Management's Responsibility for the Summarized Financial Statements

Management is responsible for the preparation of the audited financial statements on the basis described in Note 1.

Auditor's Responsibility

Our responsibility is to express an opinion on the summarized financial statements based on our procedures, which were conducted in accordance with Canadian Auditing Standard (CAS) 810, “Engagements to Report on Summary Financial Statements”.

Opinion

In our opinion, the summarized financial statements derived from the audited financial statements of the Canadian Association for Laboratory Accreditation for the year ended December 31, 2016 are a fair summary of those financial statements, in accordance with the basis described in Note1.

Welch LLP
Chartered Accountants
Licensed Public Accountants

Ottawa, Ontario
March 9, 2017

Summarized Statement of Financial Position

December 31, 2016

Assets	**2016**	2015
Current assets	**$ 1,327,989**	$ 1,287,445
Long-term investments	**1,028,971**	1,605,309
Tangible capital and intangible assets	**919,406**	367,266
	$ 3,276,366	$ 3,260,020
Liabilities and Net Assets		
Current liabilities	**$ 997,280**	$ 1,092,000
Unrestricted Net Assets	**2,279,086**	2,168,020
	$ 3,276,366	$ 3,260,020

Summarized Statement of Operations and Change in Net Assets

Year ended December 31, 2016

Revenues	**2016**	2015
Evaluations	**$ 3,066,113**	$ 3,120,050
Memberships	**147,200**	146,982
Miscellaneous	**(3,903)**	15,636
Training	**264,873**	318,302
Other revenue	**30,084**	46,736
	3,504,367	3,647,706
Expenditures		
Evaluations	**1,197,081**	1,308,049
Operational	**2,117,428**	2,137,519
Training	**78,792**	161,690
	3,393,301	3,607,258
Excess of revenue over expenses	**111,066**	40,448
Net assets, beginning of year	**2,168,020**	2,127,572
Net assets, end of year	**$ 2,279,086**	$ 2,168,020

Summarized Statement of Cash Flows

Year ended December 31, 2016

	2016	2015
Cash flows provided by (used in)		
Operating activities	**$ 177,239**	$ 187,765
Investing activities	**(180,901)**	693
Net increase (decrease) in cash	**(3,662)**	188,458
Cash, beginning of year	**559,900**	371,442
Cash, end of year	**$ 556,238**	$ 559,900

Note 1

The information selected by management for presentation in the Summarized Annual Financial Statements has been identified as being the most pertinent and useful financial data for inclusion in the CALA annual report. The summarized financial statements do not reflect the substantial value of services contributed by volunteers.

Accreditation Program

CALA is one of 91 worldwide accreditation bodies that is signatory to the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement (as of February 01, 2017). This arrangement provides stakeholders with assurance that the CALA Accreditation Program meets requirements of the international standard ISO/IEC 17011 – *Conformity Assessment – General Requirements for Accreditation Bodies Accrediting Conformity Assessment Bodies*.

CALA laboratory accreditation is based on ISO/IEC 17025 – *General Requirements for the Competence of Testing and Calibration Laboratories*. Trained assessors with the appropriate expertise assess laboratories against the requirements of ISO/IEC 17025. If any non-conformances are identified, the laboratory has the opportunity to respond to these findings within a specified timeframe. CALA staff, the Lead Assessor and Advisory Panel members perform the subsequent review of these corrective actions and a recommendation is forwarded to the CALA Accreditation Council, which has the final approval on whether to grant or maintain accreditation. Over and above the assessment, an important component of the accreditation process is demonstration of successful participation in Proficiency Testing (PT) as per P02-03 *Proficiency Testing Policy for Accreditation*.

CALA has granted accreditation to 204 government and private sector laboratories (see Figure 1). Forty-five (45) of these accredited laboratories are licensed under the Ontario *Safe Drinking Water Act* (OSDWA). In 2016, eight (8) new laboratories underwent an initial assessment, and 10 laboratories voluntarily terminated their accreditation.

Figure 1 Sources of CALA-Accredited Laboratories

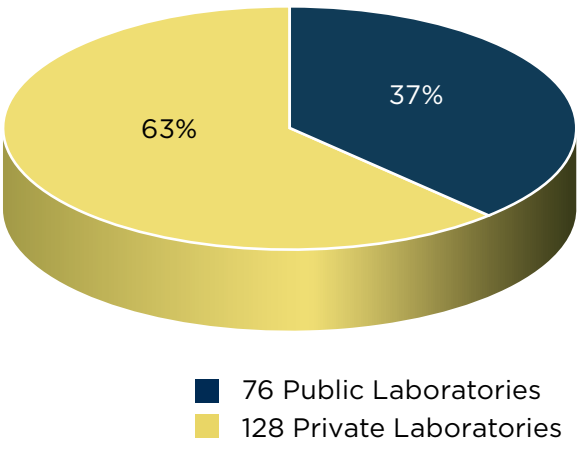
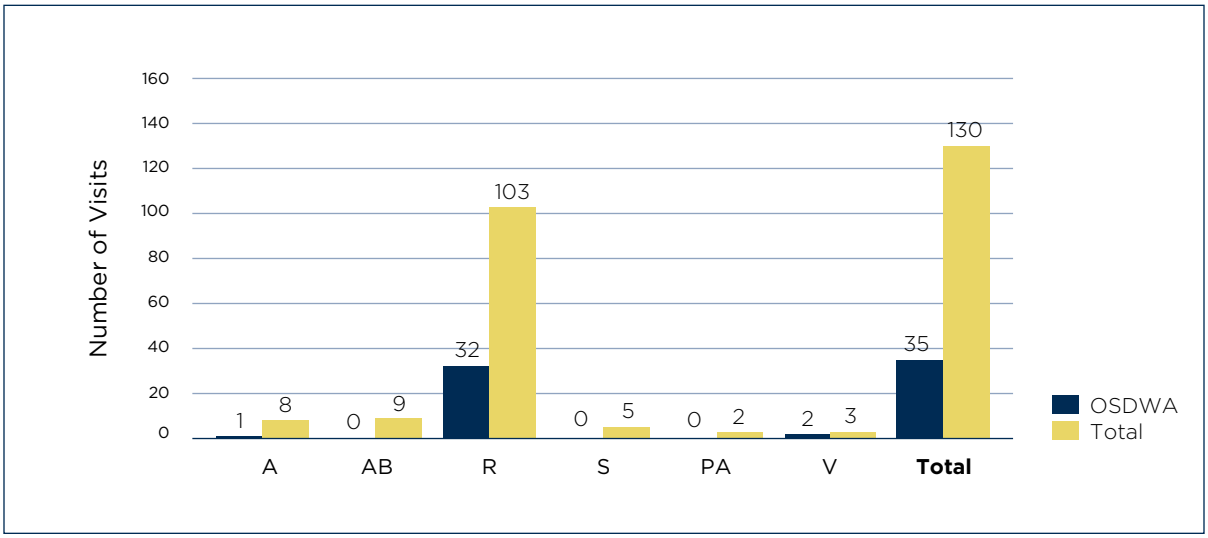


Figure 2 Categories of Site Visits Conducted in 2016



Site Visits

In 2016, CALA conducted a total of 130 site visits, of which 35 (26.9%) were conducted at laboratories licensed under the OSDWA (see Figure 2).

CALA conducts the following types of laboratory assessments:

- Initial Assessment (A): A site visit conducted at a laboratory applying for accreditation for the first time.
- Abbreviated Assessment (AB): A site visit to assess new appendices between regularly scheduled reassessments. The quality management system is not assessed during these assessments, only the technical requirements of the new test methods.
- Surveillance (S): A site visit conducted one (1) year after an initial assessment.
- Reassessment (R): A site visit conducted once every two (2) years after an initial assessment.
- Pre-Assessment (PA): A document review and a site visit, and is an opportunity for the laboratory to gain an understanding of their state of readiness for accreditation. It is not a substitute for an initial assessment.
- Verification (V): A site visit to confirm implementation of corrective actions or to ensure satisfactory conditions following significant changes at a laboratory.

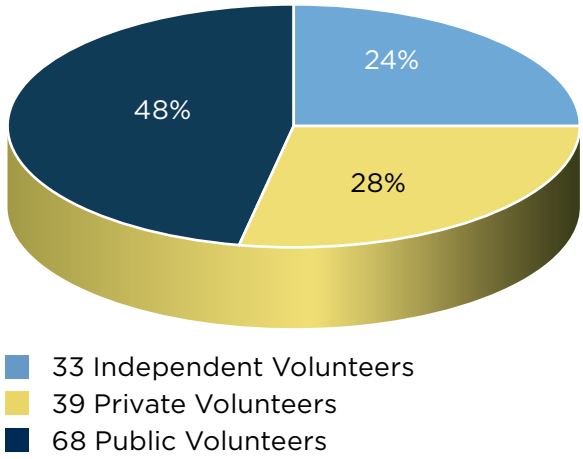
Assessors

CALA assessors are predominantly volunteers from Member laboratories, although some do come from other types of laboratories or related organizations. They are a highly-skilled, highly-committed group of volunteers that represent a valuable resource for CALA. As well as having at least five years experience in a laboratory or laboratory-related environment, these volunteers attend a rigorous CALA Lead Assessor/Assessor course and participate in CALA-specific refresher training once every two years. There are currently 140 active volunteer

assessors, primarily from public sector laboratories (see Figure 3). Sixty-seven (67) of these are from 39 laboratories in the Accreditation Program, and 31 come from the 45 laboratories accredited and licensed under the OSDWA.

In 2016, 130 site visits were conducted, requiring 212 assessor trips. Assessor assignments ranged from a single experienced assessor at a small laboratory, to several assessors required to conduct the reassessment of a large laboratory with a complex scope of testing.

Figure 3 Sources of CALA Volunteer Assessors



Turn-Around Time

Table 3 shows a breakdown of the major steps in the accreditation process, and the average time taken to complete each step in 2016. This data is based on site assessments performed in 2016, and is current as of February 01, 2017.

New (or applicant) laboratories have up to 90 days to respond to any non-conformances identified during an assessment: The eight (8) applicants submitted responses to CALA within 74.8 days on average; the shortest time was 8 days after the assessment and the longest was 93 days after the assessment. Accredited laboratories have up to 45 days to respond to any non-conformances identified during a reassessment or an abbreviated assessment. Most already-accredited laboratories use all of this allowable time to respond, as evidenced by the fact that the average amount of time for accredited laboratories to submit responses after a reassessment was 43.9 days. Laboratories that applied for an abbreviated assessment or accelerated abbreviated assessment had an average submission time of 26 days.

Table 3 Major Steps in the Accreditation Process

Step in the Accreditation Process	Average Time (days*)	1-7 days (%)	8-23 days (%)	24-45 days (%)	>45 days (%)**
Completion of Responses	32.8	18.5	25.9	26.9	28.7
Advisory Panel Review	3.43	86.8	13.2	-	-
Accreditation Council Approval	2.7	93	7	-	-

* subject to change, following completion and approval of visits carried out in 2016
** 88% were completed within 60 days; 95.4% completed within 90 days.

CALA targets a maximum of 45 days for staff to perform an initial review of laboratory responses, and will request further information from the laboratory or inform the laboratory that the responses meet the requirements. At the time this Annual Report was prepared, 94.9% of the 2016 laboratory responses were initially reviewed within the 45-day target and the average time to do so was 19.3 days. On average, the amount of time from the date of the site visit to the date of final approval was 95 days.

Suspensions and Withdrawals as a Result of Proficiency Testing (PT)

Accreditation may be suspended, subsequent to being granted, if a laboratory:

- fails to successfully analyze two successive sets of PT samples for a specific test (analyte);
- does not submit a satisfactory Corrective Action Report in response to a CALA PT failure.

The summary of suspensions shown in Table 4 indicates that generally, the non-CALA laboratories experienced the highest overall rate of suspensions while the accredited OSDWA laboratories experienced the lowest rate overall. The exception to that trend was observed during the June 2016 study, when the accredited OSDWA laboratories failure rate was slightly higher than both the CALA accredited laboratory category and non-CALA accredited category.

A PT failure subsequent to suspension may result in withdrawal of accreditation for the analyte. In 2016, a total of 24 withdrawals occurred at accredited laboratories, with none occurring at an OSDWA laboratory.

Table 4 Suspensions at Non-CALA Accredited, CALA Accredited and Accredited OSDWA Laboratories (values are shown as a percentage of total PT test samples)*

Study (2016)	Non-CALA Accredited	CALA Accredited	Accredited OSDWA
January	0.75%	0.36%	0.42%
March	0.73%	0.44%	0.27%
June	0.38%	0.28%	0.40%
October	1.2%	0.34%	0.13%
Overall Average	**0.80%**	**0.35%**	**0.29%**

Column Definitions:

Non-CALA Accredited: a PT participant that may or may not be accredited with another accreditation body.

CALA Accredited: a PT participant accredited under the CALA Accreditation Program.

Accredited OSDWA: a PT participant accredited under the CALA Accreditation Program and Licenced under the Ontario Safe Drinking Water Act (OSDWA).

* These values do not include suspensions for reasons other than CALA PT failures.

Proficiency Testing Program

At the end of 2016 the CALA Proficiency Testing (PT) Program offered 49 test groups, comprising 368 analytes. Samples for each test group are generally provided to Member laboratories twice each year. The test groups are split between March/October rounds (inorganic, microbiology and food) and January/June rounds (organics, soils).

The scoring system and other details are provided in the *PT15-CALA PT Program* series of documents, which is available at: www.cala.ca.

PT Offerings

The following is a summary of changes to the analytes offered in the PT Program in 2016:

- The following were added in 2016.
  - Hexavalent Chromium in water (C41)
  - Aroclor 1248 in water (C06B)
  - Aroclor 1248 in oil (C08)
  - Aroclor 1248 in soil (C35)
- At the end of 2016, C21 metals on filters was discontinued due to an insufficient number of participants.
- CALA offered a custom PT for naphthenic acids in water in partnership with Environment and Climate Change Canada.

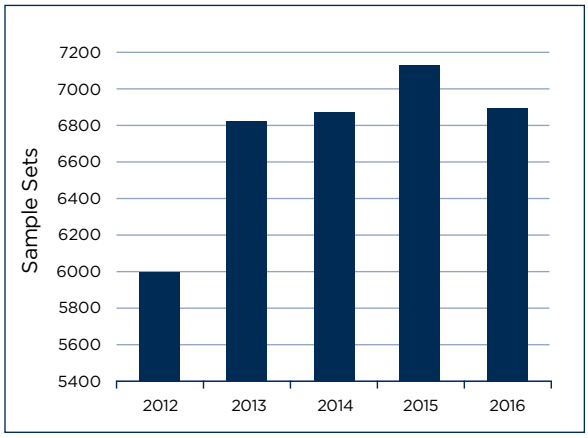
PT Fees

PT fees remained unchanged in 2016.

Participation

Participation showed a decrease in 2016, partially dues to the removal of food microbiology PT (see Figure 4). Participation levels for each test group are indicated on page 20 in Table 5.

Figure 4 Registration Trend in the Proficiency Testing Program (sample sets = total number of registered test groups)



Turn-Around Times

Turnaround time from reporting deadline to the issuing of the PT final report continues to be shorter than the goal of five weeks.

Summary of Proficiency Testing Performance

Appendix A details the success rates observed for each test group in each study. Also detailed are the success rates for laboratories conducting tests under the Ontario *Safe Drinking Water Act* (OSDWA). In general, average success rates were over 90%, consistent with those observed in previous years.

Table 5 Participation in Each Test Group of the CALA Proficiency Testing Program

PT	Group	Samples 2012	Samples 2013	Samples 2014	Samples 2015	Samples 2016
C-01A	Major Ions	428	447	447	454	464
C-01B	NH3, o-PO4, DOC	338	381	382	377	387
C-02A	Metals Full	244	255	247	240	238
C-02B	Metals High	82	78	75	78	74
C-02C	Total Metals	147	161	153	151	152
C-03	TKN & TP	258	270	260	257	263
C-04A	TSS	450	473	463	467	474
C-04B	BOD	268	290	289	280	281
C-04C	Turbidity	200	224	227	224	232
C-04D	COD	189	212	212	205	210
C-05A	Coliforms	315	333	334	331	339
C-05B	Coliforms (P/A)	77	83	81	81	80
C06A	OCP/PCBs	55	59	57	57	55
C06B	PCBs	63	73	73	76	74
C-07	PAH	110	138	136	136	129
C-08	PCB in Oil	73	84	84	81	79
C-09	Metals on Filters	25	29	30	30	30
C-11	Trout LC50	47	52	52	53	51
C-12	Daphnia LC50	42	47	47	49	47
C-13	Microtox IC50	61	61	59	62	61
C-14	CN (SAD)	90	104	95	82	86
C-15	pH	448	487	487	484	492
C-16	BTEX/THM	190	228	240	220	212
C-17	Metals in Soil	147	157	162	157	145
C-18	PAH in Soil	79	114	109	107	96
C-19	Mercury	148	159	158	158	151
C-20	Asbestos	329	330	357	359	367
C-21	Metals in Air	37	42	43	42	53
C-22	OP Pesticides	90	94	87	86	81
C-24	Aryloxy Acids	47	50	46	44	42
C-25	Phenolics	55	65	59	58	59
C-27	Glyphosate	31	33	32	31	26
C-28	VOCs in Air		Not offered			28

Table 5 – Continued from page 20

PT	Group	Samples 2012	Samples 2013	Samples 2014	Samples 2015	Samples 2016
C-29	Aldicarb	34	35	28	28	25
C-31A	BTEX soil	100	128	132	131	127
C-31B	PHC soil	97	132	138	138	135
C-32	Chlorine	140	143	151	155	169
C-33	Total Phenolics	97	96	90	86	85
C-34	Oil and Grease	127	142	136	130	137
C35	PCB in Soil	54	69	67	72	75
C36	VOCs in Soil	62	86	85	85	88
C37	Colour in Water	60	102	114	118	125
C38	TCLP-VOCs	Not offered		37	44	49
C39	TCLP-Inorganics			54	62	68
C40A	PHCs in Water				65	89
C40B	PHCs in Water				65	87
C41	Hexavalent Chromium					51
C60A	Food-Meat (Qualitative)		29	27	65	Not offered
C60B	Food-Meat (Quantitative)		25	44	65	
C61A	Food-Milk (Qualitative)		13	18	45	
C61B	Food-Milk (Quantitative)		12	25	43	
C62A	Food-Eggs (Qualitative)		9	8	28	
C62B	Food-Eggs (Quantitative)		5	9	28	
C63A	Food-Cheese (Qualitative)		19	21	13	
C63B	Food Cheese (Quantitative)		18	31	9	
C64A	Food-Feed (Qualitative)		10	13	37	
P50	Chlorine in Water	36	34	32	29	27
P51	Turbidity in Water	20	18	16	20	10
P52	pH in Water	16	16	15	26	12
	TOTAL	**6006**	**6820**	**6873**	**7128**	**6892**

Training Program

The CALA Training Program delivers training on subjects related to laboratory accreditation. Training Program priorities remain unchanged for 2016:

- Training assessors to meet CALA Accreditation Program needs;
- Developing and delivering training within an approved training budget; and
- Assisting in the delivery of special services within the association.

In reaching out to CALA Members in 2016, the Training Program delivered 37 in-class training sessions to 314 participants, in 7 cities across Canada over 84 training days. There were fewer on-site training courses in 2016 than predicted with only 6 courses delivered compared to 17 on-site courses in 2015. With our computer-based training products, 48 individuals took part in online training courses, and 125 registered for individual webinars. The popularity of the Premium Webinar Subscription grew in 2016 with 36 laboratories opting for the subscription. The Training Program provided additional, non-revenue training to CALA volunteers (for example, training new Assessors).

The popularity of the webinar program has resulted in the reach of CALA Training increasing. Since webinars are open to anyone from the participating laboratory, several hundred individuals can view each webinar. Over 500 individuals have viewed some of the more popular topics. With 24 live webinars per year plus over 65 recordings available, the total estimated number of attendees per year numbers in the thousands.

The Training Program continues to work towards becoming financially self-sustaining. In the second half of 2015 an external consultant was engaged to conduct a review of the Training Program. In 2016 recommendations from the review were implemented, including reducing the curriculum offered, continuing the move to online delivery, exploring new training markets, and looking at the feasibility of offering CALA courses through 3rd party vendors, including through colleges/ universities.

Preparing For 2017

CALA will be introducing a new training platform in March 2017. The new platform allows course registrants to sign up and purchase courses online instead of completing paper registration forms.

The majority of CALA's classroom courses will be offered as live, virtual courses instead of traditional classroom courses.

Course prices for classroom courses will be adjusted for 2017. There is now a price break for choosing the virtual course option instead of the traditional classroom course.

New Courses

The release of the new ISO/IEC 17025 standard in the fall of 2017 will be supported by a new course that deals with the changes to the standard and impacts to laboratory quality systems. The *Understanding ISO/IEC 17025* course will be rewritten to cover the new structure and content of the standard. These courses will be available in September.

CALA will also be introducing a new workshop for auditors who want to learn how to audit the management requirements included in the ISO/IEC 17025 standard. This workshop will be available in the fall of 2017.

Additional Information

Course descriptions, registrations details and the training schedule can be found at www.cala.ca/training.

International Activity

Services Provided Internationally

In 2016, CALA delivered proficiency testing and/or accreditation services to 49 laboratories located outside Canada (no change from 2015), mostly in the rest of the Americas as shown in Figure 7. Eight (8) of these laboratories are in the accreditation program and 41 are in the proficiency testing program only.

Mutual Recognition Arrangements

CALA is signatory to two (2) international Mutual Recognition Arrangements or MRAs: the Asia Pacific Laboratory Accreditation Cooperation (APLAC) and the International Laboratory Accreditation Cooperation (ILAC). These Arrangements provide global recognition of CALA accreditation by 90 other accreditation bodies. Being signatory to these arrangements promotes the acceptance of Canadian laboratory test results nationally and around the world.

More and more regulations and customers require accreditation by an accreditation body that is signatory to ILAC. Therefore, maintaining CALA's signatory status to ILAC is critical for CALA clients. However, there is a cost to maintaining this signatory status. As a signatory to both APLAC and ILAC MRAs, there are requirements and expectations that CALA will contribute to the operation of both APLAC and ILAC. This involves active involvement in international meetings, sitting on committees, reviewing documents, and voting on ballots. In 2016, CALA staff participated in the following meetings:

- APLAC MRA Council – Bangkok, Thailand
- APLAC General Assembly – Taipei, Taiwan
- Two (2) ILAC Accreditation Issues Committee Meetings/Laboratory Committee meetings/PT Consultative Group meeting – Frankfurt, Germany and New Delhi, India.
- ILAC General Assembly – New Delhi, India.

A key activity that is critical to the MRA process is the evaluation of accreditation bodies to ISO/IEC 17011 – Conformity Assessment – *General requirements for accreditation bodies accrediting conformity assessment bodies*; to this end, three (3) CALA staff volunteer as APLAC Evaluators; two (2) of them are designated as Lead Evaluators. One CALA staff person

participated on an evaluation team in 2016. Also in 2016, CALA was re-evaluated to this standard by an APLAC evaluation team and met requirements to maintain ILAC signatory status for another four(4) years.

In 2016, the Standards Council of Canada (SCC) continued to support the CALA Accreditation Manager to represent Canada at ISO/CASCO Working Group (WG) 44, the group that is revising ISO/IEC 17025 – *General requirements for the competence of testing and calibration laboratories*. As well, a representative from a CALA-accredited laboratory sits on an ILAC sub-committee that is following this revision process closely.

Figure 7 Distribution of 49 international laboratories receiving services from CALA.

Appendix A

Summary of Proficiency Testing Performance

The following tables provide details of success rates for each test group. The first two (Tables A1 and A2) reflect the entire program, while the last two (Tables A3 and A4) are for laboratories licensed by the Ontario Ministry of Environment and Climate Change under the Ontario *Safe Drinking Water Act*. Note that non-reported results are not included among the failures in these estimates as these are sometimes related to registration changes after the study has started.

Table A1 Success rates for all laboratories participating in the January 2016 and June 2016 rounds.

Total Program	January 2016		June 2016	
	Tests	Success %	Tests	Success %
Water				
C06A-OCPs	369	99.2	362	94.5
C06B-PCBs	115	96.5	134	99.3
C07-PAHs	909	98.0	854	99.5
C16-BTEX/THMs/VOCs	2353	96.6	2276	95.3
C22-OP Pesticides	340	98.0	355	98.0
C24-Aryloxy acid pesticides	122	99.2	128	98.4
C25-Phenolics	100	99.0	104	99.0
C27-Glyphosate	13	92.3	13	100
C29-Aldicarb	12	91.7	12	100
C34-Total Oil and Grease	89	98.9	92	100
C40A-PHCs	182	95.6	178	93.3
C40B-PHCs	122	89.3	125	92.8
C41-Hexavelent Chromium	28	89.5	29	86.2
Oil				
C08-Total PCBs	115	97.4	139	97.1
Air Filter				
C09-Metals	42	100	62	93.5
Soil/Sediment				
C17-Metals	1431	93.6	1448	97.9
C18-PAHs	784	97.8	750	97.9
C31A-PHCs/BTEX	408	98.5	384	99.2
C31B-PHCs	226	100	221	96.8
C35-PCBs	113	100	153	94.1
C36-VOCs*	1402	97.3	1338	99.6
C38-TCLP VOCs	199	96.5	210	97.6
C39-TCLP Inorganics	387	89.1	382	93.7
Occupational Health				
C20-Asbestos	97	95.9	97	87.6
C21-Metals	45	100	49	100

Table A2. Success rates for all laboratories participating in the March 2016 and October 2016 rounds.

Total Program	March 2016		October 2016	
	Tests	Success %	Tests	Success %
Water (Inorganic)				
C01A-Major ions	1618	95.6	1622	94.1
C01B-NH3/PO4/DOC/Br/NO2	497	95.0	496	91.9
C02A-Metals	2603	98.0	2616	98.5
C02B-Metals (high range)	372	98.4	380	99.2
C02C-Metals (Total)	1362	97.4	1325	97.4
C03-TKN/TP	193	96.4	203	92.6
C04A-Solids	359	94.4	373	97.3
C04B-BOD	216	94.9	219	97.7
C04C-Turbidity	111	88.3	113	92.9
C04D-COD	98	96.9	101	97.0
C14-Cyanide	42	95.2	40	87.5
C15-pH	243	100	258	98.5
C19-Mercury	84	96.4	84	91.7
C32-Chlorine	111	99.1	121	94.2
C33-Total Phenolics	37	91.9	38	86.8
C37-True Colour	61	95.1	62	96.8
Water (Microbiology)				
C05A-Microbiology	517	97.9	529	97.1
C05B-Microbiology P/A	83	100	81	100
Water (Toxicology)				
C11-Trout	22	100	22	90.9
C12-Daphnia	23	100	24	87.5
C13-Microtox	29	93.1	28	100
Occupational Health				
C20-Asbestos	99	99.0	99	99.0
C21-Metals	57	96.5	52	92.3

Table A3 Success rates for OSDWA laboratories participating in the January 2016 and June 2016 rounds.

OSDWA Laboratories	January 2016		June 2016	
	Tests	Success %	Tests	Success %
Water (Organic)				
C06A-OCPs	125	100	125	92.0
C06B-PCBs	31	100	30	100
C07-PAHs	157	98.7	157	100
C16-BTEX/THMs/VOCs	534	92.9	534	98.7
C22-OP Pesticides	175	98.3	175	98.3
C24-Aryloxy acid Pesticides	66	98.5	66	100
C25-Phenolics	44	100	44	100
C27-Glyphosate	9	100	9	100
C29-Aldicarb	9	88.9	15	100
C34- Oil and Grease	15	100	15	100
C40A-PHCs	20	95.0	20	100
C40B-PHCs	15	100	15	100

Table A4 Success rates for OSDWA laboratories participating in the March 2016 and October 2016 rounds.

OSDWA Laboratories	March 2016		October 2016	
	Tests	Success %	Tests	Success %
Water (Inorganics)				
C01A- Major Ions	264	97.7	268	93.7
C01B- NH3/PO4/DOC	96	99.0	98	94.9
C02A- Metals	509	99.8	502	97.3
C02C- Total Metals	225	98.7	225	96.4
C03- TKN/TP	37	91.9	34	94.1
C04A-Solids	42	95.2	43	100
C04B-BOD	21	100	21	100
C04C- Turbidity	23	87.0	24	87.5
C04D-COD	10	100	10	100
C14-Cyanide	13	100	13	92.3
C15-pH	36	100	38	100
C19-Mercury	19	100	19	100
C32-Chlorine	20	100	20	100
Water (Microbiology)				
C05A- Microbiology	133	100	134	98.5
C05B- Microbiology P/A	16	100	16	100

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