

CECAB

Implementation Plan

October, 1997

Synopsis

This document is an implementation plan, which is designed to guide the establishment of the Canadian Environmental Certification Approvals Board (CECAB).

The certification provided by CECAB will be national and voluntary, and will formally recognize the environmental skills, knowledge and competencies of those practitioners who perform environmental work. The National Occupational Standards (NOS) for Environmental Employment being developed by CCHREI, will provide the basis for CECAB certification.

The implementation plan, describes CECAB's strategic elements which include a statement of beliefs, vision, mission, goals, guiding principles, and core functions. It provides a description of the pathways to environmental certification and an organizational framework.

CECAB's organizational framework is discussed. It will consist of a professionally autonomous 15 member Board of Directors and Standing Committees in the following areas: Ethics; Disciplinary Control; Maintenance/Professional Development; and Certification. The organizational framework also includes a National Forum, to which any individual stakeholder can belong. The National Forum will provide a mechanism for dialogue, information sharing, and input into the certification process. The proposed framework identifies CCHREI as the secretariat to CECAB, for the handling of financial matters and providing administrative staff support.

The short to long-term activities which will be undertaken to implement CECAB are described. This Plan to implement CECAB recognizes the requirement for collaborative action and continuing open communication to ensure the sustainability of the environment through a workforce with recognized environmental competencies. It also recognizes that the development of a high quality, Board certified environmental credential, linked to the National Occupational Standards (NOS) for Environmental Employment is essential.

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CECAB - Implementation Plan

1.0 Introduction

1.1 Purpose

This document provides an implementation plan for the establishment of the Canadian Environmental Certification Approvals Board (CECAB). This is the third step in a documented five-step process which includes the following:

1. CECAB - Founding Document (Distributed June, 1997)
2. Emerging Issues on Certification Paper (September, 1997)
3. CECAB Implementation Plan (August, 1997)
4. Town Hall Meetings (Fall, 1997)
5. CECAB Formal Business Plan (November, 1997)

The purpose of CECAB is to develop, implement and administer a voluntary, national certification program which includes a Board certified credential for Canadian environmental practitioners. CECAB will ensure that the skills and knowledge of Canadian Environmental Practitioners are recognized and valued as key components to the protection of the public's health and safety and the long term sustainability of the Canadian economy and environment.

1.2 Overview

The establishment of CECAB is the result of many years of work and extensive consultation with a wide range of environment sector stakeholders from across Canada. A strong and credible foundation has been laid upon which the national and voluntary certification program for environmental practitioners will be established. This document will serve to describe the implementation plan for CECAB which will make a certification program for environmental practitioners a reality. CECAB will operate as a revenue-neutral organization and will become financially self-sustaining within the first three years of operation.

This document articulates CECAB's strategic elements, its vision, mission, statement of beliefs, goals, guiding principles, and core functions which form the basis upon which CECAB will be established. The pathways to environmental certification are described and followed by a description of CECAB's organizational framework. The

implementation plan for CECAB in the short, medium and long-term is then presented. The definition of specific terms can be found in the Appendix, as well as the historical foundation of CECAB and the published Founding Plan for CECAB.

This Implementation Plan was developed with the belief that environmental certification in Canada must be defined under the guidance of individual environmental practitioners, professional and technical organizations, industry and industry associations, government, financial organizations and the education/training community. This plan recognizes the requirement for collaborative action and continuing open communication to ensure the sustainability of the environment through a workforce with recognized environmental competencies. The development of a high quality, Board certified environmental credential, linked to the National Occupational Standards (NOS) for Environmental Employment is therefore essential.

2.0 CECAB - Strategic Elements

The following strategic elements will provide direction and a framework for this implementation plan and the CECAB certification program. They include: the Statement of Beliefs, Vision, Mission, Goals, Guiding Principles and Core Functions

2.1 Statement of Beliefs

Certification of Environmental Practitioners will:

- Increase competitiveness both nationally and internationally
- Help develop a clear understanding of careers in the environmental field and assist in defining career pathways
- Build and maintain a trained and competent workforce which is important
- Facilitate employment mobility nationally and internationally
- Support professional development and the concept of lifelong learning to ensure the currency of skills and knowledge
- Avoid the chaos which exists with American certification by providing a credible, consistent and recognizable certification which has rigor
- Benefit industry workers and the Canadian economy by having a documented standard and a mechanism which recognizes the skills and knowledge of individual environmental practitioners.
- Provide a mechanism to document quality and achievement

2.2 Vision for Environmental Certification in Canada

CECAB will be established as an umbrella organization dedicated to recognizing and certifying the competencies of Canada's world-class environmental workforce.

2.3 Mission Statement

To ensure that the skills and knowledge of Canadian Environmental Practitioners are recognized and valued as key components to the protection of the public's health and safety and the long-term sustainability of the Canadian economy and environment by a national voluntary certification process..

2.4 Guiding principles

- CECAB would be a professionally autonomous, not-for-profit organization.
- CECAB would maintain the highest standards in all of its activities.
- CECAB would serve as a national Board and seek recognition in all provinces.
- CECAB would ensure that its certification is consistent with relevant national and international initiatives (i.e. ISO 14000).
- CECAB would work in harmony with existing certifying bodies. By maintaining close communication with other bodies, it would also work to avoid duplication of activities.
- CECAB would operate in an efficient, results-oriented and cost-effective manner.
- CECAB would become self-sustaining soon after its establishment.

2.5 Goals

To ensure that:

- Canada achieves world-wide recognition for its environmental work force by adopting a certification program that is rigorous and that meets the highest possible standards.
- Canadian environmental practitioners are certified in accordance with national standards.
- Employers of environmental practitioners realize the benefits of a certified work force.
- Standards are developed where none currently exist.
- Environment industry stakeholders have the opportunity to participate in establishing and achieving the industry's goals.
- The competitive advantage of the Canadian environment industry is improved in both domestic and international markets.

2.6 CECAB Core Functions

The basic ways in which CECAB would fulfill its mission are through:

National Certification - CECAB will be established as an umbrella organization to administer a national and voluntary certification program which will have rigor and can be valued.

Disciplinary Action - CECAB would develop mechanisms to ensure that the environment public health and safety are not jeopardized by the actions of certified environmental practitioners.

Ethics - A code of ethics would be established to govern conduct/practice.

Professional Development - Ensure practitioners keep their skills and knowledge current with the rapidly changing/expanding knowledge base and technology which impacts environmental practice.

National Registry - Build and maintain a national registry of certified environmental practitioners.

Information Sharing - Develop mechanisms through the National Forum.

3.0 - Pathways to Environmental Certification - A Canadian Model

“Environment” is a relatively new sector of the economy and therefore, career pathways for environmental employment are poorly defined. Research has documented that there are a variety of ways in which environmental practitioners acquire their specific environmental skills, knowledge and competencies. Many are acquired through a combination of formal training (from technology, natural sciences or engineering based discipline programs; from interdisciplinary programs such as environmental studies or environmental science programs; or from programs such as humanities, social sciences and the arts), additional professional development/continuing education courses and practical experience. As a result, the pathway to certification can vary, based on how competencies have been acquired.

Formal Training (Discipline)

As illustrated in the flow chart, one of the pathways to CECAB certification will be for environmental practitioners to first meet the existing requirements of their profession. These individuals have received formal training in a “Discipline”. A discipline is defined as a consequence of its recognition by a professional society. That is, if a practitioner is eligible for licensure or certification from an organization (either provincial or national) that is relevant to his or her field, then that practitioner must obtain the licensure or certification before applying for CECAB certification. For example, CECAB will administer the voluntary certification for environmental practitioners working in non-engineering activities while also recognizing the rights and responsibilities of Professional Engineers working within their areas of competency. The Canadian Council of Professional Engineers (CCPE) and its member organizations will continue to hold responsibility for the governance and accreditation of Professional Engineers. Similarly, a technician or technologist who performs environmental work will first have to meet the requirements (related to his or her defined discipline) of the appropriate constituent provincial member of the Canadian Council for Technicians and Technologists (CCTT).

To receive CECAB certification however, it should be noted that practitioners would have to acquire environmental skills and competencies (as outlined in one of the 15 subsectors) through a combination of practical experience, continuing education/professional development, and work experience prior to certification.

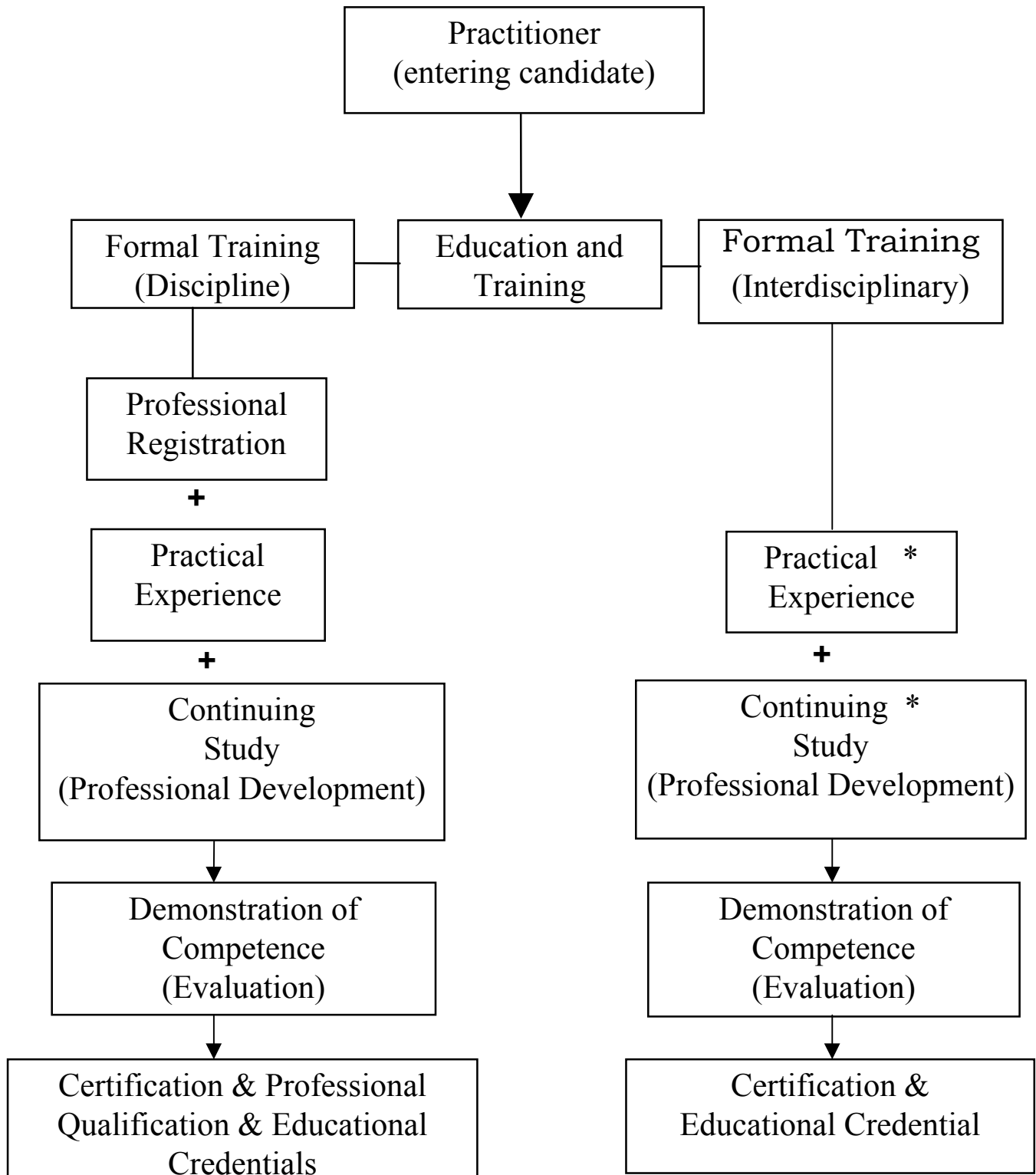
It is therefore important to point out that the CECAB certification will not compete with the activities of associations that represent licensed professions (such as engineering, law, accounting and medicine). Nor will it compete with the activities of associations that

administer other existing discipline-related certifications or that certify specific environmental activities, such as environmental auditing. If a particular competency is already covered by a practitioner's license to practice, discipline-related certification or nationally accepted certification for a specific environmental activity, then CECAB would recognize, and therefore not review, that competency. CECAB certification will enhance and complement rather than duplicate and compete with other certifications.

Formal Training (Interdisciplinary)

Another pathway to CECAB certification would be for those who have pursued formal training which is within an interdisciplinary degree or program. As outlined in the flowchart, the practitioner must first meet the academic requirements of their specific degree or program and then identify and acquire environmental skills and competencies (as outlined in one of the 15 subsectors) through a combination of practical experience, continuing education/professional development, and work experience prior to certification.

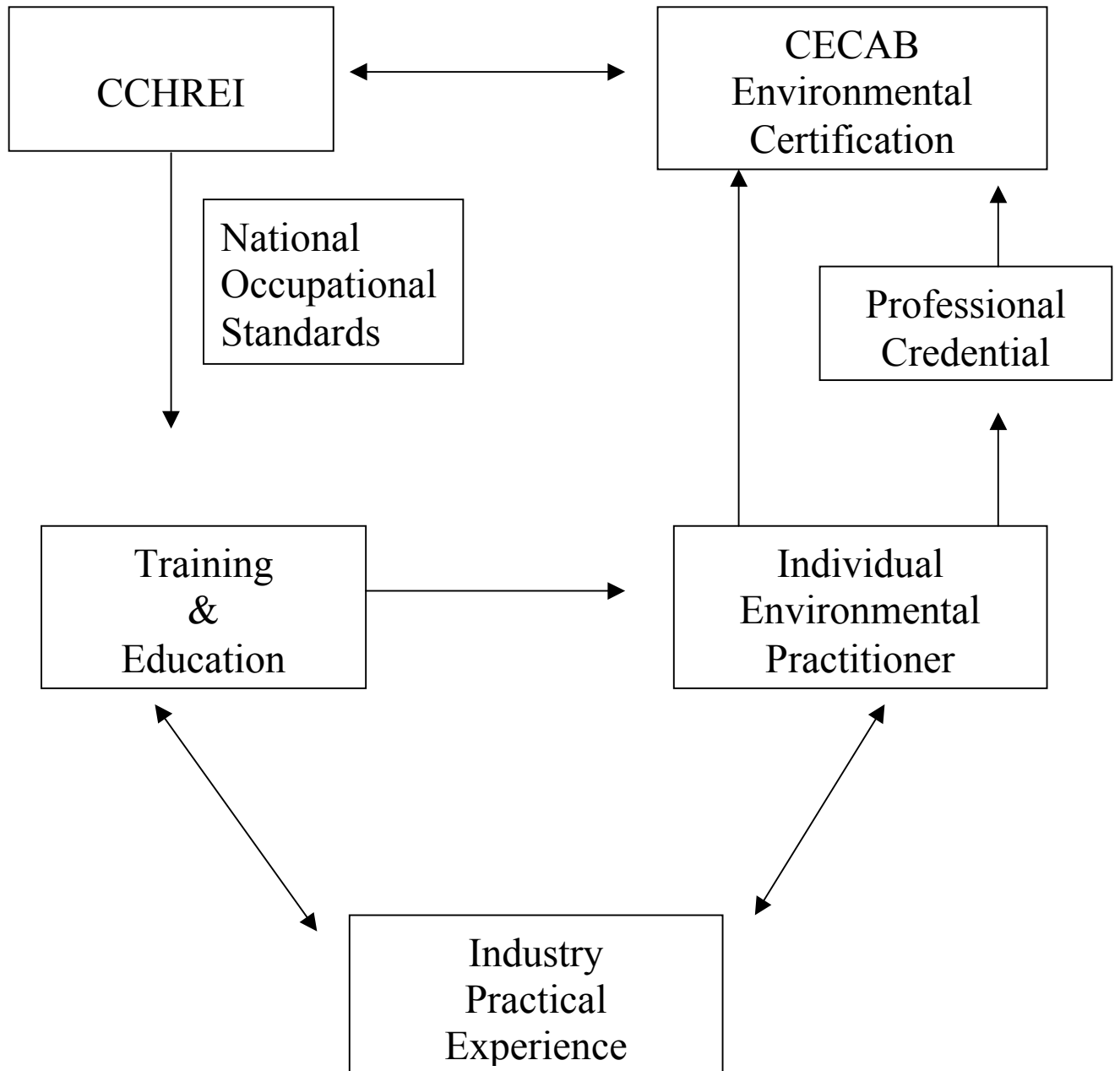
Flow Chart Pathways to Environmental Certification
A Canadian Model



(*May lead to professional certification (Registration) by agreement with the appropriate professional body.)

4.0 Organizational Framework

ORGANIZATIONAL CHART 1



4.1 Organizational Chart -1

CCHREI, as identified in this chart, will be the Secretariat for CECAB. CCHREI will provide staff support and handle administrative functions such as receipt of applications, fees, etc. It will handle all financial matters.

National Occupational Standards (NOS) - The CECAB certification program for environmental practitioners will be based on the National Occupational Standards for environmental employment. These standards are being documented in partnership with environment industry stakeholders and active practitioners. The NOS at the technician and technologist level have been completed and validated. Currently the development of standards at the university level is being undertaken.

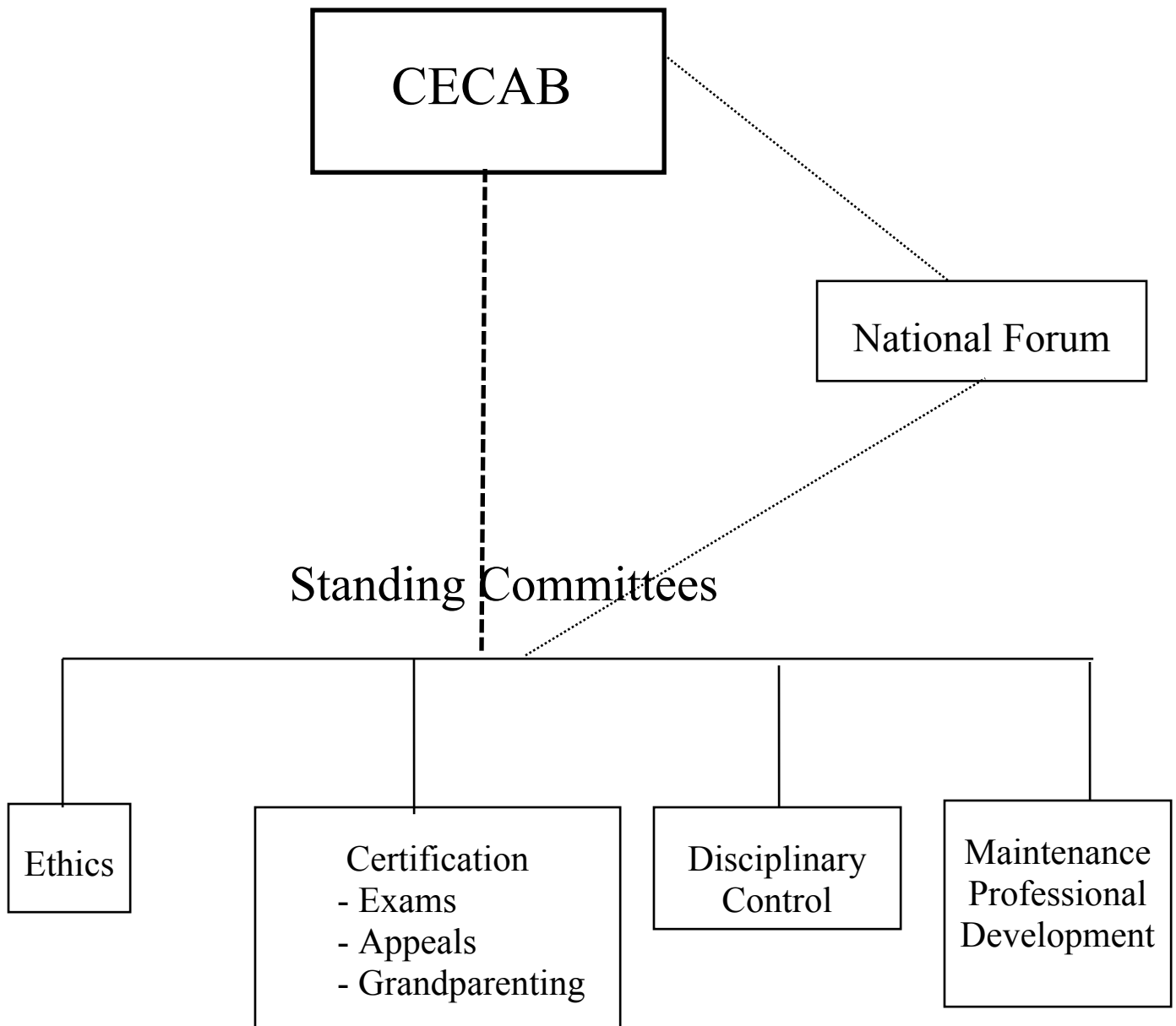
CCHREI will assume responsibility with respect to documenting and maintaining the NOS. As a national Human Resource Environment Sector Council, CCHREI will supply CECAB with current, relevant human resource data on an ongoing basis. A formal agreement will be developed which articulates the working relationship between the two Boards.

CECAB will develop, implement, administer and manage the certification program for environmental practitioner certification based upon validated skills and knowledge contained in the NOS.

Practitioners obtain skills and knowledge through formal training and education, professional qualifications (if applicable) and experience in industry. They then apply for certification and professional credentials.

ORGANIZATIONAL CHART 2

Organizational Framework



4.2 Organizational Chart - 2

4.2.1 CECAB - CECAB will be governed by a Board of Directors. The Board will be professionally autonomous permitting it to exercise independence in its decisions governing all issues related to the certification program for environmental practitioners. A founding convention will establish the nominating procedures for the Board of Directors of CECAB. It is anticipated the founding convention will approve funding elements and the Board membership.

4.2.2 National Forum- The National Forum will comprise of stakeholders representing individual environmental practitioners, professional and technical organizations, industry and industry associations, financial organizations, the education/training community, and government. It will be an inclusive body to which any interested stakeholder can belong. It will be a public national forum, without walls, established electronically via information technology, such as the Internet.

As envisioned, the National Forum will provide a mechanism for dialogue, information sharing, and input into the certification process. The National Forum will nominate from its membership, individuals to be considered for the CECAB Board. As well, members of the National Forum may also be members of the Standing Committees. This process will ensure that a strong link exists between CECAB and the broad representation of stakeholders.

National Forum - Primary Role

- Provide environment sector stakeholder input into the certification process
- Be the forum for dialogue and information sharing among environment sector stakeholders across Canada
- Provide a link and liaison between the CECAB Board and environment sector stakeholders

4.2.3 - The **CECAB Board of Directors** will manage the certification program. The Board will coordinate the standing committees and task forces who will recommend the policies, procedures and criteria for certification which CECAB will implement. These will relate to certification, disciplinary control, academic equivalence, ethics, appeals, maintenance requirements and fees. Grandparenting of existing professionals will initially be included. The Board will also ensure that the certification has rigor, and that it can meet international requirements.

The Board of Directors will have a maximum of 15 Directors who represent the environment sector, and the geographic regions across Canada. Board membership will be drawn from:

Professional Associations
Organized Labour
National Forum
CCHREI Board of Directors

The Board of Directors would have a maximum turnover of one-third of its members on an annual basis to assure continuity. All critical decisions of the Board would strive for consensus and would require a 60% majority vote for approval.

Board of Directors - Primary Role

- Provide overall strategic direction to CECAB
- To establish and review policy
- Develop, implement and administer national certification program.
- Approve the certification of individual environmental practitioners
- Be the final arbiter on appeals and issues governing certification and disciplinary action.
- Coordinate task forces on an as needed bases
- Coordinate and implement policies recommend by standing committees.
- Communicate with CCHREI Board of Directors on matters concerning the implementation of the National Occupational Standards (NOS) for environmental employment.

4.2.4 - Standing Committees - CECAB will have a number of Standing Committees made up of representatives from the National Forum which will be chaired by a member of the Board of Directors of CECAB. Each committee will initially be responsible for establishing the policies, criteria and procedures for the various aspects of the certification program. Once the program is operational, these committees will continue and provide ongoing support to the activities of CECAB. They will provide support for CECAB's day-to-day activities, regularly review components of the program; and make recommendations to CECAB Board of Directors.

Standing Committees - Primary Role

- Develop and make recommendations to CECAB concerning the establishment of criteria, procedures and protocols for certification, disciplinary action, academic equivalence/prior learning assessment (PLA), ethics, appeals, maintenance requirements/professional development, and fee structures.
- Review the entire certification program annually and make appropriate changes (e.g. adjudication of complaints, examinations)

The following Standing Committees will be established:

1. Certification - This committee will be responsible for ensuring that the certification program is credible, consistent, and has a high degree of rigor. The Committee will establish the certification procedures which could include examinations, peer reviews, and other elements. Appeals would be heard by this committee. Recommendations for certification would come from this committee and be directed to the CECAB Board for final approval.

This committee will also establish the initial grandparenting criteria and process and coordinate the assessment of eligible candidates.

2. Ethics - The purpose of this committee will be to establish a code of ethics which will govern the conduct/practice of certified environmental practitioners. Knowledge of the code and a commitment to it would be a condition of certification.

3. Disciplinary Control - The purpose of this committee is to ensure that public health and safety are not jeopardized by the actions of incompetent or unscrupulous environmental practitioners. Using the established code of ethics mechanisms to deal with and attempt to control unacceptable environmental practice will be developed and implemented. Concerns and complaints concerning the work of individual practitioners will be directed to this committee. The Committee will evaluate the concern/complaint and recommend to CECAB an appropriate course of action. The Committee will follow-up and monitor all concerns/complaints concerning the practice of certified environmental practitioners. The Committee will establish fair and equitable procedures approved by the Board and communicated to all certificate holders.

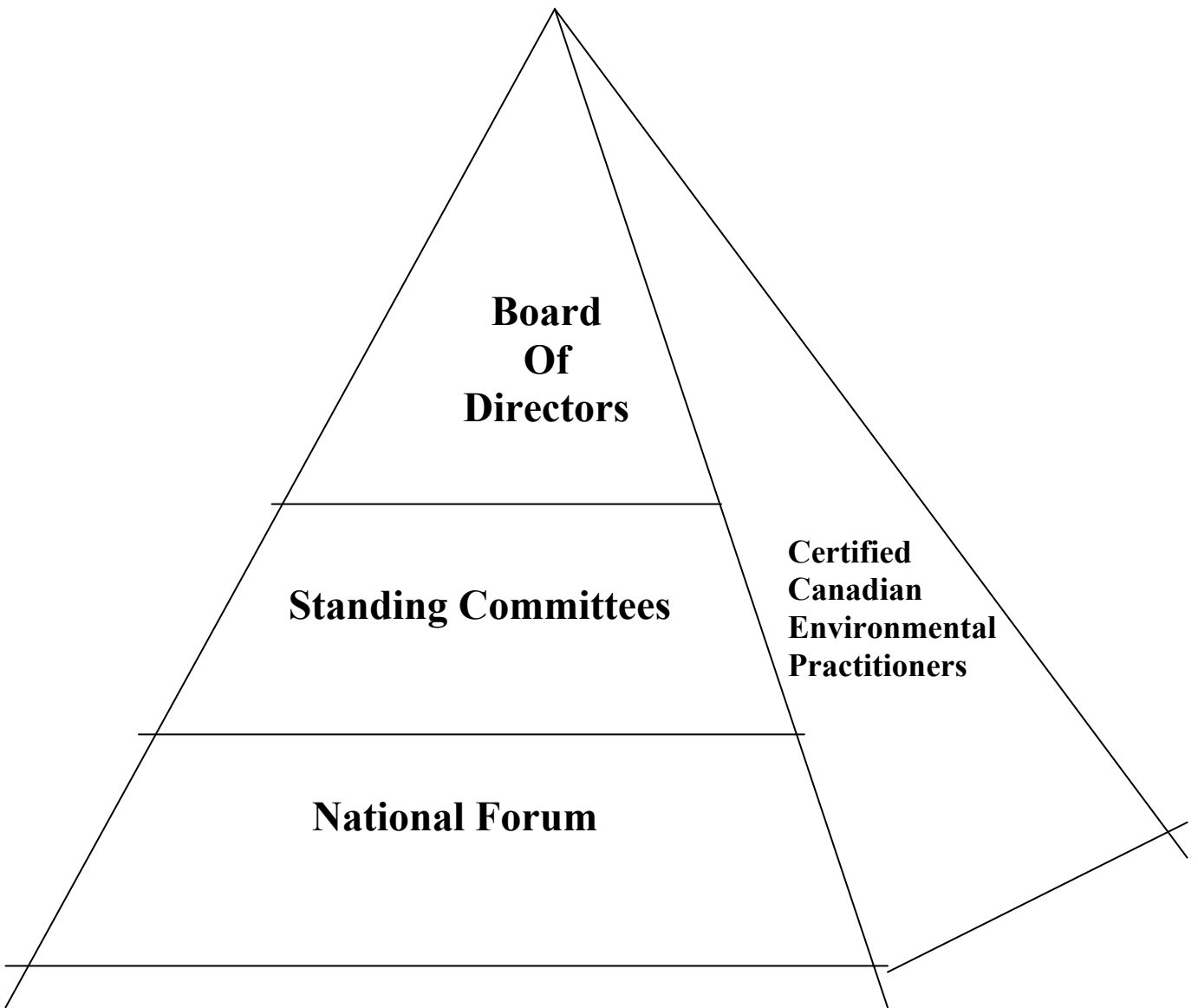
4. Professional Development - A maintenance or renewal requirement to the CECAB certification will be established. This mechanism will ensure that certified environmental practitioners maintain the currency of their skills and knowledge with the rapidly changing and expanding knowledge base and technology which impacts environmental practice. In addition to ensuring certified environmental practitioners remain current, this committee will also publish a newsletter, as well as plan, develop and coordinate professional development activities including conferences and workshops. Information on these, will be available on the CECAB Web site which will also host the National Forum for environmental practitioners.

4.2.5 Task Forces - It should be noted that Task Forces could be established to deal with issues of defined scope on a time limited basis at the request of the CECAB Board.

Task Forces - Primary Role

- Provide advice to CECAB Board on specified issues on an as need basis

CECAB



**Board
Of
Directors**

Standing Committees

National Forum

**Certified
Canadian
Environmental
Practitioners**

5.0 CECAB Implementation Plan

The following will outline in point form, the steps which are planned in the short-term, medium-term (1 year) and longer-term (2-5 years) to implement CECAB.

5.1 Development Phase (August 1997 – March 1998)

Develop paper on Emerging Certification Issues - Questions and Answers	Aug. - Sept., 1997
Town Hall Meetings	Oct. - Nov., 1997
Develop marketing materials - e.g. information brochures, fact sheets	Sept. - Dec., 1997
Publish articles in industry publications	Ongoing
Establish four CECAB Task Forces to undertake preliminary development work for Standing Committees. <ol style="list-style-type: none"> 1. Grandparenting, Process and Procedures 2. Ethics 3. Disciplinary Control 4. Certification, Process and Procedures 	Oct. - Dec., 1997
Define and develop terms of reference for Standing Committees	Nov. - Feb., 1997
Establish advertising/marketing campaign	Nov. - Feb., 1998
Publish Certification Issues Paper - Summary Report	Dec., 1997
Establish Standing Committees: <ol style="list-style-type: none"> 1. Certification 2. Ethics 3. Disciplinary Control 4. Professional Development <p>These committees will develop and publish protocols, procedures, and policies related to ethics, appeals, certification procedures (exams, peer review, etc.), fees, maintenance requirements/professional development, disciplinary control, academic equivalence/prior learning assessment</p>	Jan. - Mar., 1998
Establish administrative functions such as: Develop logo, trade marks, letterhead, establish telephone, fax and e-mail address, and CECAB Web site	Oct. - Mar., 1997
CECAB Founding Convention	March 1998

5.2 First Year Implementation Activities (April 1998 to March 1999)

- Formally constitute CECAB Board
- Establish formal Memorandum of Understanding between CCHREI and CECAB.
- Implement grandparenting process
- Establish CECAB structure and develop governing and operating policies
- Certification issued to Environmental practitioners through grandparenting process (open until Dec. 2000)
- September 1998 have procedures, protocols and policies in place to certify environmental practitioners
- Issue initial certificates
- Establish a communications plan and communicate widely with stakeholders
- Develop coordinated policy for recognition of practitioners with certification and registration with professional associations
- Establish national registry of certified environmental practitioners
- Establish a national newsletter with focus on certification - "The Environmental Practitioner Certification News"
- Research and publish the benefits of certification to practitioners, employers, governments and to industry

5.3 Long-Range Plans - 5 year

A number of preliminary long range (2-5 year) objectives have been identified. These objectives have been developed with the full understanding that all CECAB activities will be reviewed on an annual basis in accordance with good business practices as they relate to changing economic conditions and industry requirements.

The specific long-range objectives are:

- Continue to establish MOU's with professional and industry associations
- Establish reciprocity agreements with international environmental bodies/organizations to recognize CECAB certification
- Work with Canadian education/training organizations to recognize and harmonize and deliver at a national level training on the core competencies required of an environmental practitioner across disciplines
- Publish regular communications in the form of a newsletter.
- Develop a cost-recovery information clearinghouse/information data-base on environmental certification and related information (both national and international)
- Facilitate practitioner access to ongoing professional development activities by establishing an electronic information data base on public and private sector training courses and conferences.
- Maintain an inventory of Canadian certified environmental practitioners.
- Develop an electronic Forum on the WEB for the exchange of ideas, information and the latest in technology among practitioners. This could serve as a national clearinghouse and important network for practitioners and employers becoming a true National Forum.
- Facilitate a number of National conferences and training initiatives.
- Develop and maintain a process review procedure

APPENDIX

1.0 Definition of Terms

Accreditation - Accreditation is the process applied by accrediting bodies to determine and recognize whether an educational course, program or institution has met pre-determined training criteria.

Certification - Certification is the process used by certifying bodies to assess an individual's capabilities so as to recognize that the individual has met specified occupational standards. Certification is the formal way by which the education, training and experience of practitioners is recognized through the granting of a certificate. Candidates are generally approved for certification when they meet the standards of a profession.

Certification can best be defined in terms of its end state: the issuance of a formal document attesting that the holder of this document possesses a particular set of skills, knowledge and abilities. The certification process generally involves assessing specified occupational skills, knowledge and competencies. Certification criteria may specify the type (formal and/or on-the-job) and length of training required.

The certificate is the "proof" that an individual has successfully undergone the certification process and may take various forms: license, reserved title (right-to-title), vocational qualifications and training qualifications.

Competencies - Competencies are defined as an individual's measurable/verifiable abilities to perform a task, or range of tasks, in a specified way or to an acceptable level of proficiency. In the context of occupational standards, proficiency levels are generally related to employers' expectations. The term "competencies" is used to refer to the work activities (for which frequency and level of proficiency have been identified) that environmental practitioners perform in the environmental sectors.

Skill-Sets - The term "skill-sets" is used to refer to the unique assemblages of environmental work activities, general and specialized knowledge, and general and specialized skills which are characteristics of the work performed in each of the fifteen subsectors of environmental employment.

The skill-sets developed by CCHREI are related to work functions (functional areas of employment), and not to "traditional" occupations. This is because the research has demonstrated that many of the work activities within the environmental sectors can be performed by individuals

with a variety of educational backgrounds and occupations. The skill-set approach enables CCHREI to appropriately incorporate the input from all types of practitioners at once and without creating arbitrary boundaries.

National Standards - National standards are a description of the competencies expected of practitioners *at the point of entry* to the labour market. Generally stated in terms of baseline generic and specific knowledge and skills. This type of standard has been used by the Canadian Council of Technicians and Technologists.

National Occupational Standards (NOS) for Environmental Employment - The National occupational standards for the environmental sectors provide descriptions of the competencies, skills and knowledge required by *experienced* practitioners working in the fifteen subsectors of environmental employment.

For each of the fifteen employment subsectors, these standards provide the level of proficiency expected of experienced practitioners when performing specific environmentally-related work activities or competencies. For each sub-sector, they provide indications of the expected type and level of general and specialized knowledge. They also identify general and specialized skills, and the corresponding level of ability expected, for each employment subsector. The types and levels of competencies, skills and knowledge have been determined as a result of extensive consultations with environmental practitioners across Canada.

This approach to standards was developed because the work performed in the environmental sectors is so strongly multi-disciplinary. This approach accommodates the fact that the environmental work can be performed interchangeably by practitioners having vastly differing occupations.

Discipline-Plus - The “Discipline-Plus” concept (on which the certification would be based) maintains that environmental practitioners require both discipline-related competencies and other competencies related to performing environmental work. Most practitioners acquire their discipline-related competencies through formal education or training. They may, however, acquire their additional competencies through a number of means, including formal education or training, work experience or professional development. (See CECAB - Founding Document - Appendix 5, Case Example)

Environmental Practitioners

The term “environmental practitioner” refers to any person who performs environmentally-related work activities. Environmentally-related work activities may pertain to the production of environmental goods or to the supply of environmental services. They may be performed by private or public sector employees who work in the environment industry or by practitioners who work for industries and organizations whose business focus is not solely dedicated to environmental protection. Environmental work activities can be categorized into three sectors and fifteen subsectors (see Section 2.2):

Technician - The term ‘technician’ defines an individual who has completed one to two years of post-secondary education at a community college or institute of technology (certificate holder).

Technologists - The term ‘technologists’ defines an individual who has completed two to three years of post-secondary education at a community college, institute of technology or cegep (diploma holder)

University Graduate - The term university graduate defines an individual who has completed three years or more of post-secondary education offered through a university. (degree holder)

Discipline - As recognized by a professional society.

Non-Discipline - Interdisciplinary degrees

2.0 Historical Foundation

The historical sequence of events which have led to the establishment of CECAB and a national and voluntary certification program for environmental practitioners are outlined below:

1992

Two concurrent studies were conducted, *Together into the Future* by the Special Waste National Adjustment Committee and *Human Resources in the Environment Industry*, by the Employment and Immigration Canada's Labour Market Outlook and Sectoral Analysis Branch. The studies concluded that the single most important constraint to the industry's growth was the shortage of suitably trained workers in key technical, scientific, professional and managerial occupations. They recommended that a permanent, national, industry-led council be formed to assist stakeholders in addressing the environment industry's human resource issues. These studies also suggested there was a need to establish a Canadian certification mechanism for environmental employment.

1993

The Canadian Council for Human Resources in the Environment Industry (CCHREI) was founded in 1993. CCHREI is an industry-initiated, not-for-profit Canadian corporation which is led by the private sector. The Council has a 21-member national Board with representatives from industry, professional associations, employee groups, government and the education/training community. Industry holds the majority of Board seats. More than half of these industry seats are held by representatives of the Canadian Environment Industry Association (CEIA). CCHREI's mission is "to ensure an adequate supply of people with the demonstrated skills and knowledge required to meet the environmental human resource needs of the public and private sectors." Since its inception CCHREI has worked to develop a framework to support the creation of a program to certify environmental practitioners and accredit environmental courses and programs.

The Compendium of Environmental Training Courses and Programs was first published in 1993. This document, which is updated annually consists of four volumes representing each of the four regions of Canada: Atlantic, Quebec, Ontario, and Western Region and Territories. Together, the volumes list over 11,000 credit and continuing education courses and over 1200 different programs from Canadian universities, technical institutions, colleges and cegeps. The 1997/1998 edition was released in June 1997.

From the large number of educational opportunities listed in the Compendium, it is evident that a high demand exists for educational programs and professional development courses in the environmental field. This strong demand is also being met by the numerous private sector trainers who deliver a wide variety workshops, seminars and courses.

1994

Preliminary research was conducted and resulted in the *1994 Human Resource Assessment*. The assessment established a common definition for environmental employment, as well as a classification of environmental occupations. The *Assessment* provided a "snap-shot" of the human resources in the environment industry today, and established a framework for the *National Skill-Set*

Document Project. The main areas of work, knowledge and abilities of individuals with environmental employment were also documented in this *Assessment*. This *Human Resources Assessment* has become a standard reference document and has been distributed across Canada to both the public and private sectors.

The *National Skill-Set Document Project* which followed, identified the skill-sets needed by individuals working in the various sectors of environmental employment. These skill-sets were documented with the direct input of 1,600 environmental practitioners. The summary reports were then nationally validated and published for distribution across Canada.

1995

To engage stakeholders in discussion concerning certification for environmental practitioners, a conference was held in February, 1995 called “*Harmonizing Environmental Skills & Training for a Competitive Canadian Industry : A Forum for Industry, Government & Academia*”. The conference was attended by more than 120 environmental practitioners representing industry, government, professional associations, and the education/training community. A consensus was reached to explore the development of mechanisms to recognize the skills and knowledge of environmental practitioners.

The *National Occupational Standards (NOS) for Environmental Employment* were begun in 1995. The first phase of standards development set out the essential competencies, along with the enabling knowledge and skills, which would be required by “experienced” technicians and technologists who perform environment-related job functions. These competencies may be acquired through formal education, work experience or continuing education (professional development). The second phase of Standards development is currently underway and focused on the skills and knowledge required by seasoned practitioners performing environment-related work requiring university training. The Standards should be completed in 1998.

The NOS represents a milestone in a succession of projects. The base of information developed, through extensive consultation and surveying, has formed the building blocks used to construct a set of National Occupational Standards.

In late 1995, the formation of the Canadian Environmental Certification Approvals Board (CECAB) was initiated by CCHREI. The defined goal of the organization is to be a professionally autonomous body that will develop, implement and administer a voluntary, national program for the certification of environmental practitioners.

1996

In early January, 1996, a consultation was held with representatives of organizations who hold universal licensure in Canada (lawyers, the medical profession, engineering, and chartered accountants and federal government representatives) to discuss CECAB and national certification for environmental practitioners. The meeting participants provided strong support and agreed that the process should continue to move forward.

In mid January 1996, the Canadian Institute of Chartered Accountants (CICA) convened a group which included 18 representatives of a wide cross-section of organizations representing industry, government, professional associations and standards administrators. The group reached consensus after sixteen months of work on a Canadian organizational framework for accreditation and certification within Canada which included CECAB (the Canadian Environmental Certification Approvals Board) and its certification program for those environmental activities not covered by ISO or Canada's National Standard System

A second conference, "*Environmental Certification for Competitiveness*" was held in October, 1996. More than 220 participants attended and participated in discussions. They expressed a strong interest in certification and indicated the desire for more detail on the implementation of CECAB.

1997

A CECAB Task Force was formed in January, 1997 with representation from CEIA, professional associations, the financial industry, government and the education/training community. It's role was to assist with the development of the CECAB - Founding Document and other issues related to the implementation of CECAB.

The Canadian Environmental Certification Approvals Board (CECAB) - Founding Document was published and widely circulated to stakeholders across Canada in June, 1997. The purpose of the document was to articulate the conceptual framework and document the rationale for the establishment of CECAB.

Three formal, binding agreements (Memorandums of Understanding) have been signed supporting the concept of additional environmental certification supplementary to defined disciplines. The agreements refer to the environmental competencies as "discipline plus" (see Appendix) as well, they support the National Occupational Standards (NOS) and environmental practitioner certification. These formal agreements have been established with the Canadian Council of Professional Engineers (CCPE); the Canadian Automotive Repair and Services (CARS) Knowledge Network; and the Canadian Council for Technicians and Technologists (CCTT). Negotiations are currently underway to reach agreements with other professional organizations.

A national survey of 2022 people was conducted in May, 1997 to determine their support for a certification program for environmental practitioners. The response rate for the survey was high, with close to a 50 % response. The results indicated that 73% of practitioners and 67% of employers would support a certification program for environmental practitioners. From the comments made on the survey, many respondents indicated their strong desire for a nationally (and internationally) recognized standard which would denote their environmental competency. The results of this recent survey, once again provide confirmation that there is a high demand among environmental practitioners and employers of environmental practitioners for a formal credential.

3.0 CECAB Founding Document

Can be found on CCHREI's Web site:

<http://www.cecab.org/public/content.aspx?display=documents>