The Canada Lands Surveyor Commission: A Recommended Role in the Certification of Hydrographic / Offshore Surveyors

From Phenome to Geomatics
FIG Working Week 2005 and GIS Expo
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Why base a certification model on the Canada Lands Surveyor (C.L.S.) Commission?
- Present curriculum harmonization is focused on compliance with educational standards set by provincial and federal governments.
- Canada Lands Surveyors Act affirms the role of the Canada Lands Surveyor with respect to surveys of offshore Canada lands.
- The Association of Canada Lands Surveyors (ACLS) is proactive in containing professional development (CPD) for hydrographic surveyors with its Offshore Issues Committee.
- The Canadian Hydrographic Service has for over 25 years recognized the ALS Commission as a professional designator for Hydrographers.
- The ACLS is a self-regulated, professional licensing body.
- The organization maintains one of the public’s perception and trust in what qualifications a specific job title (i.e., Hydrographer Surveyor) entails with the surveying professions.

Why Hydrographer Certification?
- An apparent lack of IHO/FIHO/CIA-accredited hydrographic and marine cartography courses in Canadian colleges and universities.
- The Canada Land Hydrographic Service Future Directions statement regarding reliance on external data collection, product development and dissemination (2003).
- Canada’s Ratification of UNCLOS where the acquisition of data in a portion of Canada’s Jurisdiction is the demonstrated that a significant amount of funding will have to be allocated to private sector contracts.
- The concept of certification is important for the field of hydrography in general and data products and services.
- More services are needed to meet the public demand for improved and more accurate data.
- The need for protection of the public from unqualified service providers.
- A need for a professional technical designation.

Certification vs. Licence
- According to URS/Urban and Regional Information Systems Association, "Certification is general recognition through the evaluation and approval of individuals engaged in a specific occupation or profession.
- In a certification model, anyone may provide a service, but those providers who agree to specific standards (Certified) and follow those requirements would be distinguished with an exclusive designation.
- Licensing awards a professional right to individuals who have met specific education and training requirements to provide a specific service or a specific jurisdiction.
- With the exception of legal surveys, the ACLS hydrographic certification model allows for both jurisdictional limitations (e.g., Provincial vs. Canada lands).
- Mutual recognition agreements between provincial associations and the ACLS are already in place.

Background Story
- The Association of Canada Lands Surveyors (ACLS) and the Canada Lands Surveyors’ Association (CLS) worked from the Association of Dominion Land Surveyors (1882).
- The ACLS was formed in 1979 to focus on survey issues and support the Canada Lands industry.
- The Canadian Hydrographic Association (CHA) was formed in 1984 to focus on map making and training issues for hydrographers at home and overseas.
- The CHA is formally affiliated with the CGI (CIG-IGG) Hydrography Committee and works closely with the ACLS to issue Committee to help deliver training and advice.
- Recognizing an opportunity to fulfill a need for the certification of hydrographic surveyors in Canada, the CHA and the ACLS formed a joint task force to form a joint task force to further study the issue (February 2006).

Canadian National and Provincial Surveying and Mapping Associations
Association of Canada Lands Surveyors

- Survey activities regulated by 10 provincial Associations and one federal Association - The ACLS.
- The ACLS is a national multidisciplinary organization representing government, professional & industry in hydrography, geodesy, remote sensing, GIS, data management and cadastral surveying.
- Canada Lands Surveyors are the only professionals authorized to perform cadastral surveying services on Canada Lands, which includes the Yukon, Northwest Territories and Nunavut. An existing mutual recognition program provides a mechanism to extend certifications survey provincial lands.
- Jurisdiction also includes surveys of National Parks, Aboriginal Reserves and Offshore Canada Lands.

CHA-ACLS Task Force

- The purpose of the task force was to prepare joint recommendations to implement a certification program for Canadian Hydrographers.
- Task force members were drawn from industry, government and academia including other representatives/advisors from the ACLS, CANHO, The Hydrographic Society of America and the Spatial Sciences Institute of Australia.
- Existing provincial national and international certification models were investigated.
- A model for the certification of hydrographers based on the existing CSL commission with specific academic and experience requirements was developed.

Common Elements

- The ACLS is aligned with existing international certification criteria used by the ACLS as a professional organization with clearly defined competency/vocational knowledge guidelines based on standard Canadian curricula.
- The ACLS uses factors such as the level of academic knowledge and practical experience when screening the candidates.
- Of the recognized (ISO/TR 19122) mechanisms for granting qualifications certification, the ACLS is a new national authority who use mutual recognition, examination, portfolio/project assessment and supports CPD.
- Common to both the American and Australian certification model is the recognition of FIG/ICAX-accredited training courses as the preferred academic prerequisite.

Task Force Resources and References

- Association of Ontario Lands Surveyors (Provincial Extended Professional) Certificate of Registration
- American Congress of Surveying and Mapping (ACSM) Hydrographer Certification
- Spatial Sciences Institute, Australian Hydrographic Surveyors Accreditation Panel
- FIG Commission 4 (Working Week 2004)
- ISO/TR 19122:2004 Qualification and Certification of Geomatics Professionals (Regional, Section 4.4 Current Qualifications and Certification (FIG/Hydrography))
- URTASA (Urban and Regional Information Systems Association) statement on certification.

Task Force Recommendations

- Candidate to hold a GIS Commission (academically equivalent to a Bachelors degree in Surveying).
- Candidate to obtain commercial endorsement in:
  - Marine Emergency Duties (Transport Canada MED-41)
  - Small Craft Operations (including Canadian Coast Guard's I vessels operator's license and VHF Radio operators license).
- Candidate to submit an Affidavit of Statutory Declaration with academics demonstrating at least 4 years of related experience in hydrographic surveying.
- Candidate to submit a Hydrographic Field Survey Training Project Report based on a minimum of four weeks supervised and evaluated field training, including basic operations.
- Candidate to be a member in good standing of the ACLS.
Next Steps

- This recommended model for certification was approved by the ACLS Council in the fall of 2004. This model proposed that surveyed and legislation committee to review the legal implications of the concept and to present the Canadian Lands Surveyors Act.

- Primarily, a solution for the inspection of dialogue has been reached between the ACLS and the Canadian Hydrographic Service to see how the certification model would fit with their current career development plans.

- Implementation does not imply that only those holding a certificate would have an exclusive right to perform hydrographic surveying in Canada. In future, we anticipate that certified "CLS Cert. Hyd." would become recognized by clients and insurers as a "must have" qualification for those individuals providing hydrographic surveying services.

- With due recognition for the IHO/FIG/ICA Standards of Competence, the Task Force believes that such a regional certification for hydrographic surveyors might contribute to labour mobility between countries.

Thank you