

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



**From Pharaohs to Geoinformatics  
FIG Working Week 2005 and GSDI-8**

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## Why Hydrographer Certification?

- An apparent lack of IHO/FIG/ICA-accredited hydrographic and marine cartography courses in Canadian colleges and universities.
- The Canadian Hydrographic Service's *Future Directions* statement to "Increase reliance on external data collection, product development and dissemination". (DFO 2003).
- Canada's Ratification of UNCLOS where for the acquisition of data in support of Canada's Article 76 claims to the continental shelf, 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 that if our agencies are to rely more and more on contractors, we need the confidence that the contracted work was being done to recognized standards". (Brown 2002)
- A need to protect the public from unqualified service providers.
- A professional vs. technical designation.

## Why base a certification model on the Canada Lands Surveyor (C.L.S.) Commission?

- Present curricular harmonization is focused on compliance with criteria set by provincial and Canada Lands Board of Examiners.
- Canada Lands Surveys 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 pro-active in continuing professional development (CPD) for hydrographic surveyors via its Offshore Issues Committee.
- The Canadian Hydrographic Service has for over 20-years recognized the CLS Commission as a professional designation for Hydrographers.
- The ACLS is a self-regulated, professional licensing, body.
- The ongoing maintenance of the public's perception and trust in what qualifications a specific job title implies (i.e. Hydrographic Surveyor), rests with the surveying profession.

## Certification vs. Licence

- According to URISA (Urban and Regional Information Systems Association), "Certification is career 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 have met specified education and training requirements would be distinguished with an exclusive designation.
- Licensing awards an exclusive right, to individuals who have met specific educational and training requirements, to provide a specific service within a specific jurisdiction.
- With the exception of legal surveys the ACLS hydrographer certification model would function without jurisdictional limitations (eg. Provincial vs. Canada Lands).
- Mutual recognition agreements between provincial Associations and the ACLS are already in place.

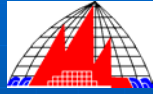
## Background Story

- The Association of Canada Lands Surveyors (ACLS) and the Canadian Institute of Surveying (Present-day FIG) evolved from the Association of Dominion Land Surveyors (1882).
- The ACLS was formed (in 1979) to initially focus on survey expertise issues in support of the Canadian offshore oil industry.
- The Canadian Hydrographic Association (CHA) was founded (in 1966) to focus on competency and training issues for hydrographers at home and overseas.
- The CHA is formally affiliated with the FIG (FIG- Hydrography Committee) and works closely with the ACLS Offshore Issues Committee to help deliver training and advise.
- Recognizing an opportunity to fulfill a need for the certification of Hydrographic surveyors in Canada, the CHA and the ACLS Offshore Issues Committee collaborated to form a joint task force to further study the issue (February 2004).

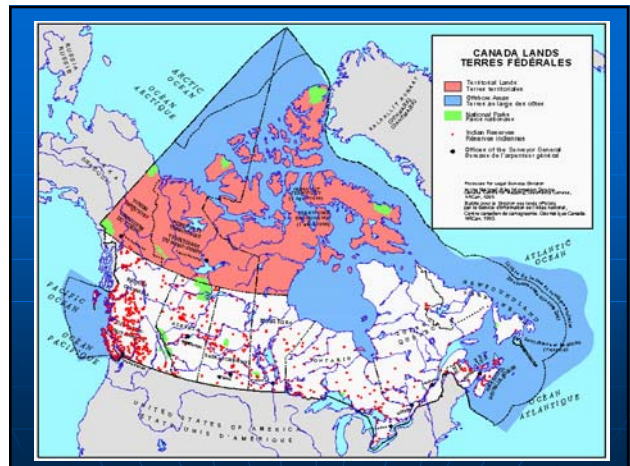
## Canadian National and Provincial Surveying and Mapping Associations



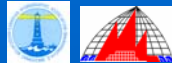
## Association of Canada Lands Surveyors



- Survey activities regulated by 10 provincial Associations and one "Federal" Association - The ACLS.
- The ACLS is a national multi-disciplinary organization representing geomatics professionals engaged 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 include the Yukon, Northwest Territories and Nunavut. An existing mutual recognition program provides a mechanism to extend licensure to survey provincial lands.
- Jurisdiction also includes surveys of National Parks, Aboriginal Reserves and Offshore Canada Lands.

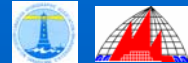


## CHA-ACLS Task Force



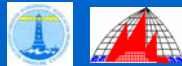
- The purpose of the task force was to prepare joint recommendations to implement a certification program for Canadian Hydrographers.
- Task force members were drawn from industry, government and academia including other correspondents/advisors from the ACLS, CHA, The Hydrographic Society of America 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 CLS commission, with specific academic and experience requirements was developed.

## Task Force Resources and References



- Association of Ontario Land Surveyors (Provincial- Expanded Profession) Certificate of Registration
- American Congress of Surveys and Mapping (ACSM) Hydrographer Certification
- Spatial Sciences Institute, Australasian Hydrographic Surveyors Accreditation Panel
- FIG Commission 4 (Working Week 2004)
- ISO/TR 19122:2004 Qualification and Certification of Geomatics Personnel, Section 6.4 (Current Qualifications and Certification Initiatives).
- URISA (Urban and Regional Information Systems Association) statement on certification.

## Common Elements



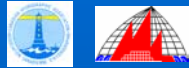
- The ACLS are in-line with existing international certification criteria insofar as the ACLS is a professional organization with clearly defined competency/skills/knowledge guidelines based on standardized curricula.
- The ACLS use factors such as the level of academic knowledge and practical experience when screening its candidates.
- Of the recognized (ISO/TR 19122) mechanisms for granting qualification/certification, the ACLS are a national authority who use mutual recognition, examinations, portfolio (project) assessment and supports CPD.
- Common to both the American and Australasian certification models is the recognition of FIG/IHO/ICA-accredited training courses as the preferred academic prerequisite.

## Task Force Recommendations



- Candidate to hold a CLS Commission (academically equivalent to a Bachelor's Degree in Surveying).
- Candidate to obtain commercial endorsement in:
  - Marine Emergency Duties (Transport Canada MED-A1)
  - Small craft operations (including Canadian Coast Guard small vessel operator's license and VHF radio operator's license).
- Candidate to submit an Affidavit or Statutory Declaration with logbook demonstrating at least five (5) years\* of varied 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 launch 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. The file is now with their *Bylaws and Legislation Committee* to review the legal ramifications of this concept and its impact on the Canada Lands Surveyors Act.
- Primarily a solution for the private sector, dialogue has been initiated between the ACLS and the Canadian Hydrographic Service to see how this certification model would fit with their present career development plan.
- Implementation does not imply that only those holding a certificate would have an exclusive right to perform hydrographic surveying in Canada, but in future we anticipate the credentials "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 national certification for hydrographic surveyors might contribute to labour mobility between countries.

## Thank you

