

INTERVIEW WITH KEN MCMILLAN, MCQUEST MARINE SCIENCES LIMITED, CANADA

Marine Geophysics & Hydrography

After completing an MSc. and course work for a PhD in Physics, he worked for the Federal Government's Environment department as a Marine Geophysicist until 1981. In 1980 he founded McQuest together with a land geophysicist, a research geologist and a tug and barge operator. Where most marine surveys required bathymetry in addition to marine geophysics, side scan sonar and subbottom profiling, hydrography became a mainstay of McQuest's operations. He served two three-year terms as President of the Canadian Hydrographic Association and was a FIG-IHO CAT A and B lecturer for the CHA-CIDA sponsored hydrographic training course at the Universiti Teknologi Malaysia.

What are the main activities of your company, McQuest Marine Sciences Limited? How did you arrive at the name 'McQuest'? It is understood that your company is concerned mainly with marine geophysics, including some hydrography. Could you describe the scope of your interests?

McQuest carries out marine geophysical surveys for industry and government. At the same time, we are representatives for hydrographic, oceanographic and geophysical equipment manufacturers. The name came about because we are seeking knowledge and information about the ocean and lake bottom. To quest is to search. 'Mc' means 'son of' and there were a majority of the original founders who had names with 'Mc', so McQuest was born.

Where do your contracts originate: from marine geophysics, the hydrographic industry or from government or industry, national or international?

If we were to analyse our survey contracts over the years we have been in business, the majority of the business has come from industry. Surveys for pipelines, cable routes, harbour development, mine development etc. have been the mainstay of the marine geophysics. Hydrographic surveys for industry also outweigh those done for the government. The majority of international contracts have been industrial in origin and mainly hydrographic in nature. On the equipment sales side, however, the government is the major purchaser.

Is hydrography in Canada government-driven (by the national Hydrographic Office), offshore-driven or both? Could you elucidate?

It depends on how you define hydrography. If you are referring to charting, then the sole provider of charting services is the Federal Government (Canadian Hydrographic Service [CHS]). While, since the break-up of the USSR, Canada has the longest coastline in the world, the resources of the Canadian Hydrographic Service have declined by over 45 per cent since 1990. At a time when other countries are increasing resources, Canada's are still falling. Hence there is no contracting out of charting services.

In support of navigational dredging, the Federal Government (Public Works and Government Services [PWGSC]) carries out all the hydrographic survey work. Occasionally, PWGSC will contract out smaller jobs to industry but this is the exception rather than the rule. A lot of industrial clients and other government departments approach the CHS for survey work and where it is decided that the hydrographic industry in Canada does not have the capability (usually multibeam echosounder surveys), CHS will conduct the survey. As a result, the hydrographic industry in Canada is very small. The majority of companies that do carry out hydrographic surveys have other business areas in order to survive. Hydrographic surveys for offshore gas and oil are usually part of a site survey or other geophysical endeavours. Multinational survey companies are usually the ones who carry out these surveys. So in conclusion, hydrography for companies doing hydrography is self-driven. The small survey companies have to search out work, ranging from the depth of sludge in sewage lagoons to the cover over a pipeline in a river. Otherwise they try to work overseas, performing harbour development surveys, pre and post-dredging surveys etc.

Is the Canadian government supporting or promoting the hydrographic industry and, if so, how?

Directly, NO! While the Federal Government does support geomatics by sector studies, under which falls hydrography, there is no direct support for hydrography.

At overseas conferences Canada will have a display booth for Canadian companies at a somewhat reduced rate. Government departments tend to purchase Canadian-made goods, such as echosounders and GPS equipment.

Canada is considered one of the most advanced and leading countries in hydrography; well-organised, with a national Canadian Hydrographic Service (CHS), a Canadian Hydrographic Association (CHA) and some universities at which hydrography may be studied. Is this a historical development, can it be attributed to some powerful leaders with vision or not?

Maybe in the past this was true. Visionary senior management helped steer Canada into a leading role. But CHS has been hampered by budgetary and personnel cuts in the past ten years and has had to make use of resources wisely. At the present time, 25 per cent of Canadian waters are uncharted and 65 per cent of the existing charts are based on surveys more than ten years old. Other countries have increased the level of subcontracts as they recognise that hydrography is part of the infrastructure of a country.

The Canadian Hydrographic Association (CHA) is still active and continues to try to promote hydrography by professional development, the journal LIGHTHOUSE, national and regional student awards and by strengthening alliances with other associations. Unfortunately, the university training is no longer FIG-IHO approved, so at present there are no approved courses in Canada.

Hydrographic Conferences in Canada are very well-organised, covering almost all aspects of hydrography and more; they are always a pleasure to attend. What interest do Canadian hydrographic surveyors show in attending or contributing to similar conferences outside Canada?

Because government resources are so strapped, very few hydrographers from CHS attend conferences outside Canada. Hydrographers in industry do tend to attend more conferences outside Canada in their search for opportunities.

Can you tell us something about the export of Canadian hydrographic knowledge/technology to, for instance, developing countries? Are Canadian universities providing facilities for foreign students to study hydrographic subjects?

Canada has been active in training for developing countries. There has been assistance to Egypt, Jamaica and Malaysia. CHA and The Canadian International Development Agency (CIDA) recently completed a project in Malaysia which has left the Universiti Teknologi Malaysia (UTM) operating FIG-IHO-approved Cat A and CAT B courses. CHS provided personnel for training in Egypt and in Jamaica. While there are no approved training courses in Canada at this time, many universities and colleges offer hydrographic courses and training. Graduate students from other countries attend these universities and usually spend time in CHS.

What are the chances for a young hydrographic surveyor in Canada? Also for a surveyor from abroad?

In one word – difficult. Most university graduates who have hydrographic training can't get work in Canada and usually freelance overseas. Because there is no contracting out in Canada, the industry does not need new hydrographers. Until there is a change in government policy, it is highly unlikely that surveyors from abroad will find work.

People are sometimes confused about what is CHS and CHA and which publishes LIGHTHOUSE. Could you explain who is what?

CHS is the Canadian Hydrographic Service and CHA is the Canadian Hydrographic Association. LIGHTHOUSE is published by CHA. Most hydrographers in CHS are members of CHA.

Do you see LIGHTHOUSE as being directed at the Canadian community or at a broader international audience?

LIGHTHOUSE is a peer-reviewed journal which accepts papers from anywhere in the world. Most of the non-technical articles are directed at a Canadian audience but are of value to most people around the world.

Can you give your retrospective thoughts, having been President of the CHA for two terms?

CHA, like all small volunteer groups, suffered through membership decline during my terms. The journal LIGHTHOUSE was in trouble, not making publishing deadlines and as a result losing advertisers. At the end of my second term, through the efforts of the current co-editors, LIGHTHOUSE has recovered dramatically. When I undertook the role of President, one of my goals was to try to come up with some form of certification for hydrographers. Unfortunately, this goal was not attainable but there were many discussions in many countries. It is my belief that we should not just certify the courses but also the individuals practising hydrography at a world level. Hydrography is practised in all countries and certification should be based on a global certification, so that a hydrographer in one country can be recognised and approved as qualified while working in another.

The CHA has never joined the International Hydrographic Society. Has this ever been an option or subject for discussion within the CHA? The International Hydrographic Society has disseminated into a Federation of independent national Societies. Will CHA now join this Federation?

There is currently on-going discussions about this topic. CHA has always tended to be a lone wolf and go its own way but there are advantages to joining the Federation. At this time, the decision is not finalised.

