

# Strategic Intentions of IFHS - How to Attract Young People to Hydrography

Venessa O'CONNELL, Australia

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## SUMMARY

Hydrography is a career rich with historical purpose and pride. Many well known world explorers mapped and shaped our world as it is today. Although the face of our profession has changed along with the purpose, the economic need in some cases has grown. However, over time community understanding of our role and importance in society has diminished. It is now time for the profession to become proactive and improve our image. It is the intention of the International Federation of Hydrographic Societies (IFHS) to take a lead role in creating awareness both within the profession and outside to the wider community.

This paper covers the current skills shortage of surveyors in Australia and some of the causes which have contributed to the problem. It then focuses specifically on the Hydrographic specialisation and discusses ways to encourage young people to the profession and/or those young members who are currently working to become increasingly involved. It suggests improvements and additional involvement such as extensive positive marketing, the creation of a careers and promotions committee and addressing the accreditation of hydrographic surveyors globally.

The final portion of the paper looks at the Hydrographic Societies in particular and discusses the benefits for corporate and individual members. The discussion then covers the change in demographics and the differing needs of the younger surveyor. It also suggests various methods of improvement to the society in order to cater for young surveyors.

The aim of the paper is to initiate involvement and discussion of the pertinent issues which are impacting on growth of the profession in Australia. It is the intention of the Society to become more actively involved in the promotion of Hydrography and ensure a sustainable and economic future for its members.

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## 1. INTRODUCTION

It is the view of the IFHS that for many centuries the exploration of the seas and the pursuit of new worlds, new trade routes and a greater understanding of humanity was the most challenging of vocations and the noblest of causes.

In the modern era there are many worthy causes. Some that appeal to our humanity, some that appeal to our collective prosperity and some, a rare few, that appeal to both. Such causes compete for our time, our energy and our money: not just on a personal level, but on a business level. Business relies on industry, and that requires trade. At the foundation of this economic axiom remains the maritime industry – shipping, ports, off-shore resources, intercontinental tele-communications, tourism and of course the protection of our collective interests. In the global economic village, it's still the sea that connects us.

If the foundation of economic prosperity is the maritime industry, arguably the foundation of the maritime industry is hydrography.

By one definition hydrography is “the science that treats of the waters of the earth's surface, particularly with reference to their physical features, position, volume and the preparation of charts of oceans, seas, lakes, and rivers”.

With definitions like this, it's not surprising most people haven't heard of it, despite it being the occupation of choice for such notables as Columbus, Cook, and Magellan. Hydrography has a rich history linked to magnificent explorers who charted and shaped our world. A more relevant definition in today's terms might be that hydrography is *the science of marine exploration*.

Hydrography is the common denominator of the maritime industry, an industry itself that touches nearly every other form of economic endeavour. Beyond this, however, hydrography and those skills that identify safe passage (irrespective of flag) increasingly bridge gaps in understanding between countries, where few other lines of communication may exist.

So while there are numerous sciences and engineering disciplines associated with the marine environment, only hydrography can make claim (both historically and now) to being at the core of all maritime enterprise.

These concepts are often forgotten or taken for granted, and frequently by those who work constantly in this arena. It is therefore the intent of the International Federation of Hydrographic Societies (IFHS) to focus on re-inventing our profession with the long term goal of attracting young people to hydrography but at the same time on creating enthusiasm

amongst those still working as hydrographic surveyors. This paper looks at some improvements which may increase numbers taking up the career as well as ways to engage young people to join IFHS.

## **2. THE CURRENT SHORTAGE OF SURVEYORS**

The first question is obviously how do we go about attracting our youth towards a career in hydrography? If the answer to this question was simple then we wouldn't have such a shortage of surveyors worldwide. In Australia the shortage of surveyors has become critical. The problem is quite complex and is not easily overcome.

It has been highlighted in many papers written over the past few years how the declining numbers of students entering surveying degrees are insufficient to match the numbers of surveyors exiting the profession upon retirement. The shortage can partially be blamed on a large proportion of Post WWII baby boomers who fill a considerably large percentage of the current workforce and have retired ( or will retire) in the next 5 – 10yrs. Voids in the profession result, especially for positions of mentors and senior surveyors with many years of experience who have always trained the young in the traditional values and practical aspects of surveying. Other sectors that are beginning to feel the emerging effects are University and Technical and Further Education (TAFE) Institutions trying to attract staff, as well as specialist sectors of the profession such as Hydrographic and Geodetic Surveying.

The skills shortage issue has begun to be addressed in Australia with a paper titled “Drain, Train, Gain – Addressing skill shortages in the spatial information Industry” (Kelly,P and Chipchase, C.2005). This study involved a workshop and aims to gain a collaborative national approach to the problem by obtaining significant government and community sentiment on the subject. Aggressive plans are required to overcome the crisis levels and immediately. Groups such as the NSW Association of Consulting Surveyors and the NSW Division of the Institution of Surveyors, Australia have initiated programs and a marketing regime, however more involvement is required especially at the field surveyor level.

There are now three primary bodies that have specific focus on promoting hydrography and related sciences. The most established of these is the International Hydrographic Organisation (IHO) based in Monaco. The IHO is an inter-governmental consultative and technical organisation which coordinates and makes recommendations for the safety in navigation and the protection of the marine environment. The second group is the International Federation of Surveyors (FIG), a UN-recognised non government organisation, who by agreement represent qualified practitioners.

The third member of this tripartite is the International Federation of Hydrographic Societies (IFHS), a not-for-profit organisation that by agreement represents industry, users of hydrographic information and the interest of the public in maritime exploration. While all cross boundaries, it is arguably this group that has the greatest liberty to promote hydrography and is focussed presently on taking necessary steps towards being at the forefront of positive change for our collective future.

IFHS will endeavour to assist in focussing on the education and training of hydrographic surveyors through its associations with FIG and IHO working cooperatively to ensure the outcome is beneficial for the whole of industry. Increased prominence will not be achieved in isolation. It will only be achieved through international collaboration and that will take well invested, well targeted resources.

## **2.1 Factors contributing to the crisis**

Before we look at the ways to encourage more young people into the profession it is important to first take a step back and study some of the reasons why we have such a fundamental problem.

A major contributing factor towards the problem of attraction is the global lack of understanding of what a surveyor, let alone a hydrographic surveyor, actually does. In Australia the broader community have a limited grasp on the work of a surveyor and how they benefit society. The way to successfully overcome this is through positive marketing, whether it be DVD, print media advertising or web sites. In Australia the shortage of surveyors is considered to be at catastrophic levels. The Institution of Surveyors Australia's New South Wales Division has taken matters into its own hands and employed a Media PR consultant whose sole purpose is to promote surveying to the wider community. To date DVD's and print media have been the focus and although it is a little early to gauge, it does appear that the effort has increased numbers interested in selecting Bachelor of Surveying Degrees in NSW.

In John Hannah's recent paper "Australasia's Surveying Skills Crisis – Is it marketing failure?", (Hannah, J. 2006) he discusses factors contributing to the skills shortage. In Australia as John suggests the sustained economic growth due to the minerals boom has had a huge impact as has the wider opportunities now available to graduates. Professor John Fryer, Emeritus Professor Australia's University of Newcastle in his paper "They shall Grow Not Old", (Fryer, J and Hill, L. 1999) suggests the detrimental effect on Surveying caused by the declining number of students choosing to specialise in Cadastral Surveying. A situation which has now spread to other specialisations, as graduates increasingly now have a wider scope of employment upon course completion.

There are some additional factors which could be specific to New South Wales but there are definitely underlying issues contributing to the shortage in our profession. Firstly, changes in high school curriculum whereby students are no longer required to choose maths and science in later years. Secondly, a lack of understanding of surveying by prospective students entering the degree and TAFE courses and thirdly, the restriction on Educational Institutions in Australia towards staffing numbers and available funding.

### **2.1.1 High School Curriculum**

Changes in high school curriculum over the past few years has meant that it is no longer mandatory for students to undertake mathematics or science in years 11 and 12. As these are

the final two years of NSW high school it is now increasingly important for career information regarding surveying to be given to schools in year 10. Targeting the year 10 students and/or training teachers will ensure that the correct subjects are chosen relevant to surveying .i.e. mathematics and science. As the number of students decrease so does the pool of eligible applicants.

### 2.1.2 Retention of students in Surveying Courses

Surveying courses are not easy and students need to be focused on the final goal of working in the profession to ensure successful course completion. However in comparison to many professions, Surveying should have an advantage due to the fact that there are such a vast array of jobs for graduates to choose from. Sandwich courses and work experience should be encouraged.

For many universities around Australia the struggle is to keep students once they have begun a course in Surveying. Universities are increasingly adopting the notion of having a common first year component through the engineering degrees courses. This can be considered both a disadvantage and an advantage. Students can choose surveying just to get into university knowing that they can easily change after first year. It is difficult therefore for staff to assess numbers but with a degree like Surveying which has a reputation as being the poor cousin to any engineering degree it is likely that graduate numbers could in fact decrease further under these models.

The University of New South Wales (UNSW) is one such university where first year is now common with all Bachelor of Engineering degrees across the Faculty of Engineering. Staff must focus on keeping students interested and motivated on their future survey careers even though they have the ability to swap to more appealing courses like civil, environmental or aeronautical engineering.

Surveying staff at UNSW have taken a forward step by actively using marketing initiatives on campus to attempt to gain from this change in university degree structure. Marketing material such as postcards, posters, and t-shirts are all being used both on and off campus to encourage participation and create awareness in Surveying to current and prospective students. The University has also created a novel idea of producing a 50 year commemorative calendar for 2007 which has a dual purpose of marketing surveying as a career. The calendar shows all the facets of surveying offered as a career and also lists the Surveying and Spatial Information related Degree courses available at the university.

### 2.1.3 Staff and Funding for Educational Institutions

This area is probably the hardest to address due to the political and governmental influence related to funding for education and training in Australia. TAFE courses in NSW are over subscribed for surveying. Many survey firms have young working people who miss out on getting into TAFE due to the restriction on numbers. Thus we have a situation of more students wanting to attend courses than the Institution can accomodate, but in fact industry is

demanding the numbers because of the skills shortage. Funding for staff and resources is not available and thus the number of students able to complete the course is restricted. So a cycle forms to which there is no immediate answer. This is an important issue due to the fact that in NSW approximately 10-25% of surveying students articulate from TAFE through to university varying between the two universities and their entrant restrictions.

Universities have a very different problem, as numbers have remained steady or have slowly decreased in recent years and they must try to attract enough students to ensure their livelihood.

Until interest groups successfully lobby government, the restriction to numbers will continue to cause strain on the growth of new graduates to the profession. It is hoped that groups such as the Spatial Education Advisory Committee will move quickly to oversee a coordinated national approach to develop a vision and strategic direction for the future.

### **3. THE SPECIFIC ISSUES FOR HYDROGRAPHY**

The three main factors which need to be addressed in order to encourage young people to either enter the hydrographic profession or become more involved are firstly extensive positive marketing. Secondly the creation of a careers and promotions committee which would focus on promotion, creation and distribution of additional materials. Finally, addressing the accreditation of hydrographic surveyors by creating a structured global framework for the certification process.

#### **3.1 Marketing**

Marketing is the key. Many have described Surveying as being a lonely career with long periods of time away from family and friends. In the current Special Publication No.3 “Hydrographic Surveying as a Career” available on the International Federation of Hydrographic Societies website the following is the first paragraph of the section described as the character of a hydrographic surveyor;

*“In terms of personality, the prospective surveyor should have the ability or potential to live and work in cramped and uncomfortable surroundings. You must be prepared to be away from home for extended periods, sometimes at very short notice, and be able to adapt sensibly to changing circumstances during a particular survey job”.*

The surveying profession in Australasia is approaching crisis levels in terms of our skills shortage. The extract above is an extremely negative way of describing hydrographic surveying and although it may be or may have been relevant for some parts of our profession it is not appealing to the youth of today. Many take up a career in Surveying for the adventure, travel and exciting challenges. Young people want job variety and for many job security is not high on their list as they would rather have the ability to move between employers. The challenge for the profession is to harness these positive attributes and ensure that students are enthusiastic about working as a surveyor before they embark on their studies.

As mentioned above, marketing is essential for promotion to the wider community, prospective students, existing students and government. The profile and importance of surveyors can not be raised without a successful marketing plan. DVDs, print media, websites, posters, calendars and school presentation packs have all been produced in New South Wales by a combination of industry and educational groups.

The most important attribute which is still required to ensure the success of marketing is motivated and enthusiastic working surveyors. It is unrealistic to think that a couple of newspaper articles and a DVD will immediately turn around the face of surveying for Australia. The coming years are crucial and working surveyors all need to become actively involved in their local Surveying Society or Institution. Many older working surveyors are of the opinion that they are 'too old' to speak at high schools, however if every surveyor suggested that they were too old or too young then no one will ever address the problem! Surveying Societies must take an active stand in encouraging members to actively take part in promotional activities. One such method is through providing Continuing Professional Development points to members who deliver presentations to schools.

It should also be considered that it is a sensible idea to specifically promote all forms of hydrographic surveying to women. A large percentage of students choosing higher mathematics and science at high school are today are in fact female, and the profession at this time is highly suited to women due to advances in technology.

Other marketing options could involve Navies around the world having an "open ship" on occasions when a hydrographic ship is in port to encourage community awareness particularly among the younger generation. Participation in any show that has an aquatic theme could also be encouraged to create awareness such as Boat shows.

### **3.2 Career and Promotion Committee**

The establishment of a career and promotion committee through the IFHS would benefit the profession. This committee should involve a mixture of all ages as well as hydrographic disciplines. It is important to remember that young people today are extremely visual and will use the internet as their first destination to discover the daily activities of a Hydrographic Surveyor. The main role of this committee would be to ensure up to date career information is placed on the Society web page as well as improving the current resources available for promotion of hydrographic surveying as a career. The following items could also be the responsibility of the committee;

- Provide links to all available current courses in Hydrographic Surveying from all over the world maintaining and reviewing the list every six to twelve months.
- Endeavour to improve SP3 "Hydrographic Surveying as a Career" produced by IFHS which is currently shown on the Society web page. The publication is outdated and fails to encourage or fully reflect enjoyment or satisfaction that a hydrographic career can provide. An improved addition to this document would be profiling young surveyors in a variety of hydrographic surveying workplaces.

The current document is so negative it could actually deter candidates from choosing our profession.

- Create website links to interactive DVD's showing real life experiences of hydrographic surveyors.
- Work to produce a brochure style colour publication for distribution which also reflects all facets of the Hydrographic community.
- Create website links for profiled work experience eg. Military Hydrographic Surveying show links to various Navy Hydrographic Service websites.
- Encourage local high school visits and attendance at career days. The committee can provide helpful resources such as DVD's, flyers and hints on how to present to high school students for surveyors wishing to promote surveying at local schools.

### **3.3 Accreditation**

If the surveying profession as a whole is having trouble attracting young people to complete courses then once they are qualified, one would assume that the specialisation of Hydrographic Surveying would have to be at the top of their list. It is common knowledge that Hydrographic surveying is a cut above the rest! But maybe not! It is evident in Australia that land and mining surveying offers graduates faster and more structured paths to formal accreditation than hydrographic surveying does. Thus we may promote and encourage young people to complete the study of surveying but then we need to lure them towards this specialisation.

In discussing improvements to training and certification it is extremely relevant to also gain an understanding of the current demographics of the profession. A survey was conducted in late 2005 by myself to identify education and training trends within the industry. The data collected was representative of Coastal Zone Management specialisation surveyors within Australia.

A total of 47 civilian surveyors were analysed and categorised with relevance to their positions within their organisations, qualifications and current accreditation qualifications. The statistics show that the younger portion of the profession are increasingly degree qualified and yet only approximately 18% of surveyors under age 39 are accredited. The figures also suggest that the majority (75%) of civilian hydrographic surveyors working in the specialisation of coastal zone management are not undertaking accreditation. The statistics are a snapshot of industry with the purpose of highlighting the figures, qualifications and age demographics which directly influence the accreditation process in Australia within the specialisation of Coastal Zone Management.

In Australia, there are two main underlying reasons why many young surveyors are deciding not to gain accreditation and both are dependant on each other. Firstly, the length of practical training time required for a civilian degree qualified surveyor and secondly the lack of formal training courses available.

### 3.3.1 Practical Training Time

A young person looking at a future career will always look at the time required to reach full qualification and training in their chosen field. A degree qualified surveyor who has not completed any further specialist formal training in Australia requires 5 years experience in Hydrographic surveying with 50% of that time afloat. In comparison for example in New South Wales, a Cadastral Land Surveyor requires 1 year practical experience and a Mining Surveyor 3 years. This becomes an issue instantly as remuneration is almost always based on specialist qualifications. A degree qualified surveyor would have little or no knowledge of hydrographic surveying at any rate due to the current lack of training within the Degree program and would tend to instantly lean towards the Land or Mining Surveyor specialisation especially due to the faster track to greater remuneration and notwithstanding the current vast array of job prospects available.

Currently, the system allows no scope for a person seeking certification to have gained significant practical experience in areas directly relating to the specialisation of hydrography such as Lidar surveys, geodetic surveying or engineering surveying. The newly developed Canadian model (Leyzack, A.2005) enables the practical experience period of five (5) years to be obtained in a range of survey disciplines such as land, engineering, mining, control, photogrammetry and more importantly even distinguishes between Hydrographic surveys as being Lidar, Conventional or Multibeam. The Canadian model also requires candidates to have successfully completed a marine training course, thus keeping the marine aspect of accreditation separate. The Australian equivalent of this training could be a Marine Coxswain Certificate.

The completion of formal marine training in addition to the existing requirements in Australia may not be considered a burden especially if the practical experience was broadened to include all disciplines involved in hydrographic surveying. Marine training courses are readily available at TAFE institutions in all states and the training is extremely pertinent to hydrographic survey positions.

This should not be the basis to change an accreditation process but in conjunction with the current lack of available training in many countries where surveyors intend to live and work, review would and will be beneficial.

### 3.3.2 Formal Hydrographic Training

In Australia, Bachelor of Surveying Degree courses are currently offered at eight universities across Australia. Surveying Degree courses currently offer one subject in Hydrographic Surveying at the most. TAFE courses in Surveying offer no formal tuition in the specialisation of Hydrography. Surveyors who wish to gain further knowledge in the field must currently travel abroad to Otago, New Zealand which offers the closest post graduate degree Category 'A' certified course. Completion of this Category 'A' course not only gives significant additional knowledge for a surveying graduate but in terms of gaining accreditation, the course reduces the required practical training time down to 2 years. This

course may be reduced to between 4 and 6 months full-time in certain circumstances, however, for many employed Australian surveyors the ability to travel to New Zealand is not an option due to overall cost, family commitments or current employment just to name a few.

Category 'B' courses are offered in Australia by the Royal Australian Navy (RAN). The course is currently 26 weeks full time and accepts a maximum of 14 defence force personnel. This option is restricted to RAN surveying graduates. Civilian Degree qualified surveyors are currently unable to complete a Category 'B' course in Australia.

Under the current accreditation system a degree qualified surveyor can obtain H1 status by completing either a Category 'A' or Category 'B' course and 2 years practical experience. As neither Category A or B courses are available to degree qualified civilian surveyors in Australia. Knowledge is restricted to "on the job training" and the time taken to become accredited is a minimum of 5 years.

The "Education Debate" was discussed at the Hydro 04 congress in Galway. The report written in the Hydrographic Journal No.116 April 2005 discussed opinions for and against formal training of Hydrographic surveyors. A sound training regime would surely be a good mixture of both formal training and practical field experience. The report suggested that throughout the world there could be too many courses for Hydrographic Surveyors. As mentioned however, Australia is one such country where the exact opposite situation exists.

The report also discussed the disparity between different accrediting bodies and the lack of understanding by industry of the respective functions and significance. Until approximately two years ago Australia had a single method of gaining accreditation as a Hydrographic Surveyor: through the national system headed by the Australasian Hydrographic Surveyors Certification Panel. In recent years the state of Queensland has created an accreditation system for Hydrographic Surveyors under their state legislation. The Queensland Board of Surveyors currently provide a Hydrographic Endorsement under their system of state Registration. This method of certification is only available to surveyors working in the state of Queensland but it has caused a disparity creating two accrediting bodies in Australia. The Queensland system considers practical experience as well as a correspondence style professional training scheme which is beneficial to many working hydrographic surveyors. If other states follow suit as they are unsatisfied with the current national system then the problem could quickly become far worse than it is today.

Accreditation in Australia would benefit from a higher level of recognition throughout the profession and in turn the greater community. Due to the relatively small numbers of the profession overall it is suggested that an international approach to accreditation could overcome some of the problems highlighted. An international system could set guidelines for assessment in each discipline of hydrographic surveying. A way of training surveyors by distance learning would also benefit those countries where surveyors live and work but have no access to formal training. This process would then enable shorter practical experience times and encourage more young people into the profession without lowering the level of knowledge required by a professional hydrographic surveyor. In addition, this may also

address the issue whereby older surveyors working in the hydrographic industry have not endeavoured to apply for accreditation due to the current unstructured extremely time consuming process.

An example of distance learning could be through the establishment of a Professional Training Agreement (PTA) process. This style of training could provide a more structured representation of the modules considered necessary for proof of understanding. A PTA enables candidates to complete core modules as well as a specialisation while obtaining practical experience. The system ensures the candidate gains a greater understanding of the core techniques and provides an environment for learning theory at the same time as gaining practical knowledge. The PTA period would be a set period of time, for example two (2) years, and during that time the candidate must complete theory requirements, provide examples of work, gain practical field time and be supervised by a H1 accredited Hydrographic Surveyor throughout the process. The accreditation panel would maintain a high level of confidence in the level of knowledge acquired by the applicant but at the same time encourage more civilian graduate surveyors into the profession by shortening the practical experience time.

Consideration should also be made for the change in today's hydrographic surveyor. Not only are hydrographic surveyors charting the worlds oceans, increasingly work is being done in inland rivers, dams and estuaries. Structured programs to enable accreditation for the specialisation of Inland Waters Hydrography and Coastal Zone Management for example are listed as "Optional Units" in section 2.3 of the FIG/IHO Standards of Competence for Hydrographic Surveyors. Promotion of accreditation to surveyors working in these fields could be undertaken if distance learning was available. Surveyors are increasingly using new equipment such as Lidar and Multibeam and taking on expanding roles. This should also be considered in the practical training time as is considered in the Canadian model. These changes could potentially foster greater membership to the IFHS benefiting the hydrographic community as a whole.

Thus, training must be readily available in countries, areas and regions where people are likely or want to be employed in order to sustain interest from young survey graduates. An International approach to distance learning with a structured framework and focus on each discipline would streamline the accreditation process. This would in turn benefit the profession at all levels as the working surveyor could more readily begin to fulfil the requirements of accreditation.

#### **4. ATTRACTING ADDITIONAL MEMBERSHIP TO IFHS**

There are many professional associations: some we join for the post nominals, some we join for the social contact and some we join to pursue professional our knowledge and collective understanding.

As the name suggests the IFHS is a society of societies, however, the affect is an efficient collective of international services to individuals and corporate entities belonging to a

member society; services that would be cost prohibitive and limited in reach if pursued on a national or regional level.

#### **4.1 Corporate Member Benefits**

The first question is ‘What is it that a maritime company, indeed any company, wants’? In crude terms, greater profits leading to greater market share and overall business growth.

By their investment, corporate members show their commitment to a science that continually pursues a more effective balance between the environment and maritime enterprise, in addition to greater marine safety. Their sponsorship says much about the value they place on sound governance and corporate ethics.

Indeed one of the great advantages of belonging to one of our societies, even for those that are fairly detached from hydrography itself, is that such an international network offers a unique opportunity to benchmark corporate performance with many comparable maritime industries. In the near future, this benefit will be more formalised and allow, for example, Navies to compare their corporate structure against oil companies, for shipping companies to compare their strategic communications against exploration companies.

Research prepared by Paul Hornsby, Chairman IFHS suggests that one of the key reasons the corporate sector seeks to engage with a professional society is to find a concentration of the types of professionals they seek. This is also one of the main reasons individuals join societies. In the near future, belonging to one of our societies may well be crucial to tracking the right people all over the world. This is a fundamental advantage of belonging to an international federation rather than simply a domestic group.

Of course for any company, large or small, an essential tool is to obtain corporate exposure in the market place. This is never cheap. However, one of the key facets of the International Federation is that it allows us to collaborate to produce a first class Journal and other professional publications, products that could not be achieved economically at a national or regional level. It is therefore a fundamental advantage for corporate members to have access to the advertising and corporate news benefits of belonging to one of our societies in the Business Division.

#### **4.2 Individual Member Benefits**

Bringing corporate and individual interests together is a key function of our societies and the international framework.

As such, it is a facet of our societies that corporate members allow the Federation to make individual services more affordable and thereby attract a congregation of the right sort of professionals and interested parties.

For the individual, belonging to one of our societies exposes the member to a global network of some of the best minds in the maritime and hydrographic industries. Whether looking for a better job or not, any professional today realises that it is that small amount of extra information that makes the difference in achieving a result or closing a deal.

Currently member benefits include an unparalleled quarterly Journal, substantial discounts to conference and symposiums, access to a range of electronic media resources and if desired a range of employment services.

Additionally, it's not just for those working in the industry. Many retired or interested parties join the society. Those who have a love of both modern and historic exploration gain the advantage of a network of unmatched knowledge on the subject.

#### 4.2.1 Young Hydrographic Society Members

So why are so few young surveyors joining the Hydrographic Society or becoming actively involved? Many young professionals today believe that the term "learned society" equates to old men holding meetings for their own benefit. Any society that thinks that it exists just for its own sake should never be taken seriously. However, the societies who belong to the International Federation are dynamic groups who believe in the win-win concept of collaboration. By being members of the International Federation they take 'exploring' and stretching the boundaries, particularly outside their national environment, very seriously. While some government and professional organisations are necessarily limited in how far they can go, the modern learned society can ask any question, debate any topic, and attack any issue. Of course these may be reasons why individuals joined societies in the past but there is always room to improve and adapt to the changing demographics of the future.

In Australasia the current society membership is approximately 144 Individual members, 22 Corporate, 11 retired and 4 students. Students are given reduced fees for membership and currently there are more retired members than students. This is a priority area of focus for improvement for the Society as students are the future of our profession, not only for financial sustainability but most importantly for fresh innovative ideas and a vision for change.

For many young surveyors the question remains "What will the society provide for me"? Young surveyors today want more than the regular journal and meetings to discuss prominent issues. They need intimate involvement.

The following are suggested improvements which may encourage young membership to the Society;

- Formation of a Young Hydrographic Surveyors Group. The group could interact through email and the IFHS webpage.
- A Young Surveyors section could be created on the website with links to helpful reference texts for accreditation. A question and answer section showing both the questions and answers displayed online would benefit young surveyors gaining

knowledge and experience without being embarrassed about asking the question to an experienced surveyor especially while in formative years.

- Website links showing advertised positions
- Free membership to all full-time hydrographic and/or surveying students
- Search function on webpage
- Website links providing continuing professional development, including courses suggested outside the area of surveying i.e. business management. Beneficial to have young surveyor's list courses they have completed and stating the pros and cons.
- Formation of a Seniors Group to assist in providing mentoring and tuition to the young surveyors by answering their questions.
- Society to encourage Navies to promote membership to young trainee surveyors as well as attendance at Society meetings. Society could give special reduced rates and play a role in assisting trainee surveyors by providing a setting to present papers for continuing professional development.
- Society meetings should be encouraged to take place on Navy hydrographic ships whenever they are in port.
- Encourage members to engage in meetings through a teleconference facility such as SKYPE, especially when there are large distances between members in large countries such as Australia.

## 5. CONCLUSION

Marketing is an expensive and time consuming role of which enthusiastic members of the profession must be actively involved to create success. Young members providing time, innovative ideas and initiative is also necessary for marketing programs to succeed especially when students want to be able to “connect” with the person in the DVD, newspaper article or surveyor giving a school presentation.

Accreditation is an issue which currently impacts on the number of young surveyors choosing the hydrographic specialism and requires an international structured framework to assist working surveyors of all ages gain the required level of competence. This streamlined approach will also benefit the wider profession and industry as it would begin to break down the disparity and disunity amongst accrediting bodies.

The Hydrographic specialisation is a small sector of the surveying community but if large groups such as FIG, IHO and IFHS can work cooperatively together to resolve some of the issues mentioned in this paper for the benefit of industry then we will all reap rewards. Many of the initiatives presented in this paper involve committees and working groups of dedicated individuals donating precious time to the profession. Promoting and improving current systems can only aid to influence the number of people entering the profession but most importantly in the longer term the hydrographic community will benefit as we look forward to a sustainable future.

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## BIOGRAPHICAL NOTES

**Venessa O'Connell** BSurv (Newcastle), NSW Reg Land Surv

Venessa graduated from the University of Newcastle with a Bachelor of Surveying Degree in 1998. She was awarded the New South Wales Surveyor General undergraduate scholarship in 1996 which involved paid work experience for 1 year at the then Land Information Centre at Bathurst, NSW. In 1998, she was employed in a 1 year graduate position at the NSW Roads and Traffic Authority. From 1999 until 2003 she held positions within the NSW Department of Lands, firstly as a graduate cadastral surveyor and subsequently as a geodetic surveyor whilst gaining experience for Registration. She became a Registered Surveyor in New South Wales in 2003. In 2003 she gained a position at Sydney Ports Corporation as a Hydrographic Surveyor. In 2004 she was awarded NSW Young Surveyor of the Year. Venessa has also

been an officer in the Australian Army Reserves Coastal and Riverine Hydrographic Survey Unit since 1997.

Venessa has been a member of the Australasian Hydrographic Society since 2003. She has also been a member of the Institution of Surveyors Australia since 1995 and is a foundation member of Spatial Sciences Institute of Australia. She is an active member of NSW Division of the Institution of Surveyors Australia, participating on a number of committees including the Careers and Promotions Committee, and the Young Surveyors Group. She is also a representative on the NSW Surveying & Mapping Industry Council and the NSW Board of Surveyors Spatial Information Committee. She was recently selected as one of eleven Australian Young Ambassadors for the FIG Sydney 2010 Congress to attend the 2006 FIG Congress in Munich, Germany.

Venessa is passionate about promotion of the profession and encouraging young surveyors to become more actively involved in their future. Venessa has been filmed for promotional DVDs and interviewed for two Australian national newspaper articles. She has also been interviewed for a national engineering careers book published by Career FAQs.

## **CONTACTS**

Venessa O'Connell  
Sydney Ports Corporation  
PO Box 25  
Millers Point, Sydney  
Australia  
Tel. + 61 2 9296 4975  
Fax + 61 2 9296 4772  
Email: [voconnell@sydneyports.com.au](mailto:voconnell@sydneyports.com.au)  
Web site: [www.sydneyports.com.au](http://www.sydneyports.com.au)