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»I love my Career in Hydrography«

A science talk with *William Heaps**

William Heaps is Chairman of the International Federation of Hydrographic Societies (IFHS) and works as Assistant Marine Advisor and Hydrographic Manager at Associated British Ports (ABP) in Southampton. He has answered our questions per e-mail during a period of approximately two months. There was a lot to ask and to tell: About his career in hydrography and his daily business; about the activities of the IFHS and the future of the *Hydrographic Journal*; about the need of Portable Pilot Units and the benefits of Automatic Identification Systems; about the serious educational situation and insufficient public relations; and about the HYDRO 2010 ...

IFHS | THSUK | Associated British Ports (ABP) | Port Marine Safety Code (PMSC) | Hydrographic Journal
PPU | AIS | education | public relations

Mr. Heaps, the website »linkedin.com« gives a short overview of your professional life. The first entry is dated to 1981 with your study at the University of Wales in the fields of Maritime Studies, Marine Geography and Hydrography. Do you remember the reason(s) why you start to focus on the maritime sciences?

Yes, I chose a degree in Maritime Studies with Honours in Marine Geography, for the simple reason that I enjoyed geography at school (and was quite successful in examinations in that subject); and because I have always lived by the sea, and spent most of my younger days sailing – so Marine Geography seemed the perfect course of study. At that time I did not know what career I wished to follow after my studies, and hardly knew anything of Hydrography, but both those deficiencies were put right by the time I graduated. I therefore spent a further year following a specialist post graduate Diploma at the University of Plymouth (Polytechnic in those days) and began my career as a hydrographic surveyor.

The last issues are dealing amongst others with definitions and terms in Hydrography. »Maritime«

and »marine«: both terms can be found in your educational curricula. Can you explain the difference between »maritime« and »marine« in your own words with examples from your life?

I had to go to my dictionary here! There is (it seems) little difference between the two adjectives in language terms, but to me the word »maritime« is more »all encompassing« referring to all things »nautical«, while »marine« to me, at least is more specific to ships and navigation. For example, a coastal area has a »maritime climate«, but you might use a »marine chart« to find it! I have to stress this is my own definition, but it does fit quite well with the title of my first degree, and my current job title of Assistant Marine Advisor, which is very much related to hydrography, shipping and safe navigation.

Which were the most important milestones in your private and in your professional life?

From a professional point of view, I would have to mention again my discovery of the world of Hydrography while studying at the University of Wales, which set me on my current career path – a decision which I have never regretted. Later on my move to a company called Nash Surveys was important – I found that the survey company which employed me was actually part of a dredging company – a business sector that (as an Englishman!) I may never have considered otherwise. However, I found that dredging provided many exciting and interesting opportunities for the Hydrographer and gave me the opportunity to move later into the field of port hydrography and marine safety. That last move was also a milestone as it allowed me the time (and structured working hours) to become involved in the work and management of The Hydrographic Society (later THSUK and IFHS).

From a personal point of view, I have been very lucky to have a very supportive wife and family, who have allowed me to follow a career that I love, and who have accepted that they will never become rich while I stay in this part of the industry! So as milestones, I have to give the obvious, though still important, events of my marriage and the birth of my two children!

* The interview with William Heaps was conducted by Volker Böder and Lars Schiller via e-mail

William Heaps ▼



There are 21 ports belonging to ABP (Associated British Ports). Southampton – where you work – is the premier port in UK. Which are the main questions and problems for the port in the moment?

I am responsible within ABP for assisting all of the ports within the Group. I happen to be based in Southampton because that is where I was previously employed by the company (as Port Hydrographer) before taking on my current position, and there was no need for me to move elsewhere (fortunately for my family!). All ports have recently experienced difficult economic conditions over the last few years, but within ABP, we are lucky to be experiencing an improvement in market conditions at most of our ports. This is especially the case in Southampton, where the container trade is showing a good recovery, and (especially) the cruise ship business continues to boom, growing year on year. From my own perspective, we have seen some very positive developments in the field of marine safety, with the introduction of modern multi-beam survey systems in both Southampton and the Humber ports and Estuary during 2010; and some very positive moves towards even greater co-ordination in our compliance with Port Marine Safety regulations. Problems for me continue to be ensuring that everyone involved in Marine Safety in such a large and diverse group of ports, can be kept up to date with the latest requirements, and comply with all that is asked of them with the very limited resources of time and money that we are all so used to.

What is your daily business consisting of?

My role, as hinted above, is to help ensure that all of our ports comply consistently and correctly with the huge range of legal and statutory requirements that in the UK are wrapped up in the »Port Marine Safety Code« (PMSC). In other words, to ensure that the marine navigation side of a ports business is as safe as possible. While this sounds a rather dry subject area, nothing could be further from the truth. My daily work involves working with Harbour Masters and marine staff from all of our ports, carrying out research and advising them on a huge range of subjects. For example, a few of the tasks currently on my desk are:

- Hydrography – equipment and staff recruitment;
- Charting, and liaison with the United Kingdom Hydrographic Office;
- Development of passage plans (using GIS);
- Reviews of VTS systems and services;
- Investigations into subjects such as work boat codes, NABSA berths, Oil Spill response plans;
- Planning an internal conference to be attended by all of the ABP Harbour Masters;

»My family has allowed me to follow a career that I love. They have accepted that they will never become rich while I stay in this part of the industry.«

- Keeping a marine users eye on the developments with the Water Framework and Habitats Directives, as they affect navigation safety (mainly their effect on maintenance dredging).

Furthermore, I have a number of regular ongoing tasks: I am the »designated person« of Southampton under the PMSC:

- Preparation of regular reports to the Harbour Authority Board to keep them informed of marine developments and their responsibilities;
- Maintenance of our group wide marine risk assessment and incident reporting database, and production of reports for the Board, as above;
- Representing ABP at various National meetings, for example with the MCA (UK National Maritime Administration), UKHO and other bodies responsible for maritime safety in the UK.

... I cannot remember the last time I could not find something that needed doing!

How is your department been structured?

I am part of a very small department! – I report directly to the Marine Advisor to ABP (who is also Harbour Master Southampton). I have no one reporting to me directly. The Marine Advisor reports directly to the board of ABP.

What and how do you think may change your and your employees work in the near and in the far future? Please differ between political and technical developments.

My colleagues in the various Port Marine Departments are becoming more regulated as years go by. This is not always a bad thing if, as with the Port Marine Safety Code in the UK, those regulations can be drawn up (or summarised) in close co-operation with the industry and users, to make them clear and workable. However, some new regulation (especially some of that coming from »Europe« for example Water Framework

Directive), while clearly well meaning and sensibly conceived, can be incredibly complicated to interpret and apply for the user. Set against increased regulation and administration, are some exciting and useful technological developments to aid marine safety: Increased survey ability through multi-beam survey is an obvious example. However, that data only become useful to the mariner if it is correctly interpreted and made available, so developments in processing software, GIS systems, and Electronic charting are just as important. Other technical advances of importance to ports are AIS, VTS systems and more mundane computer systems such as our incident database. In the far

future (regrettably not the near future!), I expect technology to play an even greater role – especially in improved understanding and practical applications of Electronic Charting.

What is the difference between »the Hydrographer« and the »two surveyors« on board a survey vessel in Southampton?

The Hydrographer is the manager, looking after policy, planning and daily management of survey and dredging activities within the port. He also has overall responsibility for QC and the final »product« and advises the harbour master and pilots on all hydrographic matters, especially available depths for safe navigation. The surveyors have responsibility for doing the work! Gathering survey data, processing it, producing and plotting charts, and ensuring that all stages of the process are carried out to the highest standard, with all necessary checks being completed along the way.

»In the far future (regrettably not the near future!), I expect technology to play an even greater role – especially in improved understanding and practical applications of Electronic Charting.«

It takes lot of time and energy to act as Chairman of the IFHS. What was your motivation in 2008 to face the challenge?

Yes – it does take time and energy, and there never seems to be enough available. Looking back, it is difficult to say exactly why I ended up as chairman! However, I am very keen to see the IFHS play a meaningful role in world Hydrography – and especially to promote the industry to Hydrographers of the future. The IFHS is actually presently a small and select band of individuals, representing as they do a large number of members from their respective societies, and it was the support and encouragement of those good friends which probably provided the real motivation for my appointment, as well as real desire to see the good work of the Federation continue.

It took some time before DHyG entered the IFHS. The subscription of the Hydrographic Journal, the access to an international store of knowledge and news, was seen to be one of the big advantages. However, in the last few years the frequency of the publications had been definitely reduced. Give us an insight in the reasons, please. What are the problems and how can we get rid of them?

The *Hydrographic Journal* is the last international peer reviewed learned publication in the world of hydrography, and as such it is highly valued by Academics, Researchers and individual members of Hydrographic Societies around the world. There is, in my view, a valid place for such a Journal, and it is one of the objectives of the IFHS, as well as of many of the member Societies, to continue to provide this service. However, it is also clear that general news and »hydrographic chat« is better

distributed by alternative methods – notably electronic means such as websites, national society newsletters, e-mail, blogs and other modern media. There is also a place for general business news in specialist magazines such as *Hydro International*, which I believe is complementary to the Journal, and by no means a competitor.

The IFHS has been considering the future of the Journal as you rightly suggest, and an experiment was launched to produce a couple of editions using alternative »modern methods«. However, it became clear that the current methods were fit for purpose and any potential savings offered by the alternative approach would effectively be cancelled out by logistical difficulties and consequential cost incurred, and that the real difficulty in putting a journal together is in the work needed to source referee and edit material. Producing an electronic version is no quicker than traditional printing, once all the hard work has been done. Unfortunately this experimental period lead to considerable delays in distributing the Journal, and was further compounded by a period of ill health suffered by the editor (happily now resolved).

Are there any plans or visions to develop the Journal in the near and far future?

It has recently been announced that the Journal will become a twice yearly publication, and no longer contain »news« which is better served by websites and other electronic means. IFHS maintains it's own website, which was completely redesigned less than twelve months ago, where member Societies can link to their own sites, and provide details of their news and forthcoming activities to a wider international audience. Like all websites though, the information is only as good as the last time it was updated. It has been a constant theme of my chairmanship over the last two years that individuals should be kept informed by their own National Society's publications and media services, but that each Society should support the International aspirations of the Federation through funding the Journal, and maintaining their own sections of the IFHS website.

The success of a society like DHyG depends mainly on the active participation of its members. It should be the same with IFHS. We like to ask about your impressions from your first years leading the IFHS: Do you wish more participation of your members and – if yes – in which fields of work? How can you reach and motivate the members?

The IFHS has been fortunate since its inception, to have had an executive body of very enthusiastic representatives from each National Society. It must be remembered that the members of IFHS are the

National Societies themselves, and not the individuals representing those Societies. To that end the IFHS will only be as successful as the National Societies it represents and the enthusiasm those societies offer to IFHS. The strength and reputation of IFHS internationally will be most enhanced by increasing our membership, and maintaining our existing reputation for co-ordinating top quality international events such as the HYDRO series of conferences, publishing the Journal and other relevant material, and promoting the interests of our industry around the world. In short the role of the IFHS is to support the National Societies, who must be the ones to reach and motivate individual members.

During the HYDRO 2010 conference IFHS and DHyG are planning a meeting of National Societies and interested persons trying to build up National Societies. What is your motivation and what are your expectations for this meeting?

My previous answer explains my motivation – strength comes in numbers, and for the IFHS that is the number of member societies. It is also fair to point out that financial security comes with greater membership, so that motivation must not be ruled out. The IFHS is a fairly inexpensive organisation to run, with modest fixed overheads. The more societies that share these costs, the cheaper it becomes for every member, and consequently, we hope, even more Societies will be enabled to seek membership. My hope, and indeed expectation, is that the event at HYDRO 2010 will lead to us being able to announce one or more new members of the IFHS before the end of this year.

From your point of view: Which are the main advantages for a National Society to be member of the IFHS? Do we have to distinguish between the advantages for societies of developed and of less developed countries?

I believe that membership of the IFHS brings recognition and respect on the international stage. Other advantages are very similar to those the individual gains from membership of their National Society – the ability to exchange knowledge and best practice. Support and advice from colleagues who may have experienced and solved the same problem you now face. From a practical point of view, membership allows access to services that would not be possible for national societies to maintain alone – the international website, the Journal, MOUs (Memorandums of Understanding) and dialogue with International bodies being just a few examples. And from a financial point of view, access to discounted delegate fees to International conferences and events is an added bonus. The present committee of the IFHS is always looking for ways that membership of the IFHS could add value to the National Societies, so if any readers have got this far, and have some ideas, why not let us know!

In Germany hydrography has difficulties with public relations. In this connection: What is the »ABP Pedal the Ports Challenge«? Is it a kind of public relations work? What about public relations in Great Britain?

Hydrography is certainly little known in the UK, so we take every opportunity to raise the profile of the profession – this is one of the priorities of both THSUK and the IFHS. Within ABP, we also like to make our colleagues and the wider public more aware of hydrographic activities – whether this be through hosting visits to the offices or launches, or allowing filming of our activities. I am also personally very keen on promoting careers in marine science to schools and universities, to try and secure a supply of Hydrographers for the future.

Pedal the Ports was an ABP corporate event to raise money for Motor Neurone charities. While not directly related to hydrography, the event was notable for including staff (including Hydrographers and marine staff) from all of the ABP ports in a nationwide team effort. As well as being a successful charity event, there was a very positive public relations impact as well.

The 21st of June is World Hydrography Day. How can we use this day to open the minds of the public and politicians for Hydrography?

Definitely. I believe I share the IHO vision that this is exactly what the day is for. In the UK this year, the THSUK held an event to mark the day, and I know a number of other national societies have done the same, both this year and in the past. A suitable event provides the ideal opportunity to invite key public figures, and politicians to meet us, and learn more about what we do. For example, in the UK we invited the next UK National Hydrographer (prior to his official appointment), as well as a well known TV presenter and academic to our event, which was good both politically, and in terms of public relations.

William Heaps ▼



It is known that you are involved in the development of the use of Portable Pilot Units (PPU). What is the importance of PPU?

Yes, I have been involved in this for a number of years. PPUs are a way of getting additional information to Pilots in a modern and easy to use form. I could write a whole paper on this question, but suffice to say that I see PPUs becoming more and more important for the safety of navigation in the future, as Pilots and ships make increasing use of, and then come to rely on, modern digital systems.

How can hydrographers help to develop or establish such a system?

Hydrographers are fundamental to the success of PPUs (and ECDIS). Without accurate charts at an appropriate scale (a vital aspect often overlooked by non-hydrographers) the PPU or ECDIS will be of limited use, and most likely actually detract from safe navigation. Hydrographers, with their long experience of survey, cartography and digital systems, are uniquely placed to ensure that such systems are developed to their full potential.

Will hydrographers use PPU in the future?

I think so – though I would suggest that we have been using something similar for many years with our on-line survey software, integrating many navigation and environmental sensors. Such hydrographic systems have been available in portable carry aboard packages for some years, though not termed PPUs.

We found that you are also dealing with the sending of tides and metrological data over AIS. What possibilities are given now and will be given in the future?

Yes, this is another area that I am interested in. It is actually a subject that links well with PPU development, because I see AIS as an ideal way of getting tide and meteorological information direct from the port (or even tide gauge) to the mariner, where it could be displayed directly on his ECDIS or PPU. At the moment, the technology exists, but there are still issues with defining standard AIS data messages, and developing ECDIS software to display the data meaningfully.

I am also concerned that any such data transmitted should be controlled and QC'd very robustly, for example by a Port Authority or National Maritime Administration, if it is to be used for safety critical purposes.

What are the main topics in your professional life (not IFHS) you want to work on in the near future?

I am not sure where to start! In the short term, I want to complete the work I have started on a standard Marine safety management system

for our diverse range of ports, and help all those responsible for implementing that system efficiently and consistently. This should make a real positive impact on the safety of navigation in all of our ports. After that, I may well turn my attentions to more hydrographic matters. I am especially keen to work on providing consistent berthing scale charting for relevant ports, which can be used by pilots and mariners using ECDIS or PPUs for their final approach to our ports.

A few months ago international acting companies declared a need of 800 young hydrographers worldwide. An increasing shortage in engineers is expected in the near future in Germany. The HafenCity University Hamburg (HCU) offers a CAT-A course which hardly can be filled with students. Do you see problems in the future?

Yes, I do. I think your question shows that the problem is already upon us. Increasingly it must be the case that the work of surveyors has to be undertaken by those who have not had a full training, or who do not fully understand the implications of decisions they make because they do not really understand what they are being asked to do. This will create problems for all of us if it brings our profession into disrepute, and almost certainly financial problems for the employers if they become involved in litigation, and they are found to be liable for using professional staff with inadequate training. I believe that hydrographic surveyors need to take pride in their profession, and allow themselves to be accredited like colleagues working in, for example, the legal or financial professions. This will allow employers to be sure they are reducing their risk by using properly trained personnel, and raise the profile of the profession, hopefully attracting more new entrants.

How can we (IFHS, hydrographers, others ...) spark interest of the students for our profession?

Apart from the suggestion above, I believe that those already in the profession should do as much as possible to promote what they do. This may range from volunteering to help at school careers days, to participating at events such as the careers days held in conjunction with some major industry conferences. IFHS and the national societies can play their part with information sheets, and online information for prospective students.

National hydrographic offices of less developed countries are not able to find or pay enough highly educated staff demanded by UN declarations. Do you see possibilities to help those countries?

There is always room for those states with a long hydrographic tradition to help those in less well

»To spark the interest of the students for our profession, I believe that those already in the profession should do as much as possible to promote what they do.«

resourced countries. While this is fundamentally a matter for governments, Hydrography has a long and proud tradition of going further, with many excellent examples of international co-operation at both formal and informal levels throughout the long history of hydrography (often transcending barriers of culture, and even hostilities). At hydrographic society, and personal levels, help continues to be given through assistance to attend conferences, and exchanges of information and even technology. In short we have plenty of experience to build on, and I do not see efforts reducing.

Do you think IFHS or any other institution may help raising money for young students from less developed countries in order to study in Europe? What needs to be done?

Most national hydrographic societies have »education funds« or similar, for purposes such as this. While beneficiaries are often »local students« sometimes those from less developed countries can benefit as well. This is only a small contribution, but none the less important. What needs to be done? – More of the same. Support your National Society and its fund-raising, and offer to take

»What needs to be done? –
More of the same.«

part in the organisation, to ensure money continues to be raised, and is properly distributed.

Your last words and wishes to the hydrographic community worldwide and in Germany for this time ...

As I come to the end of my two year term of office as chairman of the IFHS I look back on interesting times, and the privilege of having met many knowledgeable and interesting personalities from all parts of our business. At the same time, I look forward to those same acquaintances becoming good friends, and exciting times ahead for our industry. We have seen enormous leaps forward in technology in recent years, and new developments seem to be announced on an almost daily basis. However, as hinted in some of my previous answers, I think the focus will move to people rather than technology. We need to make our profession as widely known and respected as that of our colleagues in other professions, and more important still, attract new entrants to join us and become the Hydrographers of the future. It is an exciting business, but without keen and qualified people, the future will be uncertain at best. □

Anzeige

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