

# Aquatic Medicine EMS – Norway April 2015

Ross Neethling

Final year veterinary student – University of Bristol

I have just returned from 2 weeks in Norway having been fortunate enough to be selected to participate in an Aquatic Medicine EMS program jointly organised by European Veterinarians in Education Research and Industry (EVERI) and the Norwegian Veterinary Institute, and part funded by MSD and PharmAq. The placement mainly took place on and around the islands of Frøya and Hitra in Norway's Sør Trøndelag region, and they are the epicentre of Norwegian aquaculture!

The first week of the program involved working with and learning from vets and aquatic medicine biologists from the company Havbruktjenesten AS, the largest fish health practice in Norway as they conducted their typical daily work in aquaculture. We accompanied them on various routine health visits to both hatcheries and sea sites which included vaccination and sea lice treatments. These visits allowed us to gain valuable first hand experience of all the important aspects of modern aquaculture and the vital role of veterinary professionals in this field as well as husbandry practices such as vaccination, size grading, feeding, medical treatments and fish health monitoring which are not taught at most veterinary schools. In addition we learned the more veterinary focused aspects such as diagnostics involving the relevant sampling for various diseases, post mortem examinations, wellboat inspections, and the importance of environmental factors in managing disease and fish health. We were also able to gain insight into present day aquaculture, the economic and environmental influences of it and the opportunities and challenges facing the industry. None of these things are fully possible without hands on experience in the field such as this.

The second week students from the Norwegian Veterinary School joined us. The week was spent conducting similar activities but with more time spent in the classroom receiving lectures. There was additional teaching on the effects of salmon farming in the region on local wild fish populations as well as a field tour to appreciate the interaction of fish farming and the local environment. The week, and program, was concluded by visits to two modern busy fish slaughterhouses and processing plants. This provided a good opportunity to view the final step in the process of salmon production and therefore complete the full picture of production in our minds, from farm to fork. More importantly however, these visits enabled learning and appreciation of the challenges we face in ethical and humane slaughter and processing of fish whilst maintaining the integrity of both public health & hygiene and viable economics. It was also very interesting to see the progress that has been made in all of these respects as well and the sheer magnitude of operations that are carried out by such processing plants.

Modern aquaculture has grown dramatically since it took off in the 1970's and continues to grow strongly. There seems little doubt about the importance of

aquaculture on a global scale in the future of food security. For the amount of product from this industry there are relatively few veterinarians in this field at present. From my experiences with international students it appears that in general, veterinary schools worldwide are not currently providing the resources required for veterinary graduates competent in aquatic medicine. Although the aquaculture industry employs many very capable professionals, we as veterinarians are specifically needed to provide the vitally important link between academia and research, clinical practice, and industry. The general veterinary skills such as analysing and solving problems, diagnosing diseases, advising on public health protection and safe guarding the welfare of animals is just as relevant and important in aquatic medicine as it is in any other veterinary field. The Aquatic Medicine EMS Program goes a long way, in a short space of time, in helping to prepare veterinary students for the challenges and opportunities that this exciting industry holds. It is not a substitute for formal or more extensive training but it does provide a much needed opportunity and exposure that the vast majority of veterinary students outside of Norway would not otherwise get. I have had a very keen interest in a career in aquatic medicine for much of my time at vet school but for those who have not, the program is also a great chance to gain some hands on experience of what life as an aquatic vet entails. All in all this was an absolutely fantastic experience, which has certainly helped prepare and equip me with some of the experience and skills required for a future career in aquatic medicine.

Finally, there are much-deserved thanks due to many people involved in the program. I extend my utmost gratitude and recognition to our sponsors MSD and PharmAq, and both the Norwegian Veterinary Institute and EVERI for establishing and organising the program. Sincere thanks also goes to the fish health department staff at Havbruktstjenesten AS in Frøya as well as all the staff at the sites we visited and the people of Norway for an outstanding and immensely valuable experience.