

Hong Kong's City University focuses on aquatic health

KOWLOON, HONG KONG – I had the good fortune to visit City University of Hong Kong (City U) over winter break with my Aquatic Animal Health Lab colleague, H el ene Marquis.

City U is developing a new veterinary school, and we were guests of the faculty members in charge of establishing its aquatic production and veterinary health master's degree program, which is one of the school's first priorities.

Plans for the School of Veterinary Medicine (SVM) were launched in the spring of 2014 in collaboration with the Cornell University College of Veterinary Medicine, where H el ene and I are based.

Once fully up and running, the SVM will be the first in Hong Kong and is envisioned as a center of excellence in animal health education, discovery, and clinical care in China and the Asia-Pacific region.

This region of the world produces 80% to 90% of farmed aquatic animals and plants, and there is ample expertise in culturing these organisms. However, what the area has lacked is sufficient aquatic animal health training capabilities.

The SVM is committed to providing

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FISH HEALTH NOTES

by **ROD GETCHELL**



Rod Getchell and H el ene Marquis of Cornell University, center, visit the City University of Hong Kong's Aquatic Science Laboratory with Wing Cheng, left, a visiting fellow at City U, and Howard Wong, right, executive director of City U's School of Veterinary Medicine.

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excellence in research and teaching, with particular interest in emerging zoonotic diseases, animal welfare, aquatic production, public health, and food safety.

The school also has begun to collaborate with the University of Stirling. These Scottish aquaculture specialists are bringing their experience to the curriculum and assisting with the program's development.

The main objective of the program is to give students training in the wide range of disciplines and skills necessary for the investigation, prevention, and control of aquatic animal diseases. Students will gain an understanding of the biology, husbandry, and environment of farmed aquatic species, in addition to a specialist's expertise in aquatic animal diseases.

Graduates will be able to contribute to management decision-making at area aquaculture operations and provide advice that benefits their clients and the wellbeing of the cultured animals. The program also is intended to prepare students who plan to pursue a PhD in the area of aquaculture science in the future.

As you can tell by now, City U is responding to the large global demand for aquatic products and steady growth of the aquatic industry in Mainland China and Hong Kong.

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Fish farmer Alan Wong spent 20 years developing his Sai Kung-area site. Here, he fills a handmade, automatic feeder to support his pompano stock. He currently has oysters and spiny lobsters on site and maintains algal cultures, below left, as well. He previously raised grouper and other species.

All photos provided by Rod Getchell



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Local culture

We were privileged to be able to visit aquaculture sites during our visit (see photos). In Hong Kong, aquaculture production is well diversified with marine fish culture, pond fish culture, and oyster culture. The 2014 production from the aquaculture sector was 3,377 metric tons valued at \$169 million in Hong Kong dollars.

The species cultured here have changed over the years depending on the availability of imported fry. Common species under culture include green grouper, brown-spotted grouper, giant grouper, Russell's snapper, mangrove snapper, goldlined sea bream, pompano, and star snapper.

Fry are mostly imported from Mainland China, Taiwan, Thailand, Philippines, and Indonesia.

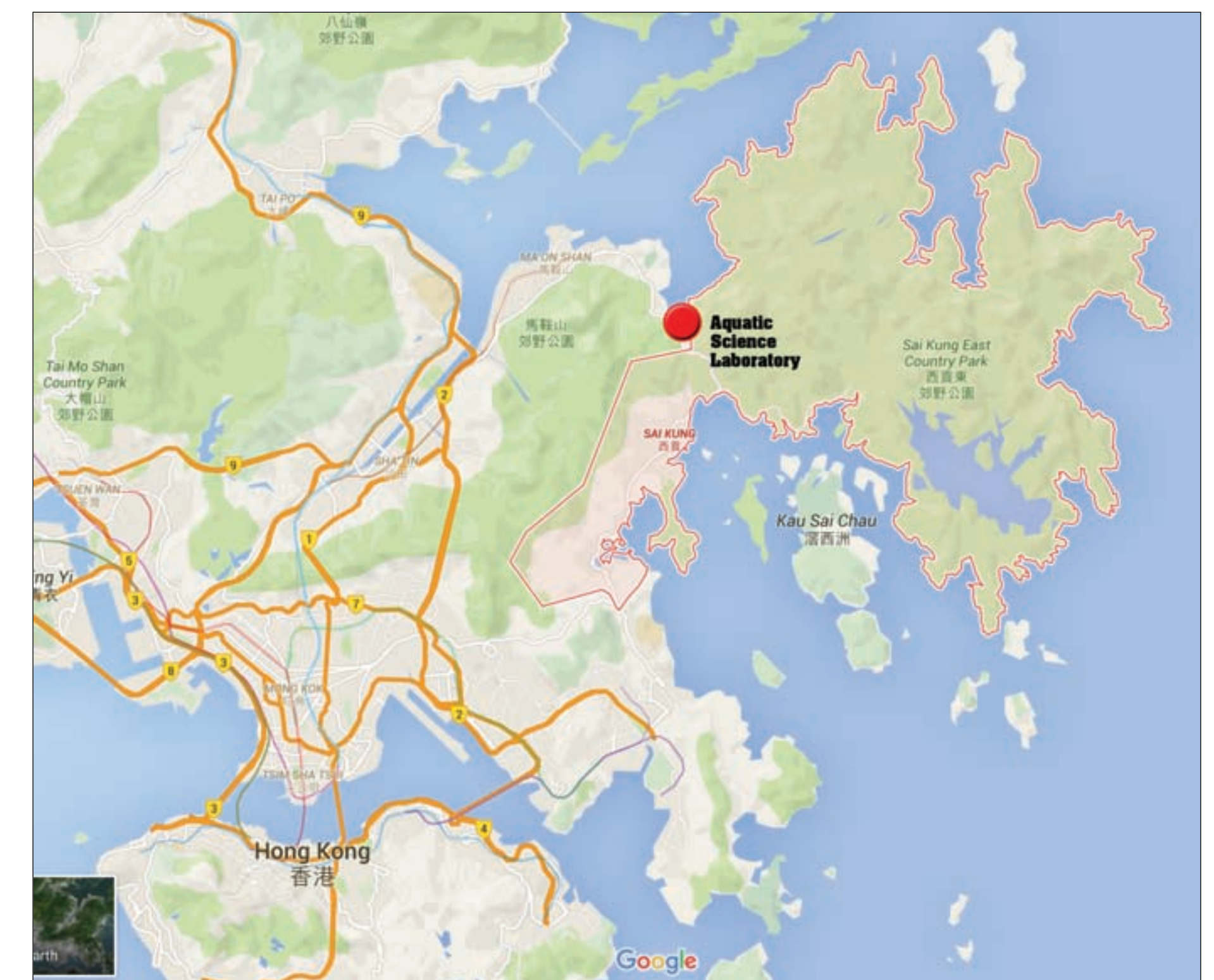
Marine fish culture is protected and regulated by the Marine Fish Culture Ordinance, which requires all marine fish culture activity to operate under license in designated fish culture zones.

Currently, there are about 26 fish culture zones occupying a total area of 516 acres with some 968 licensed operators.

The majority of licensed farms are small and family-run, consisting of one to two rafts with an average total area of around 290 square meters (3,100 square feet or 0.072 acres).

The pond fish culture industry is centered

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Alan Wong.



All photos provided by Rod Getchall

Traditional family cage sites in the Sai Kung region of Hong Kong.

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in the northwest part of the New Territories, north of Hong Kong. Fish rearing ponds utilize either freshwater or brackish water.

Most farmers are engaged in polyculture with species such as bighead carp, grass carp, common carp, and silver carp stocked in ponds with a combination of tilapia or grey mullet.

Fry typically are stocked in early spring and most fish species reach marketable size in eight to twelve months.

Traditionally, oysters were cultured starting with spat collected by laying rocks, concrete tiles, or posts as cultch on the flats in May or June. The oyster spat takes four to five years to grow to marketable size.

Some farmers have turned to fattening up medium size oysters imported from Mainland China. Many farmers have adopted raft culture with oysters placed in baskets suspended from rafts.

Practical research

Now you know a little bit about aquaculture production in Hong Kong, but let's get back to where we started.

One of the focuses of the City University of Hong Kong's new aquatic production and veterinary health master's degree program is to have students conduct aquaculture-based research projects and present their work to the City U faculty.

We were able to visit potential sites for this research, including raft culture farms in the Sai Kung region of Hong Kong (see photos).

Here, students would work directly with successful fish or shellfish farmers in the region. Additional research possibilities would take place at other locations in the New Territories, where future aquaculture development is planned.

We also were fortunate enough to visit the Aberdeen Wholesale Fish Market (see more photos).

The Aquaculture Fisheries Lab in the Department of

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Live fish and shellfish are prized in Hong Kong and fetch far more money than processed product at the Aberdeen Fish Wholesale Market.

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Agriculture, Fisheries, and Conservation Department – which has fish health expertise – is located right in the middle of the market.

We toured Aaron Leung's lab there, where he reviewed the recent red tide investigation he had conducted.

We also visited Hong Kong's famous Ocean Park, which sponsors a number of conservation projects. The park could prove to be another potential training area for students in the master's degree program at City U, as well as for veterinary externships.

To say the least, this was quite a trip.

Many thanks to our Hong Kong hosts for a most memorable and educational experience. Stay tuned for more about our trip across the border to Mainland China in the next issue of FFN.

Here is the link for the new aquatic production and veterinary health master's degree program: <http://www.sgs.cityu.edu.hk/prospective/apply/procedures>.

Thanks for reading Fish Health Notes.

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Farm raised barramundi being processed at the infamous Aberdeen Fish Wholesale Market in Hong Kong.



All photos provided by Rod Getchell

Above, sorting product at the market.



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