

## Asia-Pacific Wildlife Health Workshop

### Presentation Abstract Format

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## **Collaborations between biologists and veterinarians yield insights into marine turtle fibropapillomatosis**

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**Abstract:** Fibropapillomatosis (FP) is a tumor disease affecting mainly green turtles throughout their range globally. FP was first documented in green turtles in Florida (USA) in the early 1930s and subsequent investigations in that state described the gross and microscopic pathology of the disease showing that it was infections and likely associated with a herpes virus. FP appeared in Hawaiian green turtles in the 1950s but did not reach epizootic magnitudes until the early 1990s. Collaborative investigations between NOAA and USGS between the mid 1990s to mid 2000s have yielded substantial insights into FP. Specifically, the virus associated with FP was identified as chelonid alphaherpesvirus 5 using newly developed molecular tools. Long term studies showed FP to follow a classic epidemic curve indicating drivers of the disease are diminishing in Hawaii. We showed that FP led to immunosuppression and secondary bacterial infections and demonstrated that disease in green turtle manifests differently in Hawaii vs Florida. Transmission of the virus in the wild is likely through shedding from tumors, transmission by leeches or cleaner wrasse. Finally, tools were developed to grow ChHV5 in the lab using 3D tissue culture. None of these advances would have been possible without a robust statewide stranding program managed by NOAA that allowed access to specimens for research. This highlights the importance of cross-agency collaborations to address complex wildlife health problems in challenging settings (marine environment).

Keywords: green turtle, tumors, epizootic, virology