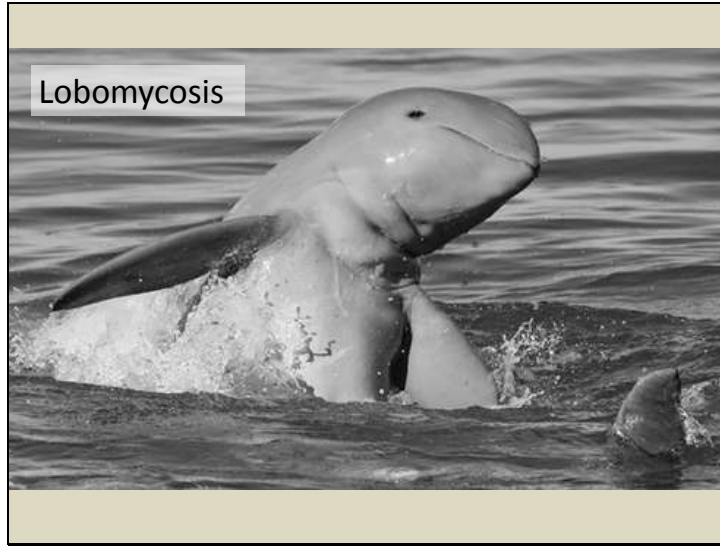


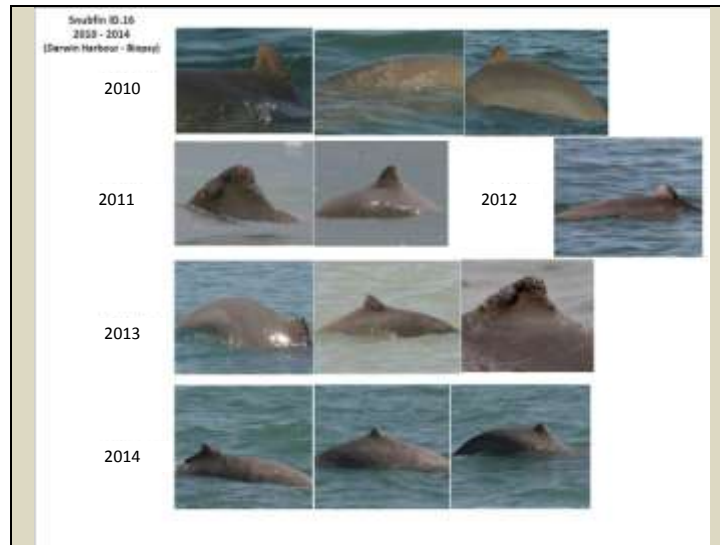
Slide 1



**Lobomycosis in a Snubfin Dolphin in
Darwin Harbour, NT, Dec. 2014.**

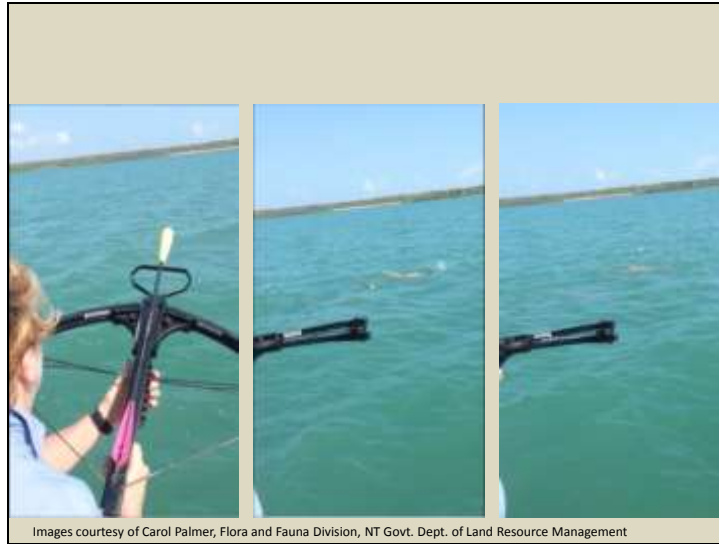
C. Shilton (Pathologist, Berrimah Veterinary Laboratories)
C. Palmer (Scientist, Flora and Fauna Division of the Northern
Territory Department of Land Resource Management)

Slide 3

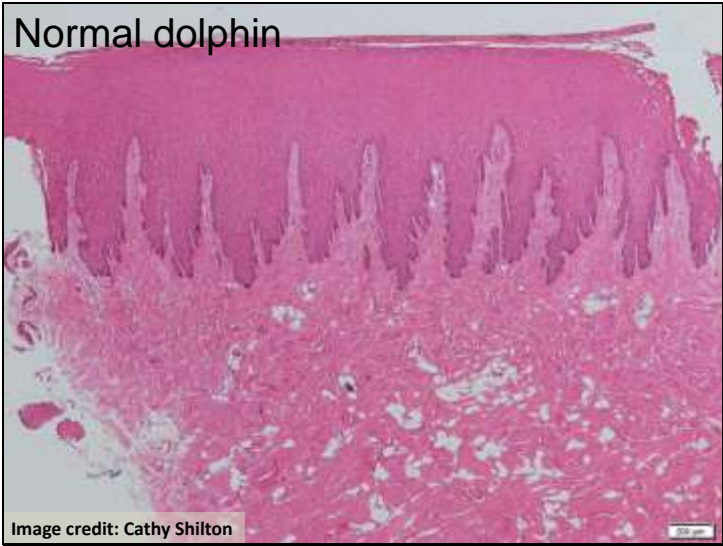


Through the NT's Dept of Land Resource Management's Marine watch program, a snubfin dolphin exhibiting lumpy skin lesions was first sighted in 2008. In 2010 in 2 more individuals were sighted with similar lesions, photos of which we can see here. At this point, Cathy Shilton was approached to help diagnose the lesions. She wasn't familiar with marine mammal pathology and so images of the lesions were circulated by WHA to a marine mammal experts, the zoo animal health reference group and wildlife coordinators. Various brainstorming suggestions were made and Padraig Duignan responded that the appearance of the lesions was quite good for lobomycosis. Carol Palmer attempted to acquire a biopsy at this time using a cross bow dart, but failed to hit a lesion and only normal skin was obtained. The dolphins were continually spotted over the next few years.

Slide 4



However, in 2014, another attempt to biopsy, using this impressive looking cross bow, was successful in collecting affected skin.



Slide 6

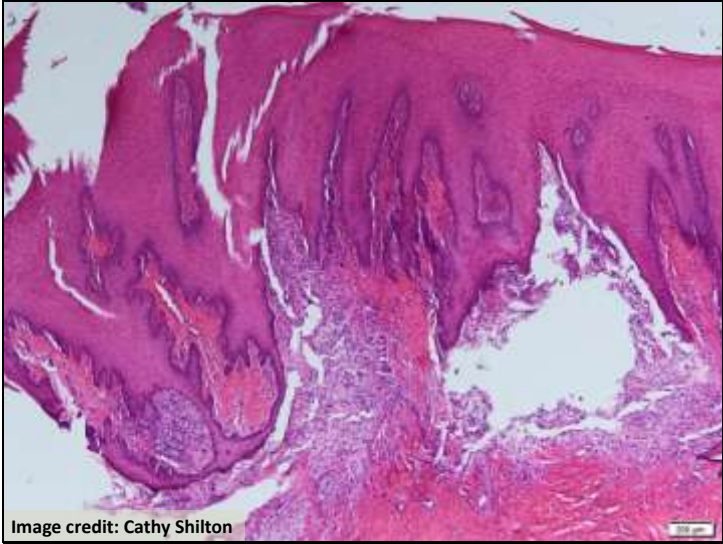
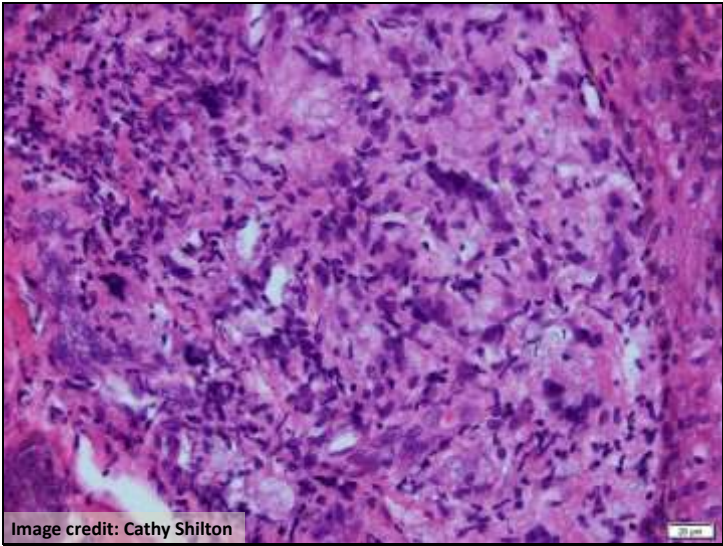
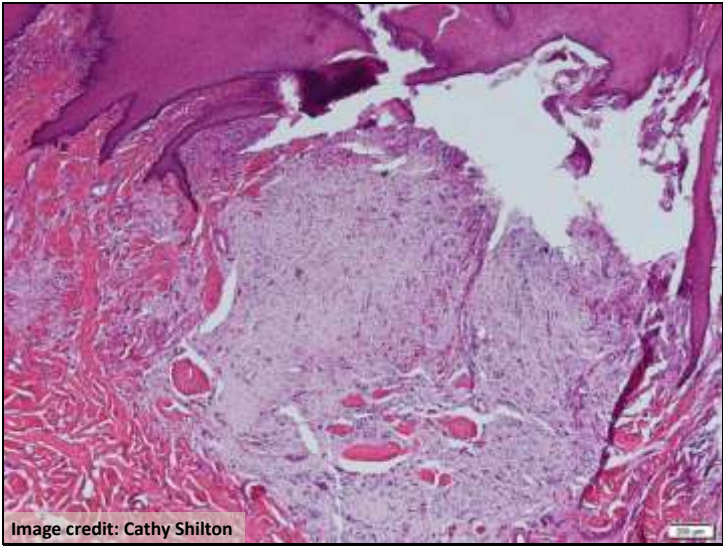


Image credit: Cathy Shilton

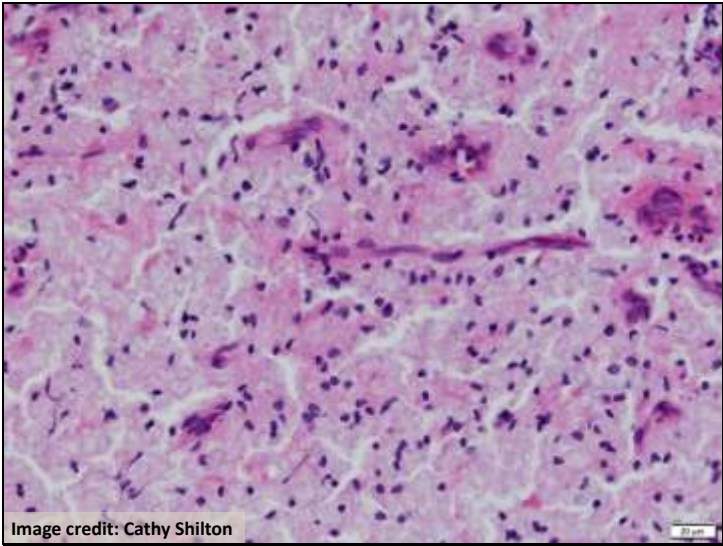
Slide 7



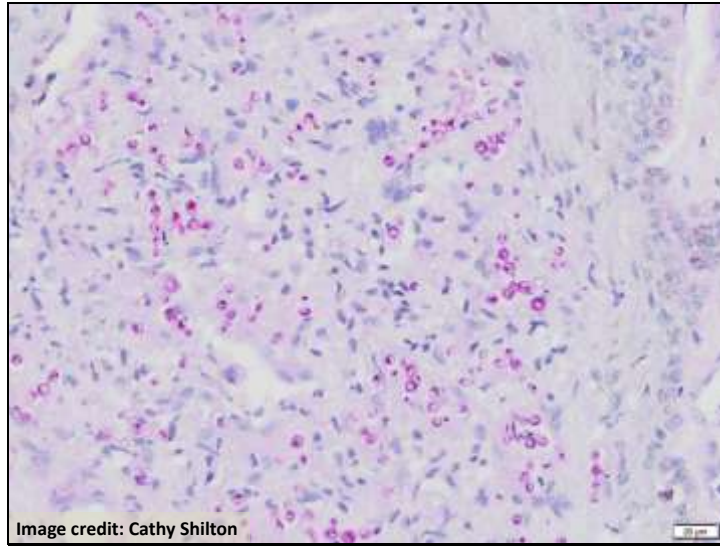
Slide 8



Slide 9

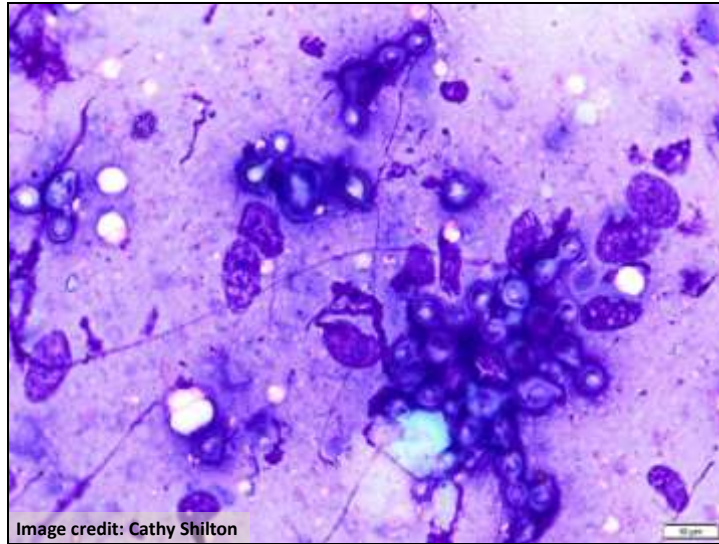


Slide 10



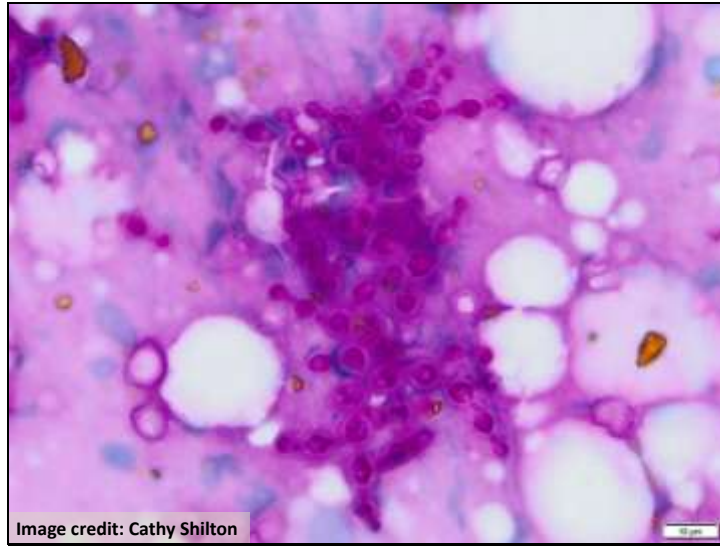
PAS version of histo

Slide 11



Modified Wright's. Numerous globose fungi attached via short, thin strands into branching chains, typical for fungal infection attributed to *L. loboi* organisms, as described in the literature

Slide 12



PAS version of cytology impression smear

Lobomycosis in dolphins

- Considered endemic in the Atlantic Ocean
- Lobomycosis-like disease (based on photos)
 - Indian ocean
 - Japan
 - West coast of South America
 - Around South Africa
- 2013: First confirmed case in Pacific off coast of Japan
- 2014: First confirmed case in Australian waters*

Is this emerging? Or just increased surveillance?

*Previous presumptive diagnosis in south-east Queensland

Lobomycosis as a zoonosis

- “Lobomycosis” is in literature as a zoonosis but,
 - Human cases with known dolphin exposure are rare
 - Esperon et al, 2012, molecular testing:
 - Human disease may be caused by *Lacazia loboi* (*Loboa loboi*)
 - Dolphin disease may be caused by closely related, morphologically similar *Paracoccidioides brasiliensis*
- Darwin case is *P. brasiliensis* (sequencing of panfungal PCR product by Catriona Halliday at Mycology Laboratory, CIDMLS, Westmead, NSW)
- Note: this fungus is considered uncultivable

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