

Digital Pathology: a new platform for collaboration

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Cefas

Aquaculture and aquatic animal health

Aquaculture is the world's **fasted growing** food industry.

Increase in total worldwide **output** and **species diversity**.

Potential increase in **aquatic animal diseases**.

Disease can have **serious adverse effects** on aquaculture industry and economy.

Requirement for **effective diagnosis of infectious diseases**.

A **shortfall of pathologists** exists particular in areas of **rapid aquaculture expansion**.

Cefas is **increasing the application of digital pathology** to help address these problems.



What is Digital Pathology?

Digital Pathology is the **Google Earth™ of histopathology**.

Histopathology ordinarily requires **light microscopy** to diagnose disease conditions.

Digital Pathology allows whole microscope slides to be '**scanned**' and stored digitally.

Scientists can access '**digital slides**' via internet and digital storage media.

Requires **hardware and software**.

Interrogated within an **internet browser** or proprietary software.*



How is Cefas using Digital Pathology?

Cefas offers Digital Pathology for a range of applications

- Sharing with long distance collaborators
- Peer/Case review
- International Diagnostics
- Training
- Registry of Aquatic Pathology (RAP)



What is the Registry of Aquatic Pathology?

Unique collection of **aquatic animal diseases**.

Includes **bacterial, parasitic** and **viral** disease.

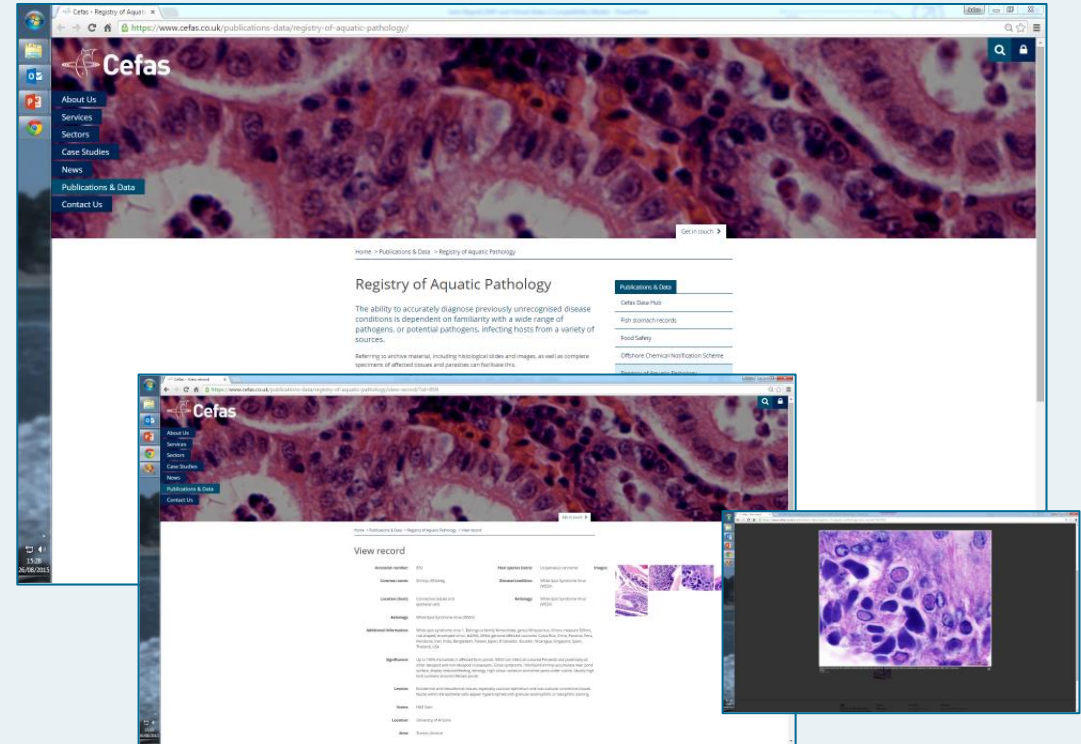
Aquarium, cultured and wild fish and shellfish from **freshwater** and **marine** environments.

Materials include **microscope slides, gross pathology images** and **parasites**.

RAP is **online** on Cefas website <https://www.cefas.co.uk/data-and-publications/registry-of-aquatic-pathology/>

Currently consists of **thumbnail pathology**.

Vision: to establish RAP as **the world leading** resource of online aquatic pathology.



Digital Pathology Demonstration

Digital Pathology and the OIE

The OIE Collaborating Centre for Emerging Aquatic Animal Diseases

Assistance in the investigation of new and emerging diseases **internationally**.

Histological skills **may** exist 'in-country'.

Histopathology skills **may not** exist due to worldwide shortage.

Digital slide scanners offer capability for countries to **engage with OIE CCEAAD pathologists directly**.

Cefas is currently undertaking a **pilot study** of this capability under existing partnerships.

