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Veterinærinstituttet  
Norwegian Veterinary Institute

**Fish-Vet Dialogue:** Exploring Collaboration on Managing Health of Aquatic Organisms

# Managing Health of Shrimps from AHPND outbreaks in 2011

**Presented by:**

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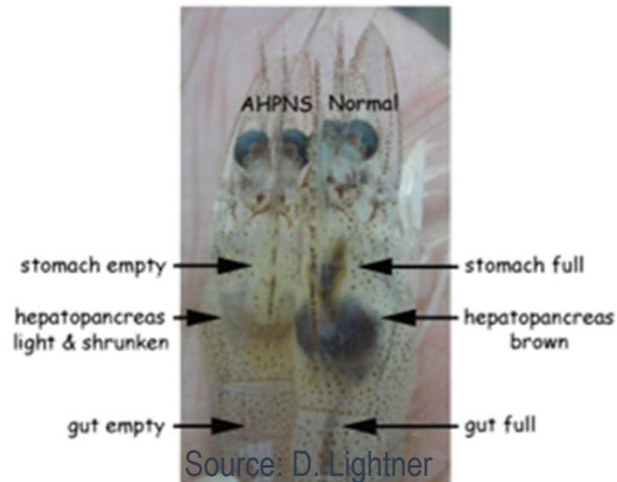


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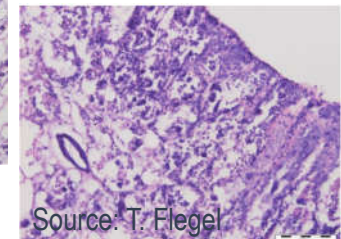
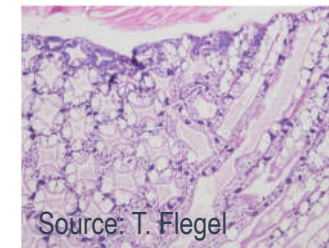
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## Acute Hepatopancreatic Necrosis Disease (AHPND)

- Pathogen: *Vibrio parahaemolyticus* ( $Vp_{\text{AHPND}}$ ), contain plasmid encoding Pir-like toxins
- Host: giant tiger prawn (*Penaeus monodon*) and whiteleg shrimp (*Penaeus vannamei*)
- Environment: salinity, season, farm managements i.e., overfeeding, poor seed quality, poor water quality,

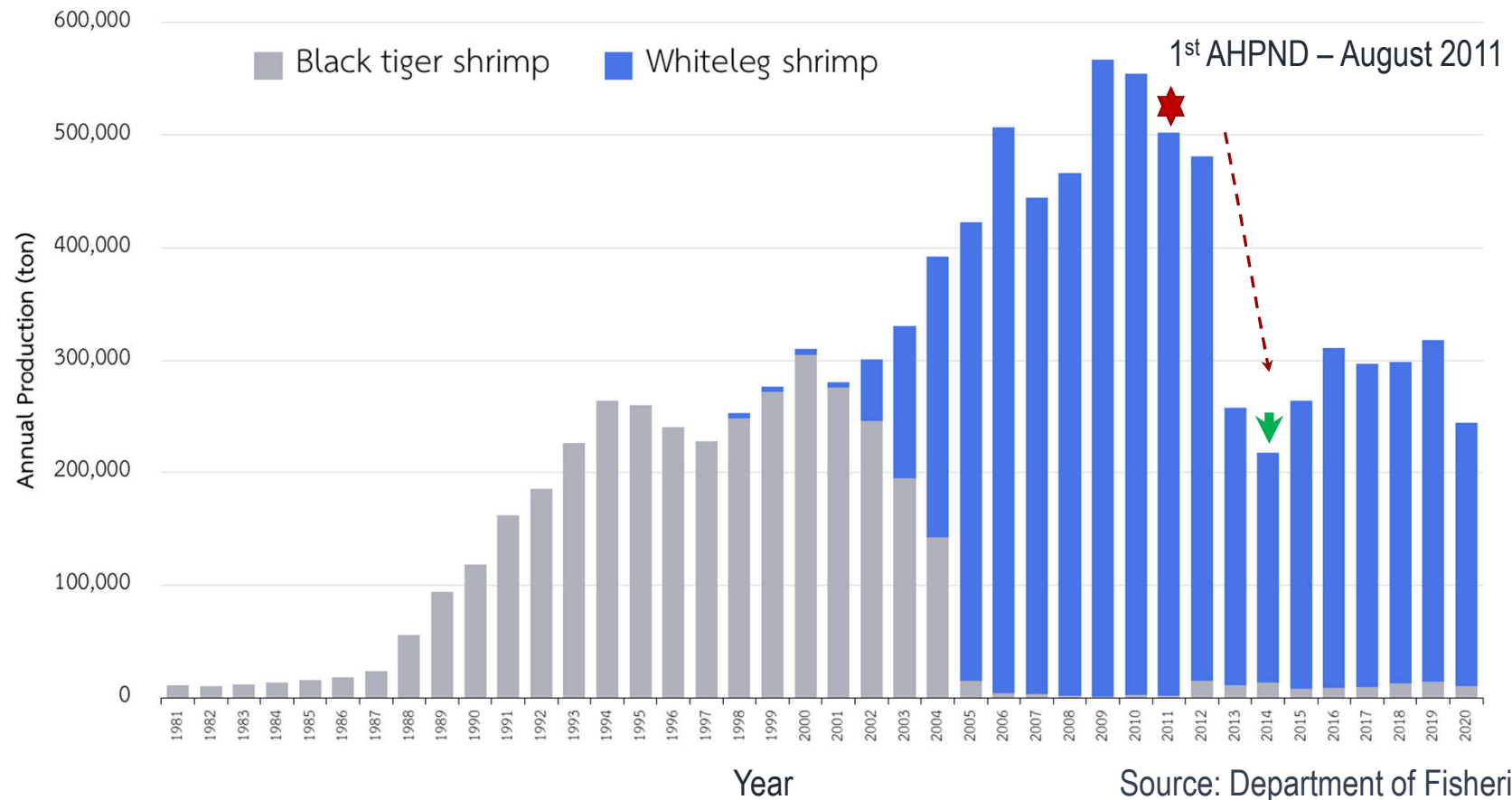


- pale-to-white hepatopancreas (HP)
- guts with discontinuous, or no contents
- black spots or streaks visible within the HP (due to melanised tubules)
- significant atrophy of the HP
- soft shells.
- HP does not squash easily between the thumb and forefinger



Source: OIE, FAO, NACA

# Shrimp production in Thailand



## Back to 2011...

### Constraints

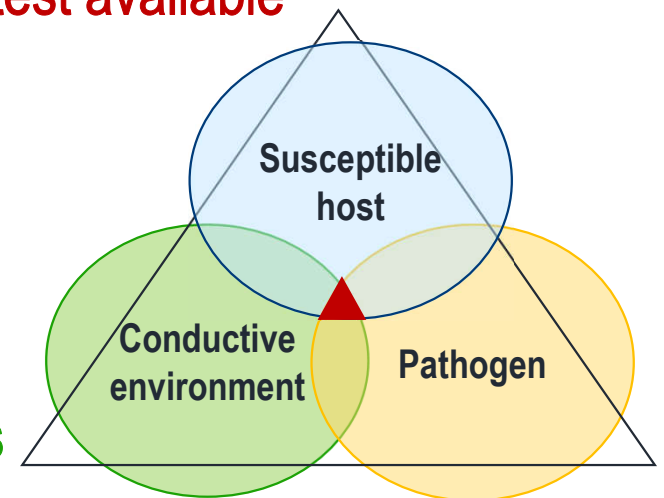
Unknown causative agent

No diagnostic test available

### What we can do...

Use clinical signs to identify case

Encourage and raise awareness of good farming practices

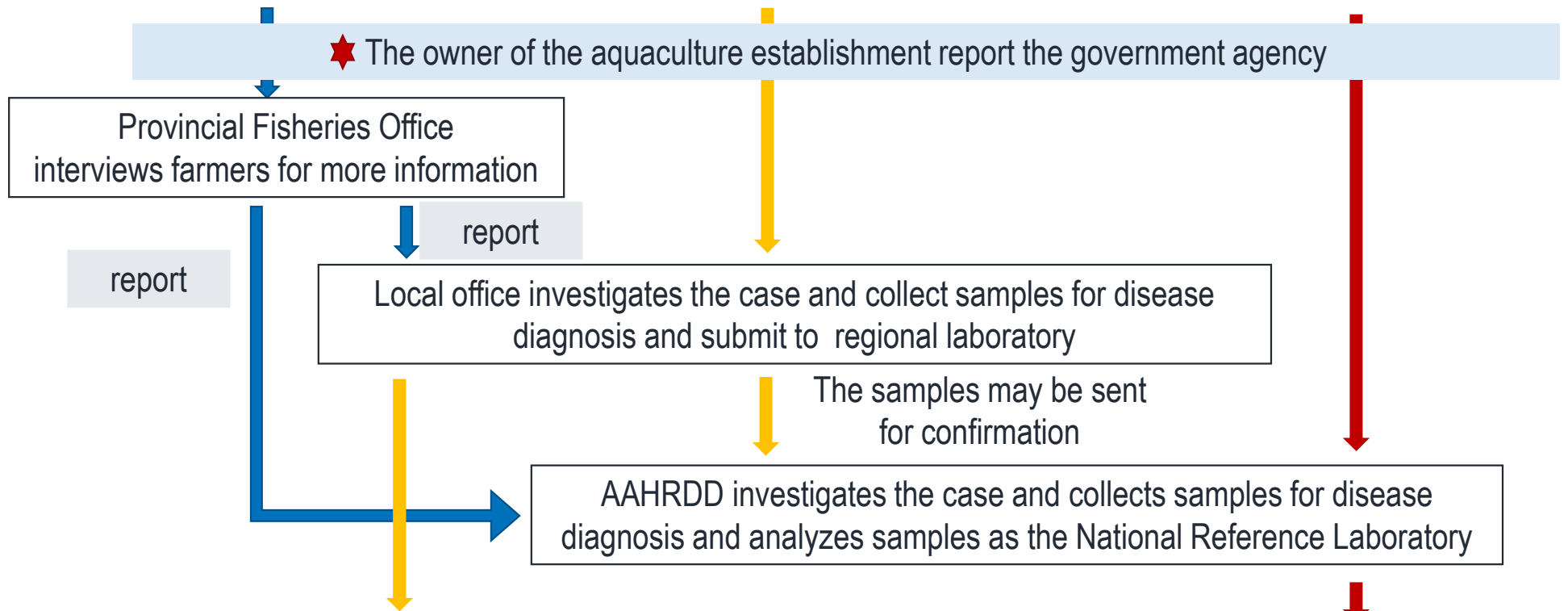


**Current Status and Impact of Early Mortality Syndrome (EMS)/Acute Hepatopancreatic Necrosis Disease (AHPND) and Hepatopancreatic Microsporidiosis (HPM) Outbreaks on Thailand's Shrimp Farming**

Putth Songsangjinda<sup>1\*</sup> and Jaree Polchana<sup>2</sup>

## A procedure for dealing with disease outbreaks/ suspicion

An unexplained mortality, sick or dead aquatic animals and an epidemic is suspected.



Provide appropriate advice on health management, or disease eradication to the owner of the aquaculture establishment, including no movement of suspected aquatic animals, disinfection of equipment, destroy dead aquatic animals properly

## A few years later...more knowledge available

### Diagnostic tests

- Establish test method (s) in National Reference Laboratory and regional laboratories
- Quality assurance program; i.e., ring test and proficiency test

### Search for a solution

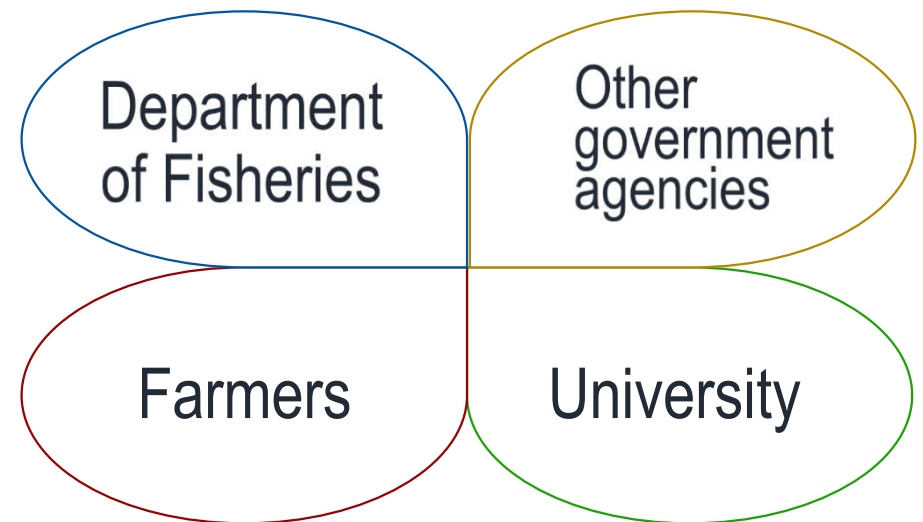
#### Keep learning/collaborating

- With farmers (health monitoring of PLs, sanitary monitoring in shrimp hatchery, environmental monitoring)

## Ministerial regulation on the rule of standard for good aquaculture practices for hatchery of disease free Pacific white shrimp (*Litopenaeus Vannamei*) B.E. 2558 (2015) [TAS 7432-2015]

### Representatives

- Department of Fisheries
- Department of Livestock Development
- National Bureau of Agricultural Commodity and Food Standards
- Kasetsart University
- The Thai Chamber of Commerce
- The Federation of Thai Industries
- Thai Eastern Shrimp Association
- Thai Shrimp Association





## In 2021

### Active diseases surveillance program for AHPND

- Hatchery of disease free Pacific white shrimp (*Litopenaeus Vannamei*) B.E. 2558 (2015) [TAS 7432-2015]
- Nursery prior to sell to grow-out farms (every production batch tested)
- Aquaculture establishment for exportation of aquatic animals

### Disease control program

- AHPND is on the list of notifiable diseases
- Notification of DOF on designation of diseases and aquatic animal species that need to be entered to quarantine facility B.E. 2564 (2021) includes AHPND
- If the aquatic animal samples show the presence of AHPND,
  - Investigation, farm disinfection, and disease eradication will be carried out accordingly.







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# Thank you for your attention

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