



SINGAPORE

ASEAN Rabies Elimination Strategy revision workshop

Bali, Indonesia

May 2023

Overview

- Singapore has been rabies-free since 1953, and there have been no cases of lyssaviruses including rabies in local wildlife.
- However, the disease is endemic in the region.
- Singapore has strict regulatory measures to mitigate the risk of rabies incursion:
 - Pre-import controls: Animals need to fulfill conditions of the import licence prior to arrival into Singapore. Depending on rabies risk, the risk mitigation strategies include minimum residency period of 6 months, rabies vaccination and serology prior to import
 - Border controls: Border inspection of imported live animals and post-arrival quarantine of dogs and cats based on risk of rabies. By default, animals requiring quarantine will be quarantined in the Animal Quarantine Centre (AQC).

Major challenges

- Some free-roaming dogs are trap-shy or skittish, and difficult to trap using corral traps, especially in forested areas.
- The rabies risk has changed over the years given the increased commercialisation of the puppy/ kitten trade, with evidence of organised syndicates attempting to circumvent current rabies import control measures through fraudulent certification and declarations, necessitating the review of the current import conditions for dogs and cats.

Upcoming activities and plans

- Singapore is exploring the use of Oral Rabies Vaccines (ORVs) to maintain herd immunity and increase vaccination coverage in the free-roaming dog population.

Stakeholder roles

Stakeholder	Roles and responsibilities
Government	<ul style="list-style-type: none"> • Coordinate national sterilisation and vaccination programmes, implement import and quarantine measures, conduct biosurveillance and disease investigation • Border control and vigilance to detect illegal import of animals • Surveillance for human cases, through legally mandated notification by medical practitioners and laboratories to the Ministry of Health upon clinical suspicion/laboratory confirmation of human rabies case.
Animal Welfare Groups	Humane capture of free-roaming dogs for sterilisation, with subsequent rehoming or release
Private veterinarians	Sterilisation and microchipping of dogs
Pet owners	Microchip and license pet dogs

Major opportunities

Management of Free-Roaming Dog Population

- Singapore has a Trap-Neuter-Release/ Rehome-Manage (TNRM) Programme for sustainable management of our free-roaming dog population.
- Free-roaming dogs are humanely trapped, sterilised, microchipped for traceability and rehomed where possible, or rabies-vaccinated for herd immunity and released to live out their lives naturally.
- The TNRM programme involves close collaboration between the Government, animal welfare groups, veterinarians and the community. More than 3,800 dogs have been trapped since 2018, with more than 60% of the dogs rehomed or sheltered.

Vaccination of At-Risk Dog Population

- Since 2015, Singapore has implemented an annual rabies vaccination programme called “Ops Vax Lyssa” for dogs living in coastal regions and off-shore islands.
- Annual sampling results have demonstrated seroconversion above 80%, reflecting the effectiveness of the vaccination programme.

Novel Quarantine Technologies

- Singapore has adopted the use of location tracking collars (via radio frequency) to allow home quarantine for animals with a lower rabies risk for better animal health and welfare outcomes, while maintaining compliance to quarantine regulations.



Figure 1: Training of animal welfare groups and dog trappers on humane capture methods



Figure 2: Blood sampling of a dog on an off-shore island for rabies serology testing

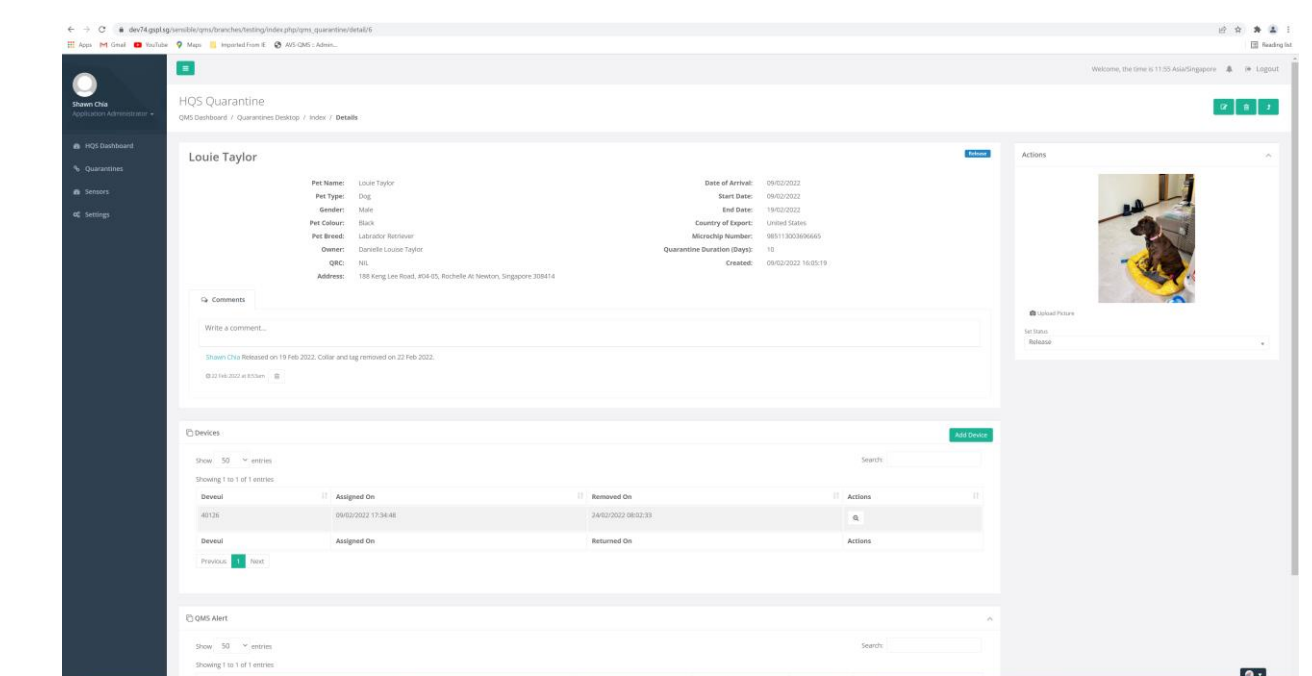


Figure 3: Dog with a quarantine tag collar (left) and dashboard for monitoring home-quarantined dogs (right)