

STRUCTURE



- Peninsular Malaysia
 - Department of Wildlife and National Parks (DWNP), Ministry of Natural Resources and Environmental Sustainability of Malaysia
 - Department of Veterinary Services (DVS), Ministry of Agriculture and Food Security
- Sabah
 - Sabah Wildlife Department, Ministry of Tourism, Culture and Environment, Sabah
- Sarawak
 - Sarawak Forestry Corporation (SFC), Ministry of Development and Natural Resources

POLICY

Not specific on WILM

Related policies:
National Policy on Biological Diversity 2016-2020 on Target 15 on strengthening stakeholders related to wildlife, and Target 6 on ex-situ conservation to ensure that all zoos and wildlife parks are managed to a high standard, safeguard animal welfare and promote conservation

Refers to: OTCs, MOU, ICR, and WHF



LAW

Some aspects of wildlife health (disease prevention and control, animal welfare, husbandry)

- Wildlife Conservation Act 1996
- Wildlife Protection Ordinance 1967 (Sarawak)
- Wildlife Protection Ordinance 1968 (Kedah)
- Animal Act 1952
- Animal Welfare Act 2015 - Does not apply to wildlife



SOP/GUIDELINES

Based on: zoo standards, husbandry, biosecurity and bioisolation



- Wildlife Health Schedule as per Jakuat Kuantan
- Malayan Lar for wildlife prevention which guides prevention, diagnosis, sampling, treatment, supplementation, etc.
- Refers to WILM guidelines and DVS's SOPs and manuals

COLLABORATION & OH

- Activities**
- DVS provides risk analysis support to DWNP
 - Inter-agency committees are usually lead by MOH or DVS
 - Field surveillance usually lead by DWNP
 - Surveillance and diagnostic of disease usually lead by DWNP
 - Wildlife pest/disease control usually lead by DWNP
 - Inter-agency committee & field situation of disease control may involve local govt and stakeholders
 - Rangers, FORIS, and military for forest wildlife pest/disease

Official committee/network

- National Zoonotic Disease Control Technical Committee that reports to the Interministerial Committee for Zoonotic Control (higher level officials)
 - The deciding committee on policies which are implemented by the technical team
- MOH is the official leading agency for OH
- National Animal Disease Organisation
- Malaysia One Health (Malaysia Network) (MONEH)
- Integrated Treasure Operations (Operasi Bersepadu Pkhanan - OIBK) - joint effort FORIS and DWNP on transboundary environmental crime
- Lack of information sharing because each agency has own roles on sensitive information
- Inadequate funding
- Insufficient personnel to coordinate OH programs, personnel are busy with own KPIs
- Need to improve information sharing between the OH agencies
- Need funds and manpower
- Need a clear national policy on OH approach in Malaysia
- Need more training and simulation on outbreak control and prevention

RESEARCH

- Wildlife research is performed in collaboration with local universities and other agencies (DVS, MOH)
- Research findings are useful to guide policies
- Funding for research depends on national Ministry/Plan grants from other agencies, or institutions (e.g. MPOB, FELDA)
- Research data sharing and dissemination not fully in place
- Where DWNP research are conducted by in-house researchers and vet
- Limited coordination and manpower to conduct research
- Research requires expertise on national Ministry based on type of research. Complicated research requires researcher to present their proposal
- Research priorities: Human-wildlife conflict, Malayan tiger reproduction

EDUCATION

- Universiti Putra Malaysia (UPM)
 - Veterinary Laboratory Diagnostic
 - University Malaysia Kelantan (UMK) - Veterinary Laboratory Diagnostic
 - University Malaya
 - Universiti Sultan Zainal Abidin
 - Universiti Malaysia Sarawak
 - Northampton University
 - Universiti Tun Hussein Onn Malaysia (UTHM)
- Malaysia One Wildlife Response Plan (MOWWRP)
- Zoos and private breeders for commercial breeding

NGOs

- Wildlife zoo, breeders
 - provide wildlife health awareness
- Malaysian Nature Society, WWF, RONA, MRCAT
 - directly and indirectly involved into wildlife health
 - Siamese Rhino Alliance
- Currently no official international collaboration related to wildlife health
- Previously collaborated with the European Alliance (also with MOH & DVS) until 2018
- DWNP is part of most of wildlife animal stakeholders and WILM SOP/Manual
- Active in SEA-Wildlife Health Network
- International collaborations may take some time to get approval if it requires clearance from the higher authority (Wanna Putra)

PRIVATE

- Malaysia One Wildlife Response Plan (MOWWRP)
- Zoos and private breeders for commercial breeding

INTERNATIONAL

- Currently no official international collaboration related to wildlife health
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FINANCIAL

- Equipment and materials are sufficient
- Need to improve on IT system

PHYSICAL

- Funding for wildlife health activities
- Limited are primarily allocated for specific & scheduled program (wildlife disease surveillance, procurement of laboratory consumables and materials for disease prevention)
- Ad hoc programs may require extra resources

HUMAN

- Sufficient to cover most wildlife health activities
- 15 wildlife veterinarian and 5 laboratory involves in the wildlife health surveillance, only 2 laboratory staff (researcher) involved in the sample analysis
- Need more expertise manpower (eg. risk analysis, wildlife epidemiology, use of technology like AI, mapping GIS)

ANIMAL HEALTH

- Wildlife health services are provided by:
 - DWNP - national wildlife rescue centre, Wildlife Conservation Centre, Malayan Tiger Conservation Centre, National Captive Conservation
 - Vets in zoos, animal clinics
 - National Wildlife Forensic Laboratory (NWFL) for sample analysis, Wildlife Forensic unit for necropsy
- Research & fabrication of wildlife, rehabilitation, training
 - Diagnosis, treatment, TLL
 - Rehabilitation, diet and health management, welfare
 - Sample analysis, research, etc.
- Use of clinical services are sufficient for wildlife in captivity
 - Medicines, and biological are sufficient
 - Vaccinations for tiger (H in 1) and giant (FAS) in captivity
 - Difficulty obtaining certain drug/medicines
 - Lack manpower
 - Need advance training for vets in special technical skills (eg. imaging, use of latest technology)
 - Need wildlife health management system/software

ANIMAL WELFARE

- Captive wildlife facilities are improving in accordance to standards and regulations
- Captive wildlife welfare based on AZ 718 & Post-tour Zoo data (partner) testing
 - Requires permit to keep protected wild animals from DWNP
 - Only species listed in AZ 718 is involved in enrichment. Other species is not under the jurisdiction of DWNP
 - Conduct regular visits to monitor wildlife premises (monthly or when necessary)
 - Requirement includes standard state of care, proper enrichment, diet, regular health assessment, disposal of carcasses

SURVEILLANCE

- Only follows DVS (Insect/disease SOPs) (eg. such as Protocol Veterinary Malaysia and Avian Protocol Temp Veterinary Malaysia)
- Sarawak and Sabah are more focused on management
- Disease surveillance are managed by 3rd parties
- Lack info on current wildlife health status nationwide
- Insufficient funding for disease surveillance

Passive surveillance

- Convenience sampling (during field post mortem, breeding program, translocate and release program, interagency joint investigation)

Active surveillance

- Wildlife Disease Surveillance Program (WDSP) by Malaysian Zoonotic Unit in Peninsular Malaysia, Sabah and Sarawak
 - Real disease occurring on wildlife P.H. (e.g. leishman anthroponotic zoonotic disease (LZD), canine distemper virus (CDV))
 - Zoonotic disease surveillance in wildlife P.H. (5 vital families)
- Disease surveillance by DWNP. Led by DVS:
 - migratory birds (WPA annually)
 - wild bear and macaques (during culling output control)
 - avicid: animal for human consumption in breeder farm
 - wildlife (in captivity and in the wild)
 - museum samples - taxonomy, Systematical for DNA

Disease priority:

- ASF
- 5 vital families: Corona, Flv, Havi, Paramyx, influenza (depending on the region)
- CDV
- CDV

LABORATORY

- Collaborate closely with a mutual agreement on wildlife sample diagnostic, testing, and reporting with DVS lab
- Some laboratories are accredited with ISO standard
- Cost chain system is functioning
- Some universities conduct testing but are not free. MAU for sample testing under research grant. No MAU with international labs
- Lack funding to upgrade labs
- Need to improve laboratory capacity
- Need to have more manpower (lab technicians and experts) in HWFL
- Need funding

List of laboratories

- 1 Veterinary Research Institute
- 5 Regional Veterinary Labs (Central, East, West, Johor Bahru, Kota Bharu) 1 lab in Sabah; 1 lab in Sarawak
- National Wildlife Forensic Laboratory (NWFL)
 - A leading lab on wildlife forensic in SEA focused in molecular analysis for forensic cases
 - Molecular testing for wildlife disease is limited
 - Diagnosed and send diagnostic techniques are limited
 - Samples for wildlife disease are tested in DVS lab
 - Insufficient of Molecular Research
 - Private laboratories

DATA

- No official system
- Data sharing through the interagency committee
 - DWNP and DVS through ICR
 - Data sharing through Interministerial Committee
 - Platform still under development
- All vets can access LMS and in-house email
- 3rd party agencies (eg. universities) in coordination with POCs/TNAs
- Data recording and extraction is laborious and lacks manpower (just real time)
- Needs a proper online reporting system

REPORTING

- Wildlife Act does not mention disease reporting but DWNP reports to DVS through a system via the EPIS (IT form). DVS reports through Wildlife Web Log (Lar)
- Universities to report to DVS
- Early warning includes community reporting (all calls are responded within 24 hours according to policy), diagnostic lab and rapid testing kits, and wildlife surveillance programs
- Personnel availability and logistic may be limited

RISK ANALYSIS & ZOONOSES

- Conducted a tabling exercise of risk analysis
- Disease risk
 - Similar zoonosis at high human-macaque conflict locations
 - NHW from migratory birds
 - Occupational in DWNP personnel
- Information generated are used to justify increasing funding for wildlife conservation centers and highlight risks of disease transmission in human-wildlife conflict to higher authorities
- Lack of expertise
 - Concerned of all zoonotic diseases, particularly rabies, Nipah, dengue, malaria
 - Disease prioritization are based on the interagency meeting or depends on the urgency (eg. during outbreaks like COVID-19, ASF)
- Activities to reduce zoonotic risk:
 - Captive premise biosecurity
 - PPC
 - Culling of overpopulated species (eg. macaques, wild boar) and surveillance

RESPONSE

- In an event of mortality or morbidity in wildlife, outbreak response team comprised of DVS and DWNP will be formed
- Coordinate with DVS labs for testing, analysis, and reporting
- Financial support from all agencies involved during response
- A guideline for outbreaks in wildlife is available but not yet practice
- Technical limitations in sampling wild population
- Insufficient resources due to limited funding manpower, and infrastructure/equipment
- Limited access to sample wild population
- Technical limitations in diagnosing certain diseases
- Technical constraints due to limited funding manpower, and infrastructure/equipment
- Limited access to sample wild population

ENVIRONMENT

- Limited understanding on how environmental changes affects the wildlife health
- Environmental impact assessment are conducted

ASSESSMENT

- Assessment of the wildlife health system is not conducted

TRAINING

- Field Epidemiology Training Program OH Core and Technical Competencies for outbreak response
- Insufficient funding and time allocated for training

TRACEABILITY

- Tagging and microchip are compulsory for wildlife in captivity. Nearly audit to check
- All animal products under wild animal act requires tagging
- No mechanism to monitor wildlife health before slaughter for consumption but tagging of food product is available

COMMUNICATION

- Not finalized
- Vets provide feedback/remarks