

# Entomological surveillance for decision making



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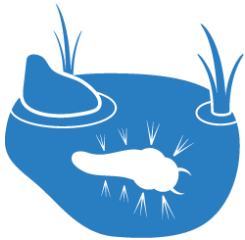
# Malaria Prevention - Vector control



- Malaria is transmitted by the bite of several different species of *Anopheles* mosquitoes
- Each species has distinct behaviors:
  - Resting locations (indoor/outdoor, different surfaces)
  - Biting (indoor/outdoor, different times)
  - Feeding (on humans or animals)
- Vector control is a key tool in the prevention of malaria-> greatest contributions to malaria burden reduction
- Vector control makes use of vector biological and behavioral traits to reduce vector ability to transmit malaria to humans



Larviciding targets  
larva stages



ITNs target indoor late  
night biting vectors



IRS targets indoor  
resting vectors



Vectors should resistance to the insecticide used



Entomological surveillance is the systematic collection, analysis and interpretation of vector data

Transform vector data

Into information for decision making





- Identify the main vector of malaria transmission and understand when and where transmission occurs
- Select appropriate vector control interventions and their optimal deployment times
- Monitor and evaluate the effectiveness of vector control interventions
- Identify threats to vector control and adapt vector control interventions accordingly.
- Investigate the causes of malaria outbreaks or unexpected patterns of transmission, and drivers of transmission in transmission foci. Evaluate the risk of reintroduction of transmission.
- Identify threats to malaria control



## Vector composition and characteristics

- Vector composition
- Species-specific vector abundance
- Biting and resting location
- Resistance to insecticides (status and frequency)
- Human blood index and Human biting rates
- Preferred habitats

## Proxies for transmission:

- Sporozoite rates, EIR

## Transmission risks

- Receptivity

Priority indicators depends on programmatic needs

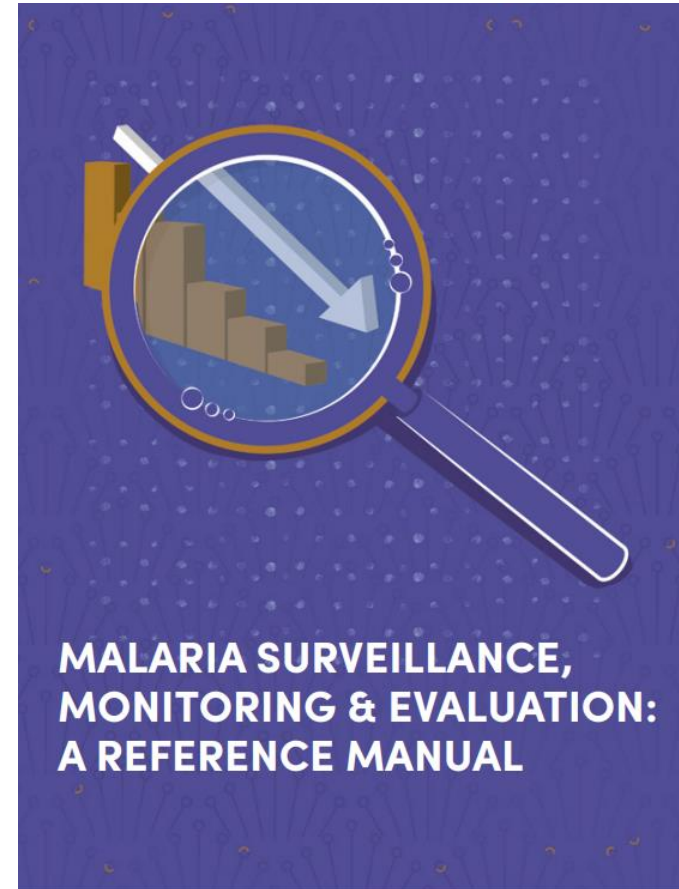
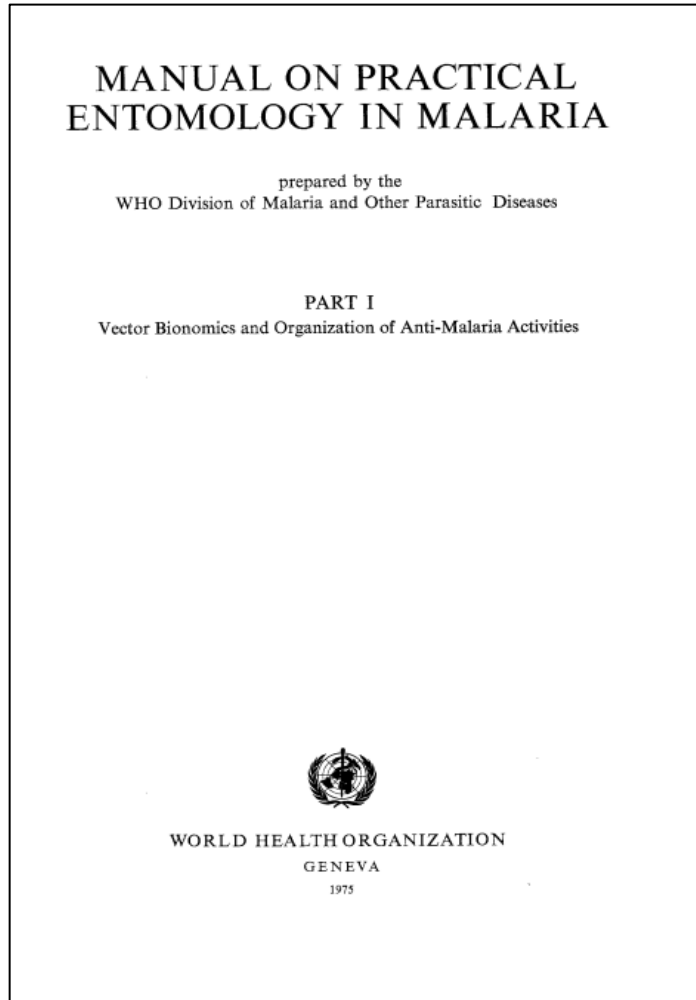
The choice of vector collection method is crucial to evaluate the target characteristics





*Both documents are under review*

Chapter 5- Entomological surveillance





Entomological data and information on interventions derived from routine surveillance should be integrated with other relevant information, such as on epidemiological and environmental factors, to ensure a complete overview of transmission dynamics and drivers.

**THANK YOU!**



**Thank you!**  
**Merci!**  
**Obrigada!**  
**Gracias!**