

**Robustness** represents the ability of the surveillance system to produce acceptable outcomes over a range of assumptions about uncertainty by maximizing the reliability of an adequate outcome.

|            | <b>Surveillance design step</b>       | <b>Advice for improvement of ROBUSTNESS</b>  |
|------------|---------------------------------------|--|
| <b>1</b>   | <b>Surveillance system</b>            |  |
| <b>1.1</b> | <b>Hazard</b>                         |  |
| <b>1.2</b> | <b>Surv. Objective</b>                |  |
| <b>1.3</b> | <b>Geographical area covered</b>      |  |
| <b>1.4</b> | <b>Susceptible species</b>            |  |
| <b>1.5</b> | <b>Risk characteristics</b>           |  |
| <b>2</b>   | <b>Components overview</b>            |  |
| <b>3</b>   | <b>Target population</b>              |  |
| <b>3.1</b> | <b>Target species</b>                 |  |
| <b>3.2</b> | <b>Target sector</b>                  |  |
| <b>3.3</b> | <b>Sectors missed</b>                 |  |
| <b>3.4</b> | <b>Geographical area covered</b>      |  |
| <b>3.5</b> | <b>Target criteria</b>                |  |
| <b>3.6</b> | <b>Percentage covered</b>             |  |
| <b>4</b>   | <b>Disease suspicion</b>              |  |
| <b>4.1</b> | <b>Definition</b>                     |  |
| <b>4.2</b> | <b>Obligations</b>                    |  |
| <b>4.3</b> | <b>Notification procedures</b>        |  |
| <b>4.4</b> | <b>Actions upon suspicions</b>        |  |
| <b>4.5</b> | <b>Actions upon confirmation</b>      |  |
| <b>5</b>   | <b>Enhancements</b>                   |  |
| <b>6</b>   | <b>Testing protocol</b>               | Consider choosing a test with low uncertainty in sensitivity and specificity to increase robustness. |
| <b>6.1</b> | <b>Type of test to be carried out</b> |  |
| <b>6.2</b> | <b>Type of sample to be collected</b> |  |
| <b>6.3</b> | <b>Pooling</b>                        |  |
| <b>6.4</b> | <b>Screening/first test</b>           |  |
| <b>6.5</b> | <b>Confirmatory/ second test</b>      |  |
| <b>6.6</b> | <b>Further details</b>                |  |

|      |   |  |
|------|---|--|
| 7    | <b>Study design</b>   | If you are uncertain about input values (e.g. for sample size, test characteristics) or assumptions made about the population, run a sensitivity analysis to determine the effectiveness of your components over the full range of values. If any parameter has a major effect on the outcome, consider collecting additional data to minimize uncertainty for this parameter. |
| 7.1  | <b>Point of sample collection</b>                           |  |
| 7.2  | <b>Selection of units</b>                                   |  |
| 7.3  | <b>Target unit</b>  |  |
| 7.4  | <b>Sampling unit</b>  |  |
| 7.5  | <b>Sampling design</b>                                      |  |
| 7.6  | <b>Number of units in the target population</b>             |  |
| 7.7  | <b>Sensitivity of the testing protocol</b>                  |  |
| 7.8  | <b>Specificity of the testing protocol</b>                  |  |
| 8    | <b>Sampling strategy</b>                                    |  |
| 8.1  | <b>Sampling at the primary sampling unit (PSU) level:</b>   |  |
| 8.2  | <b>Sampling at the secondary sampling unit (SSU) level:</b> |  |
| 8.3  | <b>Selection criteria WITHIN the population</b>             |  |
| 8.4  | <b>Risk-based allocation</b>                                |  |
| 8.5  | <b>Sample size calculation</b>                              |  |
| 8.6  | <b>Sample allocation at the primary level</b>               |  |
| 8.7  | <b>Sample allocation at the Secondary level</b>             |  |
| 8.8  | <b>Sample collection timeline</b>                           |  |
| 9    | <b>Data Generation/ Sampling collection process</b>         |  |
| 9.1  | <b>WHO will collect the samples?</b>                        |  |
| 9.2  | <b>HOW will samples be collected?</b>                       |  |
| 9.3  | <b>WHEN/HOW OFTEN will samples be collected?</b>            |  |
| 9.4  | <b>Training</b>   |  |
| 9.5  | <b>Follow-up</b>  |  |
| 10   | <b>Transfer means</b>                                       |  |
| 10.1 | <b>HOW will samples be transferred?</b>                     | If complicated procedures for transportation are required, robustness may be reduced.  |
| 10.2 | <b>WHEN/HOW OFTEN will samples be collected?</b>            |  |
| 10.3 | <b>Training</b>   |  |
| 11   | <b>Data Translation/ sample analyses process</b>            |  |
| 11.1 | <b>WHO will perform the analyses?</b>                       |  |
| 11.2 | <b>HOW will samples be analysed</b>                         |  |
| 11.3 | <b>WHEN/HOW OFTEN will samples be collected?</b>            |  |

|             |  |  |
|-------------|--|--|
| <b>11.4</b> | <b>Expected LOAD</b>   |  |
| <b>11.5</b> | <b>Training</b>  |  |
| <b>11.6</b> | <b>Follow-up</b>   |  |
| <b>12</b>   | <b>Epidemiological analyses</b>                                      |  |
| <b>12.1</b> | <b>Are there any epidemiological DATA that need to be collected?</b> |  |
| <b>12.2</b> | <b>WHO will perform the analyses?</b>                                |  |
| <b>12.3</b> | <b>HOW will epidemiological analyses be performed?</b>               |  |
| <b>12.4</b> | <b>WHEN/HOW OFTEN?</b>   |  |
| <b>12.5</b> | <b>Training</b>  |  |
| <b>12.6</b> | <b>Data management needs</b>   |  |
| <b>12.7</b> | <b>Software needs</b>  |  |
| <b>13</b>   | <b>Dissemination of results</b>                                      |  |
| <b>13.1</b> | <b>WHO will disseminate the results?</b>                             |  |
| <b>13.2</b> | <b>WHO is the TARGET of dissemination?</b>                           |  |
| <b>13.3</b> | <b>HOW will results be disseminated?</b>                             |  |
| <b>13.4</b> | <b>WHEN/HOW OFTEN?</b>   |  |
| <b>14</b>   | <b>Surveillance review</b>   |  |
| <b>14.1</b> | <b>Who</b>   |  |
| <b>14.2</b> | <b>When</b>  |  |
| <b>14.3</b> | <b>How often</b>   |  |



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