Rubrics – an assessment tool for the urban biosecurity toolkit

"A toolkit for the urban battlefield"

is a multi-disciplinary research programme, involving scientists from social, cultural, technical and biological disciplines working together with biosecurity professionals and technology developers. Our aim is to develop an integrated package of tools to help meet both the social and technical challenges associated with urban pest control. This brochure describes work to design and develop one such tool – rubrics – which will help people working in urban biosecurity to visualise, manage and measure performance in complex organisational activities.

Introducing rubrics – a qualitative assessment tool

Rubrics are an easy-to-use assessment tool, often used in education, but now being adopted by other sectors. A rubric helps learning and assessment, so that you can identify and describe areas in which you are performing well or what is in need of improvement.

Key functions of rubrics	Key components of rubrics
Rubrics: • define and describe the important components of a complex task	• a list of the important elements that go to make up a task
• assess how well things are going in undertaking tasks • provide guidance on where and how improvements could be made	• an evaluation scale indicating criteria of performance, e.g., *excellent, good* or *emerging*

General surveillance - supporting early detection

The risk of new pest incursions to New Zealand is ever-increasing with international trade and travel. Potential incursion points - air and sea ports - are often close to cities and towns. General surveillance is a critical element of New Zealand's biosecurity system and relies on stakeholders, including communities, being alert for new pests and reporting them to the appropriate biosecurity agency.

Most of the activity needed to maintain an effective general surveillance system occurs in 'peace time', when there is no specific pest incursion demanding a response. Biosecurity agencies need to encourage active engagement and participation from stakeholders to prepare systems for the next incursion. The decision-making environment is complex, involving a wide range of individuals and organisations. Initiatives, for example, include:
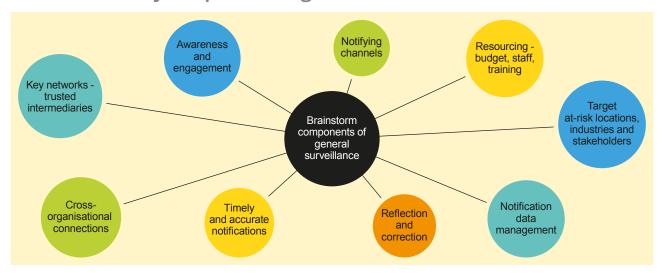
• developing partnerships or networks amongst people working in any of the technical, ecological, regulatory or social aspects of biosecurity;
• working with key stakeholder groups on awareness and engagement.

The challenge for those involved in general surveillance is to gauge whether any real progress is being made towards the shared responsibilities of stakeholders.

Designing a rubric - a collaborative process

The Urban Toolkit researchers and MPI biosecurity team worked together to design a rubric to assess progress in general surveillance. A collaborative approach was important, enabling the group to incorporate a wide range of perspectives. We began by: 1) brainstorming all the key components in a general surveillance system; and 2) then developed an assessment scale and criteria for each component. These are illustrated overleaf.

1. Brainstorm: key components of general surveillance

2. Applying the rubric: recognising areas for improvement

We started with a description of excellence for each component and worked back through quality scales to ensure a clear view of what can be done to improve performance. Criteria shown here for the first component were also developed for all components. The ticks are indicative of how the performance criteria can be used to gather evidence about areas in need of improvement. In this case components being assessed for general surveillance reflect the MPI teams' perspectives of their operations, particularly in relation to stakeholder engagement, e.g., with forest, dairy or wine industries.

Component (examples)	Excellent	Good	Emerging
Key network - trusted intermediaries	Network clearly identified and each level engaged, good trust and communication between the levels of the network	Network mostly identified, some groups engaged, may be inconsistent communication	The network is not well identified with few groups engaged and/or some distrust between the levels of the network
Awareness and engagement		✓	
Timely and accurate notifications		✓	

Effective social and technical performance

Rubrics are a tool with tremendous potential as part of the urban biosecurity toolkit for improving risk communication and engagement. As a tool for collaborative performance assessment they:
• facilitate the sharing of different perspectives;
• can include both social and technical perspectives;

• allow rapid identification of improvements that can be made in any component of a task; and
• are easy to use, and adaptable to different programmes.

In future, rubrics could be used for other biosecurity systems including incursion investigation, pest eradication or pest management.

Contacts