Issues and Options Paper: High Priority Organisms Project

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Purpose

This document identifies five key issues, and associated options, relating to the scope and approach of the HPO Project. The issues are addressed using the processes of the MAFBNZ Decisions Framework.

1 Overall scope of the toolkit to be developed: Impact, Risk or Priority

What is the issue?

The vision for the prioritisation framework centres on three concepts and associated tools:

- Impact, measured/captured through an Impact Assessment Tool. This is an essential element because it is ingrained in the statute (i.e. definition of Unwanted Organism). Impact assessment frameworks may be adaptable from similar tools from Import Risk Analysis Consequent Assessments or Incursion Response Impact Assessments (e.g. Incursion Response Knowledge Base Impact Assessment Tool).
- Risk, measured/captured through a Risk Assessment Tool. The concept of Risk takes Impact, from the above, and moderates this through consideration of Likelihood. The Risk Assessment Tool will consider factors influencing the likelihood of encountering organisms at the border or in post-border settings, and assumes that this likelihood will influence the prioritisation of Biosecurity resources.
- Priority for Changes to Interventions, measured/captured through an Intervention Prioritisation Tool. This tool attempts to identify opportunities for changes to the intervention framework for high risk and/or high impact organisms, prioritising these on the basis of likely return (e.g. improved Biosecurity and/or reduced costs) on investment.

The issue is that each of these concepts is complex. It would require significant analysis and consultation, as well as a number of criteria variables, to capture. The quantity and complexity of the work increases proportional to how much of this overall framework is intended to be developed.

What are the options?

Impact is considered necessary component. Impact might also be considered a sufficient component, in that a prioritisation tool might still provide utility if it only considered impact.

Option 1a. Plan to only develop the Impact Assessment Tool.

Risk is an established concept in Biosecurity, and its components of Consequence (Impact) and Likelihood are now well understood. A toolset that incorporates both Impact and Risk will nicely fit into the accepted Biosecurity paradigm, provide utility for Biosecurity information management that already works within this framework, and provide a defensible framework for prioritising our work.

Option 1b. Plan to only develop the Impact Assessment Tool and the Risk Assessment Tool.

Biosecurity work is undertaken across a spectrum of intervention points that interact in a complex manner. Identifying a risk worthy of mitigation is only part of the problem. The risk management options must be assessed, and a choice made as to where to focus interventions to be most efficient and effective. A toolset that manages/captures the inputs and/or decisions associated with managing Biosecurity risks provides additional utility over and above a tool focused on assessing those risks alone. Additional complexity is a direct implication.

Option 1c. Plan to develop the Impact Assessment Tool, the Risk Assessment Tool, and the Intervention Prioritisation Tool, all within the current HPO project.

We also have the option of staging development of the full toolset.

Option 1d. Plan to develop the Impact Assessment Tool, the Risk Assessment Tool, and the Intervention Prioritisation Tool, but not all within the current HPO project.

What factors do we need to consider?

The key factors associated with this issue are:

- Expectations of stakeholders, including MAFBNZ staff.
- Resource requirements for the project.
- Complexity of the toolkit, and the criteria sets, creating difficulties during design/build.
- Complexity of the toolkit, and the criteria sets, creating communication challenges with external stakeholders
- Complexity of the overall project.

Which is preferred and why?

Option 1c. Plan to develop the Impact Assessment Tool, the Risk Assessment Tool, and the Intervention Prioritisation Tool, all within the current HPO project.

MAFBNZ should establish the grand vision and commit to it. Leaving Risk or Priority out of the project scope would mean that the vision is diluted, and our commitment to it is questionable.

What are the resulting implications?

Increased project complexity, resource requirements, and time. None of this has been quantified as yet.

2 Objectivity vs Subjectivity: strategic positioning of the toolkit on this continuum

What is the issue?

A fully objective toolset may have the following features:

- Criteria are measurable. If quantitative, there are effective tools to measure quantity with reasonable accuracy and precision. If qualitative, clear guidelines for categories are available, with no gaps or overlaps.
- Criteria are comprehensive, in that all necessary and relevant information is included;
- Categorisation on the basis of criteria, or combinations of different criteria, follows natural and uncontroversial rules that are followed without further application of judgement;
- Unbiased observers applying the rules associated with criteria and categories will get the same answer.

A fully subjective toolset may have the following features:

- A person responsible for discerning the input value for a specific criteria or determining a category value accepts and understands their responsibilility.

Consistency and transparency are important and related concepts. These are likely to be more challenging for a subjective toolset, in that the decision-maker is expected to apply consistent standards of judgement and be able to explain their rationale.

Transparency can be enhanced by the provision of information that indicates factors considered relevant by the decision-maker. Recording more of this information improves transparency, and if it is non-controversial, may give the appearance of objectivity

It is tempting to imagine any “database” as being fully objective, but this is very rarely the case when values other than pure numerical or monetary are considered important or when measurement uncertainty exists.

The current Unwanted Organism Register is fully subjective, in that it only identifies the CTO who made the decision and when

It is important to understand what sort of tools we are developing during the design of the HPO toolset.

What are the options?

Option 2a. Aim for fully objective toolsets.

This would require:

- Robust analysis of all the relevant contributing factors in the consideration of impact, risk and priority;
- Creation of a generic standard set of variables, which is likely to be extensive, with clearly defined measurement expectations, algorithms for combining and deriving values, and categorisation thresholds;
- A high degree of consultation, to iron out the controversy associated with the variables prior to implementation.

Option 2b. Aim for fully subjective toolsets, with transparency extending only to who is responsible for determining values at particular criteria.

This would require:

- A succinct set of variables, relating primarily to final determinations associated with impact, risk and priority;
- A mapping process linking variables to the most appropriate roleholder in the organisation to make the determination of value, resulting in a clear exposition of business/role ownership of variables;
- A clearly stated expectation that businesses/roleholders develop for themselves consistent and transparent processes to support their decision-making.

Option 2c. Acknowledge the subjectivity of the toolsets, but provide transparency by recording relevant key values, and potentially guidance as to how those values are expected to be used, but without unduly constraining the decision-maker.

This would require:

- A succinct set of "dependant" variables, relating primarily to final determinations associated with impact, risk and priority;
- A mapping process linking "dependant" variables to the most appropriate roleholder in the organisation to make the determination of value, resulting in a clear exposition of business/role ownership of "dependant" variables;
- Robust analysis of all the relevant contributing factors in the consideration of impact, risk and priority;
- Creation of a generic standard set of "independent" variables, which are measurable and associated with the key relevant factors contributing to impact, risk or priority.
- Guidance as to how "independent" variables are expected to be used, which may include clearly defined measurement expectations, algorithms for combining and deriving values, and categorisation thresholds.

What factors do we need to consider?

The key factors associated with this issue are:

- Resource requirements for the project.
- Complexity of the toolkit, and the criteria sets, creating difficulties during design/build.
- Onoing resource requirements to maintain the integrity and currency of data held.
- Encouraging ongoing interaction between the toolsets and the businesses.

- Honesty, trust and transparency.
- Provision of "fuel to fires" – inviting engagement on the detail.

Which is preferred and why?

Option 2c. Acknowledge the subjectivity of the toolsets, but provide transparency by recording relevant key values, and potentially guidance as to how those values are expected to be used.

This option is considered to be the most manageable, from the perspective of both design/build and ongoing maintenance. It also acknowledges and encourages business ownership of the system and data therein.

What are the resulting implications?

The requirements are stated above. The primary indirect implication is that associated with communicating how the system will operate to stakeholders, to ensure honesty and transparency at the outset.

3 Managing project organism data

What is the issue?

The toolsets to be developed require the construction of a set of criteria, and population of those criteria with data relevant to specific organisms. The project needs tools to effectively and efficiently manage this data, but is not in itself a project about constructing IT solutions. The IT solution is signalled in the MAFBNZ IT Management Plan as the "Organism Master Data Solution", which certainly will be an IT project managed with ITGB oversight.

What are the options?

Option 3a. Develop the criteria as standardised monographs in a word processing application, such as Microsoft Word.

This will facilitate capture and storage of data, but not the re-assortment and filtering of the associated data into lists through manipulation of criteria.

Option 3b. Develop the criteria as a standardised table in a spreadsheet application, such as Microsoft Excel.

This will facilitate capture, storage and versatile retrieval of the data, but will be associated with risks to data integrity and lack of efficiency. The risks to data integrity result from limited controls on data manipulation (e.g. sorting) and overwrite. The lack of efficiency results from storing multi-dimensional relational data in a two dimensional format of spreadsheets, resulting in the many empty fields.

Option 3c. Develop the criteria as a standardised relational database in a database application, such as Microsoft Access.

This will facilitate capture, secure and efficient storage and versatile retrieval.

What factors do we need to consider?

The key factors associated with this issue are:

- Conforming with MAF Business Policies
- Usability of the toolsets;
- Visibility and transparency of the toolsets;
- Future focus – working towards the "Organism Master Data Solution".

Which is preferred and why?

Option 3c. Develop the criteria as a standardised relational database in a database application, such as Microsoft Access.

This option recognises the relational nature of the data. For instance, consider the relationship between an organism and Biosecurity impact. Impact might be categorised at the highest level as the Biosecurity values (economic, environmental, socio-cultural and public health). For each of these, sub-criteria may be developed. The relationship between organisms and impact sub-criteria would be many-to-many i.e. one organism may feature many impact sub-criteria records, and one impact sub-criteria record may be relevant to many organisms. Robust and efficient management of one-to-many, many-to-one and many-to-many data relationships is the preserve of relational databases.

The resulting database would be considered non-deployable over the MAF network. A single master copy would be designated as the primary repository. Interaction with the data held in this master copy would, for most, be via spreadsheets of data extracted from the master database and re-loaded following any manipulation. This would include regular creation of the "lists" specified for business purposes e.g Unwanted Organism Register; Notifiable Organisms; High Impact Organisms; High Risk Organisms; Intervention Re-assessment Organisms.

The database would be considered a prototype for the organism prioritisation framework component of the future "Organism Master Data Solution".

What are the resulting implications?

There is a degree of organisational concern about "feral" databases, developed by without the visibility of MAF IT and therefore flying below the MAF IT radar. This option would need to be agreed as appropriate.

The project would need to seek expert assistance in the design and build of the Access database, to ensure this was up to a suitable standard for the purpose. This would follow the policy development of organism categories and relevant criteria.

The project would need to establish data handling rules to effectively and efficiently manage a single master copy, with potentially multiple part copies under active work in sector-based workstreams.

4 Stakeholder management

What is the issue?

John Hellstrom noted that "appropriate and timely involvement of stakeholders is critical to the success of the overall project". His report (based on three workshops with the project team) advised stakeholder engagement in the following ways:

- MAFBNZ articulates the agreed purpose and vision of the project
- MAFBNZ consults stakeholders during the development of the impact criteria;
- MAFBNZ tests draft impact criteria using workshops involving internal and external stakeholders;
- MAFBNZ invites stakeholders to nominate potential "high impact" organisms during long-listing, and/or to review long-lists compiled from other sources prior to triage;
- MAFBNZ develops a communications plan to engage internal and external stakeholders throughout the project to ensure they are kept informed of progress and have the opportunity to meaningfully comment of direction.

Effective stakeholder management is resource intensive, requires specific expertise, and systems must be developed so that these processes integrate with the overall project.

There is a desire to coordinate stakeholder consultation during strategic projects, so that stakeholders' experience cohesive interaction with MAFBNZ. The HPO project will encounter constraints associated with other strategic projects stakeholder management needs.

What are the options?

Option 4a. The HPO project team, in conjunction with MAFBNZ Communications, develops a comprehensive stakeholder management plan that addresses all the components recommended by Hellstrom. The HPO communications plan would consider interactions with other strategic project communication plans, and would be agreed by the Steering Committee prior to implementation.

Option 4b. The HPO project team, in conjunction with MAFBNZ Communications, develops a stakeholder management plan that addresses some of the components recommended by Hellstrom (to be specified). The HPO communications plan would consider interactions with other strategic project communication plans, and would be agreed by the Steering Committee prior to implementation.

What factors do we need to consider?

The key factors associated with this issue are:

- Expectations of stakeholders, including MAFBNZ staff.
- Resource requirements for the project.

- Complexity of the overall project.

Which is preferred and why?

Option 4a. The HPO project team, in conjunction with MAFBNZ Communications, develops a comprehensive stakeholder management plan that addresses all the components recommended by Hellstrom. The HPO communications plan would consider interactions with other strategic project communication plans, and would be agreed by the Steering Committee prior to implementation.

A key objective for the HPO project is to improve stakeholder communications. We cannot expect the outcome of the project to be improved stakeholder communications if we are not prepared to communicate effectively in the course of the project.

What are the resulting implications?

Increased project complexity, resource requirements, and time. None of this has been quantified as yet.

5 Organism Scoping: Established organisms; Short listing.

What is the issue?

ELT considered whether the scope of the HPO project should include organisms established in New Zealand. The decision was that it would not.

If the objectives of the HPO project are agreed as the creation of a robust Unwanted Organism Policy, toolsets within the organism prioritisation framework, and associated business systems, the project cannot ignore considerations arising from established organisms.

In 2006/07 the MAFBNZ Pest Management Group developed a prioritisation mechanism for established pests, and subjected approximately 30 organisms to the associated assessment process. This prior project provided the frameworks for considering impact, risk and priority associated with pest organisms present in New Zealand, and (within certain scope constraints) an accepted prioritisation process and outcome.

What are the options?

Option 5a. Consider established organisms fully out of scope of the project. Ignore the organism prioritisation framework developed for pest management.

Unwise. The pest management prioritisation framework appears, on face value, to consider many of the same aspects relating to impact that the HPO project should be interested in.

Option 5b. Consider established organisms fully out of scope of the project, but consider the organism prioritisation framework developed for pest management during intelligence gathering.

This is how the earlier ELT decision is interpreted.

Option 5c. Consider collection and assessment of data associated with established organisms out of scope of the project, but utilise the organism prioritisation framework developed for pest management to ensure the development of a generic framework that will be of future use for all organisms, exotic and established.

This brings Pest Management and Established Pests back into scope, recognising that future convergence of prioritisation frameworks is desirable and/or inevitable, while acknowledging that the data gathering work will not be repeated for established organisms.

Option 5d. Consider established organisms within scope of the project, and utilise the project to capture and potentially update prioritisation data from the earlier pest management project.

This brings Pest Management and Established Pests fully into scope, but may be resisted by the Pest Management team as perceived backward step or re-opening a can of worms. There are lingering questions as to how comprehensive the earlier process was in relation to some sectors e.g. established pests and diseases affecting plant and animal health.

What factors do we need to consider?

The key factors associated with this issue are:

- Consistency across the Biosecurity system
- Resource requirements for the project.
- Complexity of the overall project.
- Encouraging ongoing interaction between the toolsets and the businesses.
- Future focus – working towards the "Organism Master Data Solution".

Which is preferred and why?

Option 5c. Consider collection and assessment of data associated with established organisms out of scope of the project, but utilise the organism prioritisation framework developed for pest management to ensure the development of a generic framework that will be of future use for all organisms, exotic and established.

This would protect and clearly signal the intention for future convergence of prioritisation systems for exotic and established pests, which would likely be fully implemented during the "Organism Master Data Solution" project.

What are the resulting implications?

Closer engagement in the HPO project will be required from Post-Border Pest Management Team.