Input Contracts
Notes from a workshop held with Hawkes Bay Regional Council
Envirolink HBRC15

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Definitions related to possum monitoring:

1. Input monitoring: Monitoring of the materials or effort used, or coverage achieved in applying control.
2. Output/performance monitoring: Monitoring the kill or RTC achieved.
3. Outcome monitoring: Monitoring the resource/value being protected (e.g. decline in Tb reactors, or increase in canopy condition of kohekohe).

Background:
The key goal of pest management (excluding eradication) is to achieve a desired response in a resource or value, so the most relevant monitoring is outcome monitoring. However, often there is a delay between the management intervention and the response in the resource being protected, so in order to pay contractors for their performance or to check on the success or otherwise of a control operation, a more immediate measure of success is required. This is usually achieved using output monitoring, which can be implemented immediately at the completion of a control operation.

To rely solely on output monitoring there needs to be some understanding or acceptance of the relationship between outputs and outcomes. For example, to eradicate Tb, most control targets are set at or below 5%RTC, and the success of control operations are determined by monitoring the post-control RTC (i.e. output). For Tb, there is sufficient information available on the relationship between RTC and the probability of Tb eradication (outcome) for RTC to be a useful indicator of success. However, for many production and biodiversity values this relationship is not known.

The desire to use input contracts is to eliminate or minimise the cost of having to carry out performance monitoring. Input monitoring is one step further away from the outcome than output monitoring, and for such monitoring to be useful there needs to be a known relationship between inputs and outputs. For example, aerial operations have become relatively standardised and regularly achieve post-control RTC values less than 2%. Consequently, as long as the inputs meet a set of agreed QA standards, then the output can more or less be guaranteed.

Some caution is required if input-based contracts are to be used. Pests that are frequently targeted can develop aversions to baits, toxins or traps, and consequently the relationship between the inputs and outputs may change. To address this concern there needs to be some infrequent but ongoing independent output monitoring to "check up" on the effectiveness of the inputs, as well as open and honest feedback from contractors on any indicators of the inputs becoming less effective.

A shift from performance-based to input-based contracts shifts the responsibility (risk of failure) for achieving the target reduction required, from the contractor to the contracting agency.

For the Hawkes Bay Regional Council, the focus is on whether input-contracts are suitable for ground-based contractors.

Workshop outputs

General comments on what input contracts need to deliver

AHB perspective (Owen Harris). Need to ensure they deliver disease reduction objectives.

Regional Council perspective (Campbell Leckie). For the Possum Control Area programme, input-based contracts need to provide a benefit (in reduced costs) to the community.

Both end-users see potential cost savings from using input contracts, thereby enabling control objectives to be achieved across a greater area at the same cost (or across the same area at a lower cost).

To deliver the desired outcomes, input contracts need to be developed around a robust, consistent and transparent contract structure, with inputs well defined.

Five key questions/steps were identified:

1. How are contracts tendered?
2. How are inputs set and agreed to?
3. How are input contracts audited?
4. Reporting.
5. Risks of input contracts.

The bulleted points below are issues raised by workshop participants

1. How are contracts tendered?

- Councils legally required to tender – are there situations where councils don't have to publicly tender?
- New entrants – how are they treated? – how do they gain entry to a largely input-based contractor market where the attribute threshold is set very high?
- How are input contracts structured and tendered to maximise the benefits?

- Councils/AHB sets the budget and contractors provide operational plans specifying inputs.
- Price expectation by Council based on historical data under an unsustainable public tender system influences input contract pricing – this is a risk that needs to be managed.
- Cost of preparing input contracts (for Contractor and or Council).
- AHB may require more constant inputs over time to meet very low RTCs required and disease objectives.
- Council programme has a wider tolerance of failure to meet RTCs and therefore Possums Control Area management may vary inputs over time.
- Initial budget figures for input contracts need to be able to meet contract objectives.
- Contractor does not wear risk for input contracts other than for non-performance delivering of inputs.
- Details required for input contracts are incompatible with public tender process.
- Input contracts are about trust, tender is about process.
- Contractors providing funds via an input contract into infrastructure may not be protected in a subsequent public tender. That is, a contractor may bear the costs of establishing bait-stations and tracks etc, to minimise costs in subsequent years, but a competitor might capitalise on this.
- Weighting of tender variables – may change for input contracts.
- Transparency/legal requirement/contractual requirements.
- Term of the input is important – longer is better especially for input contracts.

Summary:
The Council would tender an operation with a set price and the contractors would submit a tender including an operational plan that they believe could be executed for the set price. The operational plan needs to be sufficiently detailed to enable the council to assess the likely level of work planned and the appropriateness of the methods planned for use. Before implementing input contracts there needs to be further discussion and clarification by council staff and contractors on how much detail contractors need to submit. The Council needs to be confident that the price they set is realistic and sustainable for the contractors to achieve the desired reduction/maintenance of possums. The risk in achieving the desire outcomes is borne by the Council.

Because contractors will have to submit detailed operational plans there will be increased costs for them in becoming familiar with the operational area, and in the preparation of the plans. Additionally, their cost might increase because of the need for reporting (see below).

2. How are inputs set and agreed to?

Input contracts need to have:
- Well defined inputs.
- A structure that minimises/eliminates contractor risk.

- Set blocks for input work with each block being paid out based on inputs having been delivered.
- Contractors need to translate operational plans into reality.
- Operational plans are discussed in detail with contractors prior to tender assessment – business presentation.
- Need to audit contractor's ability to implement plan (e.g. equipment appropriate to achieve desired output).
- Input contracts require more in-house expertise for tender assessment than performance based contracts.
- Tender assessment team needs to be able to evaluate input contracts - what is an unrealistic operational plan, and how is this problem catered for via the tender process?
- There is a risk with low RTCs and longer-term contracts that very little control will be done in early years – contracts must cater for this.
- Having the same contractor do repeat contracts is likely to provide increased efficiency because of their accumulated knowledge of habitat, possum densities, and treatments used.
- Need to ensure input-contracts are not overly prescriptive resulting in a loss of contractor's ability to adapt to changing situations.

Summary:
Input contracts need to be sufficiently detailed to enable (1) the Council to assess the proposed work, and (2) adequate auditing of specific inputs. Equally important is to ensure contracts are not overly prescriptive to the extent that contractors cannot adapt their methods are they see fit (such changes could be agreed to by Council staff if required). Operational plans (those that pass some initial scrutiny) need to be discussed with the contractor before competing tenders are assessed in order to clarify details of methods, coverage, and any other operational issues. Although not essential, input contracts might be most effective if they are designed to run over multiple years to enable contractors to become familiar with the operational area, and to provide them with sufficient security of tenure to enable them to establish a certain level of infrastructure (e.g. quad access and bait-station establishment).

3. Auditing input contracts

- Contractors need to carry out internal audit systems for own staff.
- One key and critical deliverable is coverage. This can be audited by requiring all contractors to use GPS when putting devices in place and when servicing them (e.g. prefeeding bait-stations). But also need to allow for contractors to have some flexibility to capitalise on seasonal foods and comply with farm management restrictions.
    - Forest (line spacing and device spacing).
    - Device location (contractor experience – sign based).
    - Farmland (device density "all farmland is habitat?") Network system.
    - Target trees x season.
    - Seasonal timing to maximise kills (e.g. target budding willows, etc).

- Some contractors already use GPS systems, so demanding use of these systems should not be a significant issue.
- Need Sirfstar chip set to ensure adequate GPS coverage in forested areas.
- Auditors will need some flexibility to interpret whether contractors have met the input requirements.
- How much deviation from the input contract is allowed before non-compliance is acknowledged.
- Audits need to be carried out at or close to job completion.
- Only need to confirm devices in place and used according to "best practice".
- How much auditing do you do? - 10% of area treated, variable time and area.
- Rather than using very specific (quantitative) measures to audit against, prefer to use qualitative measures. For example: to describe performance as poor, adequate, good, or excellent.
- Possibility of auditing against a detailed Operational Plan map that shows where lines and specific devices are to be placed.

Summary:
Auditing of input contracts is essential, but how much auditing will be required is unclear. Contractors need to audit their own staff as part of their quality assurance. Three key features of a contract need to be assessed: (1) coverage. This can be done using GPS systems; (2) quality of tools (traps, baits, bait-stations, etc) and their use relative to 'best practice'. This needs to be done by site inspection; and (3) retreatments such as prefeeds. This could also be monitored by GPSs which record dates and times. Consequently, coverage and visits to sites can be monitored remotely using submitted GPS data, however to assess tool quality and bait quantity used will need some field auditing. How much auditing is required will depend on the trust developed between the contractor and the Council. How to set performance limits as pass or fail criteria needs further discussion.

4. Input contract reporting

- GPS Data – Minimise exchange of information.
- GIS location – control, device.
- On line reporting.
- Bait take/trapnights/materials/effort.
- Occupier report.
- Possums killed + location.
- Risk areas (could be disease based).
- Defining how effectively risk area was treated by existing technique.
- Monthly report or "Input block" report for contract payment purposes.
- Identify areas for targeted monitoring.
- Contractor assessment of level of effectiveness.

Summary:
Contractors who carry out input-based work need to report standard operational details including:
- Device locations (GPS data)
- Frequency of visits (GPS can be used for this)

- Bait type and quantities used, and bait eaten
- Traps and number of trap-nights used
- Possums and non-targets killed when known
- Shooting if used – where, when and numbers killed
- Any deviations from operational plan

Additionally, because contractor performance is not based on having to achieve a target RTC, contractors should identify to Council any areas where possum sign is abundant and/or areas where they believe their control is not being effective (e.g., could not adequately access a steep gorge, or possums appear to be shy of Feratox®). Such feedback will shift the contract system away from a process of "having to pass the monitor" to a system where both parties can work together to reduce possum numbers everywhere.

5. Input contract risks

- Council gets inputs wrong and therefore outcomes not achieved.
- Insufficient sustainable profit margin for contractors.
- Over management – information overload – auditing overload – contractor liaison.
- Too prescriptive.
- Contractor sets price and inputs (within AHB/PCA budget) but standard of inputs will differ between contractors.
- Need to optimise contracts. For example, some contracts could be based on doing no control until triggered by possums reaching a specified RTC level.
- Current contractor competitiveness declines. Keep the "Fear factor" in input contracts by having rigorous contract penalties.
- Investment for input contracts actually ends up not being needed.
- Public perception – input contracts may not be perceived as rigorous.
- Does it create barriers to new entrants to industry.
- Landowners may not agree to contract inputs.
- AHB may not accept/encourage input contracts if some fail/don't deliver on their objectives.
- Potential legal challenges related to who is liable for covering the cost of remediation of failures.
- Cheating by contractors.

Summary:
Input contracts as with output contracts have risks that will need to be managed, and the list above should be used to question and check the process when developing such contracts. Initially, input contracts are likely to be over managed and audited, but with experience and some successes this management cost could be reduced. Because the real risks (costs) of implementing input contracts are unknown, it is suggested that if they are trialled they should at least initially be closely monitored with concurrent performance monitoring. It is also proposed that the two contract systems (i.e. input and performance) be compared within an adaptive management framework.