

Appendix 1. Table A1 - A Sample of Posts Containing Solutions and Experts' Ratings

Thread title	Quote [Post #]	Novelty	Implement-ability	Innova-tiveness
Defining Goals - Part Two	Some kind of step by step approach is the only feasible one. We have to carry along all those boxes as we go. So far, in the last 40 years or so, the approach has been somewhat ad hoc and crude, but many lessons have been learnt in the process, and there have been glimmerings of hope. Now we have some examples which inspire both us, and public opinion and resources, to follow. I think we need to build on success and at the same time acknowledge that some things, as of 2014, are not yet technically possible. But that is not accepting defeat, it means improving our technology so that in another 10 or 20 years we develop weapons in our armoury that we don't currently have. We fight those battles when we are ready to win them. Till then we maintain a holding position as we do now. So I suggest in our Action Plan that we push forward with things that we know are possible and that could be achieved. I will call this Stage 1. We identify a list of sea-fenced islands that could be totally cleared. These could be right up to and including Stewart Island. We push forward with those and win. That would make us stronger on items 1-6. At the same time where geographical features, such as peninsulas, make it easier, and where there is strong community support, we put up predator-proof fences and clear further areas. For example, most of the Marlborough Sounds. Meanwhile, on the larger land-masses, including farmland and urban areas, we acknowledge that a holding position is all we can manage. It will require ongoing expenditure just to maintain this level of pest control. But as successes are achieved, knowledge is gained and public and political confidence builds, so at the same time our entrepreneurs and scientists may be able to develop better technologies. [#1831 continues]	6.5	6.5	High
Diseases that render pests infertile.	If you're going for transmissible fertility control, like using nematodes or bacteria, you could theoretically cycle through several different strains to stop any one being selected against... [#1394]	6	7	High
General public of NZ need to be better informed	Yes we do need to be better informed.... but don't fall into the trap of thinking knowledge = action. It doesn't! Comprehensive social marketing initiatives, which trigger our crazy humans brains to adopt the desired behaviour, are what works to change people's ways. Info alone won't do the trick, sadly. [#1571]	6	6	High
Defining Goals - Part Two	Yes I agree with what you say.If we are to make WAR on possums and other predators we must first set the parameters then state our Aim. Is it to be possum and predator free NZ or is it a consolable, manageable compromise that we settle for.To make WAR we must then decide the best strategies to meet the stated AIM. Advance and consolidate yes.To make WAR we need one united army. One General at the top and properly paid soldiers doing the real work at the ground. Not too many in the middle.To make WAR we need the most effective weapons. Consult with the soldiers on the ground first - they know the enemies ways, the climate and the terrain. To make WAR we need untaxed government supplied weapons.To make WAR we need the nation behind us. Educate and encourage the individual Landowner to mobilise on his own block.After the WAR appears to be won be prepared to hold and defend the territory FOREVER .The pest control burden should be placed on the landowner, the army reduced to monitoring and ensuring that councils prosecute those landowners who lapse. [#1836]	5.5	6.5	High
Educate the youngsters	Easy to set rat traps and DOC150s for small hands. [#1435]	3	3	Low
Introduce cat control	If we are going to introduce control of unowned cats in urban areas, we had better have a strategy of control of rodents in urban areas sorted ... We could manage this by having anticoagulant toxin use restricted to licensed operators who follow a code of responsible rodenticide use and are required to keep a register of toxin use. [#1439]	4	1	Low

Automated species specific toxin delivery device	By using species specific toxins and weighing each individual, the amount of poison can be reduced to what is needed to kill that individual, as opposed to aerial application or bait stations where sub lethal poisoning can occur or poison can go to waste. [#1466]	4	3.5	Low
Targeted Management Areas	What interesting discussion! Fish and game are responsible for game birds and pukeko's. Pukeko's are a pest in their own right when numbers exceed habitat capabilities. Likewise pheasants taste nice and are semi protected yet they carry wild ginger seed all over our property. They to are a pest to our chosen way of life. We are not often funded in pest control but still we manage to initiate possum control whilst hunting pork or goat for the table. Modern hunters are scared to leave the truck, track or stay out doors so why not provide the access, the tracks and accommodation. [#1585]	3.5	4	Low
Increased aerial 1080 needed for PFNZ?	I agree let's look at 2nd gen anticoagulants again - but try and convince DOC [#1352]	3	5	Low
Increased aerial 1080 needed for PFNZ?	Increased use of aerial 1080 might be an option but should only be pursued after careful evaluation of all the science and high quality participation from effected communities. [#1342]	3	4.5	Low
The eradication of feral cats.	On the subject of cats - we are only going to aggravate cat lovers by promoting extreme measures - we would make more progress by encouraging cat owners to place a bell round their neck - at least it might give our birds some chance - we managed to get dog owners to pick up poo - a bell for a cat should be acceptable. [#1412]	3	4.5	Low
Kill the possums first	The bounty system would only operate for a set period of time - say 12 months - and all participating hunters would be registered and assigned to a specific area of the country . At the close of the period there might be perhaps only 1 % of the possum population left, and these would be assigned to professional or trusted hunters to eradicate (with corresponding financial remuneration for the difficulty involved). If anyone else turned up regularly with large numbers of skins to be redeemed at the end of the bounty period they would immediately implicate themselves in underhandedness and be discouraged by fines and /or imprisonment. [#1553]	3	2	Low
Promote New Zealand to adopt alternate pets, instead of cats.	If we get rid of predators there might be enough birds for us to have pet kaka, kiwi, kakapo - that would be cool. The challenge is getting the S out of pest. [#1660]	2	1	Low

Table A2. A short discussion thread organized according to Greimas' narrative model

*1570 – **General public of NZ needs to be better informed	•<i>Proposed Solution:</i> Comprehensive social marketing initiatives to trigger desired behavioral change (Part of text) “Comprehensive social marketing initiatives, which trigger our crazy human brains to adopt the desired behavior, are what works to change people's ways.”	••Evaluation: High or low innovativeness High innovativeness
Facilitator	Goal	Recipient
(implicit) An entity offering a comprehensive social marketing initiative (2) •• “Comprehensive social marketing initiatives, which trigger our crazy human brains...”	People's concern and action (1) “[...]perhaps if we made the focus money related and how these people could be affected without action maybe they would be more concerned and want to help fix the problem? Any thoughts?”	(implicit) General public
Resources	Subject	Constraint
Monetary incentives (1) “[...]perhaps if we made the focus money related” (implicit) Existing information on pests' effects on the ecosystem (2) “Most people know that there are some possums killing birds but they don't understand the follow-up effects this has for our ecosystem”	(implicit) We as social marketing managers (1) “[...]perhaps if we made the focus money related”	

* ID of the post; ** Title of the thread; • The integrative solution suggested at the end of the narrative; •• Innovativeness of the solution; ••• Post in the thread in which the element appeared (1 for 1st, 2 for 2nd, etc.)

Table A3. Representative quotes identifying the roles of narrative elements.

Facilitator (#1568) “Who provides the finance - Government?” (#1797) “(City) Councils will provide property owners with bait, lures, toxins”	Goal (#1797) “<i>To rid our towns and cities of rodents</i> will require some lateral thinking” (#1973) “Maybe we should have a programme in schools <i>to educate children about all predators...</i> domestic or feral.”	Recipient (#1343) (About an educational campaign for ‘youngsters’) “I also think that the <i>adults</i> need to understand the impacts of these pests” (#1548) “Make the bounty generous enough to encourage <i>all sorts of people</i> to go after it.”
Resource (#1697) “<i>keeping a tally of pests caught and information from dissections</i> of stomach contents could show public just how much damage pests do” (#1797) “<i>Spitfire traps</i> [fitted on] to <i>all rubbish</i> residential and commercial wheelie bins and restaurant skip bins”	Subject (#1342) (Implicit subject: <i>flight operators</i>) “Achieving widespread reductions of all predators throughout NZ may involve increased use of aerial 1080 because of how cheap and effective this tool is at killing predators.” (#1698) “If we can get the <i>children</i> involved <i>then they will then get their parents</i> involved too”	Constraint (#1799) “<i>anticoagulants’ [residues]</i> getting into the food chain.” (#1975) “don’t publicize the need to keep cats indoors as this may aggravate <i>parents</i> into not wanting their children to listen to anymore”...

Appendix 1 - Table A4. Coding structure and Illustrative quotes

Aggregated dimension	Second Order theme	First Order Concept	Illustrative Quote
Goal-Subject Anchoring	Adjusting the goal	Recalibrating the goal	Slow and steady I say with ground-based operations! It will cost a wee bit more but it's a better image for New Zealand 1080 is not the way of the future. (#1356)
	Adjusting the goal	Recalibrating the goal	Is it the tools or how we use them that is the problem? (#1908) ... Yes, it's the way in which tools are used (#1909)
	Adjusting the goal	Recalibrating the goal	I support this (goal) but in a slightly different application. Setting a disease loose in the environment is maybe not the best. (#1379)
	Adjusting the goal	Recalibrating the goal	The problem with biological solutions that target fertility is that they essentially select themselves out of the system fairly rapidly. From my understanding the most successful solutions for biological control select for infertility several generations down the line, this allows for the mechanism to spread through the population more widely before taking effect. (#1392)
	Adjusting the goal	Narrowing the goal	And yes we would need to make sure that there would be no chance of diseases jumping to other species. (#1385)
	Adjusting the goal	Narrowing the goal	The main problem with cats is that we divide them in 3 groups (domestic, feral, and stray) for the purposes of management rather than 2 (owned versus unowned). We can't manage unowned cats until owned cats are microchipped and registered. (1448)
	Adjusting the goal	Narrowing the goal	I am starting to wonder if the term Pest free NZ is actually helpful. So many species have been introduced into NZ. There are species some New Zealanders might not want to get rid of. Deer for example. However, the 'baddies' like possums, rats, and stoats (possum hunters might say differently) are recognised and understood by more and more people as being detrimental to our native species. With this in mind should the aim be more specific to help promote the vision? (#1611)
	Linking the goal to a subject	Specifying the subject	Many such challenges relate to social issues... and a focus on community consultation will be vital (#1355)
	Linking the goal to a subject	Assigning a task to a specific subject	This aim of pest eradication on these large islands should be stated by the government and worked towards by a well-funded special task group. (#1355)
	Linking the goal to a subject	Assigning a task to a specific subject	The owners should be responsible for the damage caused by their cats but I do not believe that they [i.e., cats] should be destroyed. (1446)
Repurposing Distant Knowledge	Linking the goal to a subject	Proposing a specific subject for a goal	Any large-scale eradication (goal) has to come from the community that is affected (#1361)
	Drawing analogies	Pointing to an analogue	The success of tsetse fly control in Africa in the 1970s used a technique of leapfrogging fences (#1738)
	Drawing analogies	Pointing to an analogue	Half seriously, we have to convince the world that possum testes are an aphrodisiac. It sounds ludicrous but is it any more ridiculous than rhino horn? (#1513)

	Drawing analogies	Illustrating the analogy	I visited Lord Howe Island in Australia at the end of last year. They have Aust\$9 million to carry out a ship rat and mouse eradication. The island is 1500 hectares (about the same as Whenua Hou/Codfish Island, and much smaller than Stewart or Great Barrier islands) ... They've already got rid of feral goats and pigs, and feral and domestic cats. They currently poison 10% of the island: around the settlement area, and at key conservation sites. The mice are already resistant to warfarin and are developing resistance to brodifacoum. At the moment the community is split down the middle as to whether a one-off aerial eradication project is a good idea (#1361)
	Drawing analogies	Illustrating the analogy	At the macro level as much as at the micro level we need to "think like the predators"- how attractive is a shiny s/s trap to a stoat which has never seen/smelt a human? ... - food/shelter/sex(companionship) are usually congregated in some locations and sparse in others and don't conform to 100x100m grids - traps/bait stations should be spread accordingly (cost/human effort/job satisfaction). (#1523)
	Pooling knowledge related to both subject and goal	Providing evidence linking the narrative subject to the goal	There is research being done by Landcare Research I think - (don't quote me) - to release genetically modified females which only produce infertile male offspring. ... [hyperlink] Anyone got any more info/progress on that? (#1379)
	Pooling knowledge related to both subject and goal	Linking new ideas	I mentioned some ideas about that [Nickname] in a post here: [hyperlink] Have a look and see if you agree with me. (#1612)
	Pooling knowledge related to both subject and goal	Pointing to evidential sources related to the subject and goal (or their analogue)	We have a lot to learn from practitioners on animal behavior to refine catching (#1911)
	Pooling knowledge related to both subject and goal	Pointing to evidential sources related to the subject and goal (or their analogue)	There's already a really promising candidate to try for a parasite causing transmissible fertility control in possums. See [hyperlink] The key guy responsible is still working with it over in Australia at La Trobe University. (#1390)
Layering Constraints	Adding resources to the discussion	Introducing a new instrument to the discussion	Use gloves in all handling preferably well-impregnated with prey smells (#1523)
	Adding resources to the discussion	Introducing a new instrument to the discussion	Drag a fresh carcass along the trap line to increase interceptions (#1523)
	Adding resources to the discussion	Introducing a new technique to the discussion	One person was currently rat trapping with a small cage and doing quite well with over 20 kills – one other person then purchased five bait stations and has been feeding many rats I have a bait station and a cage operating – rats are taking the bait and I am caging hedgehogs (don't forget the hedgehogs) (#1802)

Adding resources to the discussion	Introducing a new technique to the discussion	I think cat enclosures are a great way to control cat activity while still allowing them to be outside. (#1442)
Adding resources to the discussion	Introducing a new instrument to the discussion	Utilizing 1080 in the upland valleys and on mountainsides (#1736)
Matching resources to constraints	Assigning an instrument to a subproblem (constraint)	Stoat traps also get weasel and ferrets (#1835)
Matching resources to constraints	Assigning addressing a sub-problem (constraint) through a technique	Often patience is all that is needed, once you are aware that some species have social issues, such as neophobia, trapping them becomes just a matter of time (#1524)
Matching resources to constraints	Addressing a sub-problem (constraint) through a technique	I understand that organisms such as bacteria and viruses are risky for biological control because of their high rates of evolution -- they could mutate and affect a non-target species. More complex organisms are presumably genetically more stable. (#1387)