

Filtering Significant Assets Prior to Detailed Assessment (INFFER step 2)

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Introduction

The Investment Framework For Environmental Resources (INFFER) is a tool for planning and prioritising public investments in natural resources and the environment. It focuses on achieving outcomes cost effectively.

This document relates to step 2 of the INFFER process (Table 1). It is about taking the full list of significant natural assets developed in step 1 (commonly 100 or more) and filtering it down to a shorter list (commonly 20 or less) that will be assessed using the INFFER Project Assessment Form in step 3.

Table 1. Steps in the INFFER process

	Description of Step	Relevant Document
1.	Develop a list of significant natural assets in the relevant region(s)	"Significant Asset Identification Guide"
2.	Apply an initial filter to the asset list, using a simplified set of criteria	"Filtering Significant Assets Prior to Detailed Assessment" (this document)
3.	Define projects and conduct detailed assessments of them	"Project Assessment Form", and "Project Assessment Form Instruction Manual"
4.	Select priority projects	"Selection of Priority Projects"
5.	Develop investment plans or funding proposals	"Development of investment plans or funding proposals"
6.	Implement funded projects	"Implementation of funded projects"
7.	Monitor, evaluate and adaptively manage projects	"Monitoring, Evaluation and Adaptive Management following INFFER Assessment"

The thinking behind this step

1. The number of natural assets that are potential candidates for investment is extremely large. Even limiting the focus to assets of high significance (in step 1 of the process) still leaves a long list of possibilities. Working with regional natural resource management bodies in Australia (e.g. Catchment Management Authorities), we typically find that the list of significant assets in the region includes 100 to 300 items.

2. The budget available for investment in natural assets is sufficient for only a small proportion of the significant natural assets (perhaps 5 percent). Thus, prioritisation and targeting of effort is an unavoidable reality.

3. Different projects for investing in significant natural assets vary widely in their cost-effectiveness (i.e. value for money). Thus, prioritisation and targeting of effort is essential to ensure that we get the most valuable natural resource outcomes for the investment.

4. To make it into the small group of projects that actually receive funding, a project needs to be strong in relation to almost all of the relevant criteria. (The full set of criteria is presented in the documents for Step 3.) Thus, there is the potential at this stage to filter out projects that fall short on one or more key criteria.

5. The process of applying the full INFFER assessment process (using the Project Assessment Form in step 3) is relatively time consuming. It would not make sense to do this for every significant asset, as many of them can be easily identified as not being likely to be assessed favourably because they fall short on one or more of the key criteria. This suggests applying an early filtering process based on a simplified set of criteria so that the effort to conduct detailed assessment is only applied to projects that have a higher chance of providing good value for money.

6. The process of filtering does not have to be exact or highly sophisticated. It just has to provide a transparent and efficient method for eliminating most of the significant assets from consideration, so that the remaining list consists of relatively good investment prospects. Although we want the options remaining on the filtered list to be good prospects, it does not matter if a few good projects are mistakenly eliminated in the filtering process, as long as enough good ones make it through. The good projects that are omitted can always be picked up in later years. It also does not matter if a few poor projects get through, because they will be eliminated later in the INFFER process.

7. The filtered list should be long enough that not all assets on the list will be supported, but short enough that it is practical to apply the INFFER Project Assessment Form to all items on the list. We suggest that the number of assets on the filtered list should be about double the expected number of final projects. By "final projects" we mean projects that will be supported with internal funding, or for which proposals for external funding will be prepared.

Suggested procedure

Based on the logic spelt out in the previous section, the choice of selection criteria to use in this filtering process is somewhat flexible.

There has already been some filtering in step 1, where only "significant" assets were included on the list of potential projects.

In step 2, we suggest that you use two criteria:

- (i) Level of asset significance. How important or valuable is this asset? Specifically, how significant would it be if in good condition.
- (ii) Degree of damage/threat to the asset. Without a major new project for this asset, how damaged will the asset be in 20 years time?

If you prefer to use different criteria at this step, that is fine, provided that the criteria used discriminate sufficiently between projects. We have found that using these two criteria works well.

The suggested step-by-step process is as follows.

1. Form a committee or working group to undertake step 2. The group should include people with broad knowledge of the natural assets in the region or state in question. They need to include people with knowledge about technical/scientific aspects of the issues (e.g. ecologists, hydrologists, modelers), and people who are familiar with socio-economic aspects of the issues (e.g. key community members, extension agents, economists).
2. For each asset on the list produced in step 1, the working group provides scores against the two criteria, using the following scales.

(i) How significant is the asset (in the sense of being valuable or important)?

- | | | |
|--------------------------|-------------|----|
| <input type="checkbox"/> | Exceptional | E |
| <input type="checkbox"/> | Very high | VH |
| <input type="checkbox"/> | High | H |

(ii) Without a major new project for this asset, how damaged will the asset be in 20 years time?

- | | | | |
|--------------------------|-----------|-----------------------------|----|
| <input type="checkbox"/> | Very high | 76-100% loss of asset value | VH |
| <input type="checkbox"/> | High | 51-75% | H |
| <input type="checkbox"/> | Medium | 26-50% | M |
| <input type="checkbox"/> | Low | 0-25% loss of asset value | L |

3. Enter the scores for each question into a spreadsheet. To illustrate:

	A	B	C
1	Asset	Asset significance:	Threat level:
2		E = exceptional	VH = very high
3		VH = very high	H = high
4		H = high	M = moderate
5	Avoca River reach #7	VH	H
6	Malee Fowl	VH	VH
7	Upper Loddon & Campaspe River	VH	H
8	Lower Loddon River	H	H
9	Meran Lakes	H	H
10	Grey-crowned Babbler habitat Kerang/Boort	H	H
11	Phascogale – Mt Alexander	H	H
12	Patho Plains grasslands	VH	VH
13	Threatened Goldfields flora	H	VH
14	11 Threatened orchids	VH	VH
15	Kerang Lakes wetland complex	VH	H
16	Boort wetlands	H	H
17	Gunbower Island	E	H
18	Wedderburn CMN	VH	VH
19	River Murray, Campaspe to Gunbower	E	H
20	Agric. land in upper catchment	H	M
21	York Plains	VH	H
22	Coliban River reach #??	VH	H

Pre-assessment checklist

Now test each asset on the list using our pre-assessment checklist, shown below. The checklist consists of a short series of questions designed to check whether it is likely to be worthwhile using the INFFER Project Assessment Form to assess an asset/project. The questions do not cover all relevant issues, just a key set of issues that we consider most pertinent.

Asset focus

1. Can you clearly identify the environmental or natural resource asset? Most people say they can, but then find it difficult to be very specific about what the asset is. Before you say “yes”, consider whether you could draw it on a map. The asset can be large or small but needs to be identified spatially.
2. Will it be possible to define a goal for the asset that is “SMART” (specific, measurable, achievable, relevant and time-bound)?

If you cannot answer “yes” to both of these questions, it is likely that the project is not suited to being assessed by INFFER.

Cost-effectiveness

3. Is there evidence to indicate that management actions can make a real difference, sufficient to achieve a worthwhile “SMART” goal for the asset? (e.g. will it be technically possible to repair existing degradation, or prevent future degradation?).

4. If the desired management actions are mainly on private land, is it likely that those actions would be reasonably attractive to fully informed land managers **when adopted over the required scale**? You should at least expect that adoption (or compliance) at that scale will occur readily with a realistic level of financial incentive or compensation.
5. If the project requires change by other institutions (e.g. local government, state government departments) is there a good chance that this will occur? (e.g. low political risks from changing, staff with relevant knowledge and strong interest).

For it to be worthwhile assessing a project in INFFER, you would like “yes” responses to questions 3, 4 (if relevant) and 5 (if relevant).

(Note: this pre-assessment checklist can also be used to check whether an individual asset is suitable for assessing using the Project Assessment Form – that is, a project that has been suggested by an environmental manager without going through step 1 of INFFER.

In the spreadsheet, include an indication of which of the pre-assessment checklist questions are satisfied for this asset, as shown below.

Choose the approximate number of assets that you wish to carry forward into step 3 of the INFFER process. For a regional environmental manager, 10 to 20 assets seems to be an appropriate number. Select assets/projects up to this number. The example below shows a case where 10 assets are to be carried forwards to step 3. The selected assets are marked with an asterisk in column E.

	A	B	C	D	E
	Asset	Asset significance:	Threat level:	Pre-assessment criteria met	
1		E = exceptional	VH = very high		
2		VH = very high	H = high		
3		H = high	M = moderate		
4					
5	Avoca River reach #7	VH	H	1, 2, 3, 4, 5	*
6	Mallee Fowl	VH	VH	1	
7	Upper Loddon & Campaspe River	VH	H	1, 2, 3, 4, 5	*
8	Lower Loddon River	H	H	1, 2, 3, 4, 5	*
9	Meran Lakes	H	H	1, 2, 3, 4	
10	Grey-crowned Babbler habitat Kerang/Boort	H	H	1, 2, 3, 4, 5	*
11	Phascogale – Mt Alexander	H	H	1, 2, 3, 4, 5	*
12	Patho Plains grasslands	VH	VH	1, 2, 3	*
13	Threatened Goldfields flora	H	VH	1, 2, 3, 4, 5	*
14	11 Threatened orchids	VH	VH	1, 2, 3, 4, 5	*
15	Kerang Lakes wetland complex	VH	H	1, 2	
16	Doort wetlands	II	II	1, 2	
17	Gunbower Island	E	H	1, 2	
18	Wedderburn CMN	VH	VH	1, 2, 3, 4, 5	*
19	River Murray: Campaspe to Gunbower	E	H	1	
20	Agric. land in upper catchment	H	M	1, 2, 3	
21	York Plains	VH	H	1, 2, 3, 4, 5	*
22	Coliban River reach #22	VH	H	1, 2, 3	

Selecting which assets to carry forward to step 3 is an all-thing-considered judgement, based on the responses to both of the key criteria (value and threat) and the pre-assessment checklist questions. Note that some assets that do not score well on one criterion may still be carried forward if they perform well enough on other criteria.

Alternative approaches

In the instructions for step 1 of the INFFER process (“Significant Asset Identification Guide”), we mentioned that some users of INFFER may use a systematic conservation planning approach as part of step 1. For example, spatial data analysis such as GIS can be used to identify parcels of native vegetation that satisfy a combination of ecological criteria. The parcels or areas identified can be included in the list of assets produced in step 1. There is a need to be careful that the GIS data represents on-ground condition well. Our experience is that does not always, and this could lead to poor prioritisation.

Potentially, systematic conservation planning could contribute to step 2. For example, in the case of an analysis of parcels of native vegetation, you would identify those parcels which met a combination of criteria to a high level (e.g. ecological criteria).

Note that any assets identified by this process should still be assessed using the pre-assessment checklist.

Appendix: Frequently Asked Question

Extracted from full list of FAQs at www.inffer.org.

79. I have previously used “risk and consequence” to assess the seriousness of project risks. How does the INFFER process of scoring “threats” relate to that approach?

The “risk and consequence” approach breaks down the assessment of project risks into two components: the probability that an adverse outcome will occur (“risk”, scored as almost certain, very likely, likely, ..., rare) and the seriousness of that outcome if it does occur (“consequence”, scored as catastrophic, major, moderate, minor, insignificant).

While this can be a useful vehicle for structuring thinking about the riskiness of a project in certain circumstances, it does not suit the needs of INFFER. One reason for this is that it characterises the consequence as a binary variable: a certain level of damage, versus no damage at all. It is assumed that a certain probability can be assigned to the specified level of damage, and it implicitly assumes that the rest of the probability is assigned to no damage.

In reality, a particular threatening process may have a range of possible damage consequences, each with a subjective probability level. Zero damage is probably very unlikely in most natural resource projects, even if a major project is implemented. In INFFER, our assessment of threat is effectively a subjective weighted average or expected value, weighing up different possible levels of damage and their probabilities. This assessment is conducted simply, by scoring the most likely level of damage as: Very high

(76-100% loss of asset value), High (51-75%), Medium (26-50%), or Low (0-25% loss of asset value).

This treatment of threats encompasses both risks and consequences, and is both more realistic and more flexible than the usual “risk and consequence” approach.

Another requirement of INFFER is to be able to quantitatively assess the reduction in damage as a result of the project. This is conceptually straightforward using our approach: it is the reduction in the scored damage level (most likely, or weighted average) due to the project. This assessment would be more problematic in a “risk and consequence” approach. It would probably involve either a reduction in the probability of a fixed adverse outcome, or a reduction in the adverse outcome with a fixed probability. Either of these approaches would be less realistic, and both would implicitly include zero damage as an outcome with a significant probability, whether or not the project was implemented.