

Identify Risks and Opportunities

Before starting to identify the risks and opportunities, it is valuable to know as much information as possible about the current operation and the overall catchment water needs and availability. The initial stages of water stewardship planning process require compiling the information. It is a good idea to have much of that information gathering work completed before starting on the risk and opportunities assessment.

The AWF project compiled the watershed context document, conducted site visits and pulled maps and data together, and then started the identification of risks and opportunities with a brainstorming process. The project team members, the Implementers, and the Working Group members collaborated to brainstorm the risks and opportunities. All suggestions were captured at this stage, there were no criteria such as cost or feasibility. The initial round of brainstorming used sticky notes and a white board for facilitating the discussion among all participants. Risks and opportunities were identified that were relevant to the Implementer, to the potato supply chain, and to the Oldman River watershed. Over a series of steps in the project process the risks and opportunities were categorized, grouped, and shortlisted.

Stakeholder engagement was also part of risk assessment because the stakeholders were asked to identify their water-related concerns. Stakeholders also offered ideas for actions to mitigate risks, which are considered opportunities.

Assess Risks

Rating the identified risks will provide the operator or decision-makers more information to decide which risks should be prioritized in terms of actions to mitigate them. The ranking of the risk may determine if a budget allocation for a mitigation action is urgently needed by the implementer.

Typically, a risk can be assessed based on likelihood and severity, using a risk matrix. The specific definitions of the categories and the different levels of risk can be defined by the Implementer themselves to ensure the resulting ranking is reflective of the way the operators and decision-makers think about risks.

A general risk matrix (below) was prepared by WaterSMART Solutions for the example exercise of evaluating risks based on the severity and likelihood. It includes the four categories and results in a risk ranking structure with four levels. The list of identified risks were assessed using this example risk matrix, resulting in a ranking from 1 to 4 for each risk. Then the risks can all be prioritized in order from top risk priority for action to least. The prioritization will be informed by the ranking score, but determined by the Implementer.

Table 1. Example risk matrix, this was developed by WaterSMART Solutions as a general example and is not specific to any of organizations involved in the AWF project process.

			Severity of risk			
			Low	Medium	High	Severe
			1	2	3	4
	Operational (people /assets)		minor	moderate	significant	critical failure
	Regulatory /legal		minor	moderate	significant	shut down
	Reputational (public concern)		a few people /minor concern	many people /moderate concern	many public and business influencing people	long term bad reputation
	Financial		<\$50,000	>\$50,000 to \$500,000	>\$500,000 to \$1,000,000	>\$1,000,000 (critical loss)
Likelihood of risk (frequency)	Remote	1				
	Occasional	2				
	Probably	3				
	Urgent/Frequent	4				
		Risk ranking	Level 1			
			Level 2			
			Level 3			
			Level 4			

Aligning Risks and Opportunities in a table and identifying possible actions

One of the primary objectives of identifying risk and opportunities, is to inform the actions that are chosen to be included in the water stewardship plan. The next step that the AWF project followed supported the identification of actions that take advantage of an opportunity or mitigate a risk (or both).

The project team found that most of the opportunities matched with a risk that was identified. For example, the risk might be ‘a large rainstorm event causing flooding on site,’ and the opportunity would be ‘collect data about stormwater generation on site allowing an assessment of the volume that could be captured for landscape irrigation.’ The project team created a table that aligned the risks and opportunities. In some cases, multiple opportunities aligned with one risk, or vice versa. The table of

risks and opportunities was developed and refined by clarifying wording, combining several points together, and deleting duplicates.

The table template below is oriented with the opportunities first and the associated risks in the next column over. This was chosen to highlight and focus on the opportunities offered by water stewardship actions. This also works well because there are some opportunities that do not have an associated risk. Re-arrange the table if it will be more logical for your decision-making process.

The table has a column for possible actions. This table is designed to stimulate creative ideas for possible actions that would address the risk or take advantage of an opportunity. In the AWF project many of the water stewardship actions included in the Implementers' Water Stewardship plans we selected from among the ideas in this table.

Identifier	Opportunity (category <i>italicized</i>)	Risk (category <i>italicized</i>)	Possible Actions	Notes
A	An opportunity lies in...	A risk to [operation] from... •	•	
B	There is an opportunity to...	A risk from...	•	•
C	An opportunity lies in...	A risk from ...	•	•
D	There is an opportunity to...	A risk from ...	•	•
E	There is an opportunity ...	(Not applicable, no related risk)	•	•