

Appendix B. How Miradi Calculates Summary Threat Ratings

Calculating Individual Threat Ratings Based on Scope, Severity and Irreversibility

Miradi combines scope and severity ratings to get the overall threat magnitude rating for each threat on each target, using the following rule-based system:

		Scope			
		Very High	High	Medium	Low
Severity	Very High	Very High	High	Medium	Low
	High	High	High	Medium	Low
	Medium	Medium	Medium	Medium	Low
	Low	Low	Low	Low	Low

Miradi then combines the threat magnitude rating with the irreversibility rating using the following rule-based system:

		Irreversibility			
		Very High	High	Medium	Low
Magnitude	Very High	Very High	Very High	Very High	High
	High	Very High	High	High	Medium
	Medium	High	Medium	Medium	Low
	Low	Medium	Low	Low	Low

Rolling Up Ratings

Miradi uses a rule-based procedure for aggregating threat ratings across multiple targets or across multiple threats. Miradi’s rules for rolling up threat ratings were developed by the TNC 5-S Framework and have been applied in threat ratings carried out by hundreds of TNC teams across the globe.

Miradi creates a matrix of threats and targets, as shown in Figure B - 1. In this example, the far right-hand column contains the rankings for each threat across targets (a Type II roll-up). The bottom row contains the overall threat ranking for each target (a Type III roll-up). To calculate Type II and Type III roll-ups, Miradi uses two rules:

1. The 3-5-7 rule:
 - 3 High ranked threats are equivalent to 1 Very High-ranked threat;



- 5 Medium ranked threats are equivalent to 1 High-ranked threat;
 - 7 Low ranked threats are equivalent to 1 Medium-ranked threat
2. The 2-prime rule: This rule requires the equivalent of two Very High rankings (e.g., one Very High and at least three High rankings) for the overall ranking to be Very High and the equivalent of two High rankings for the overall ranking to be High.

Figure B - 1 shows examples of the application of these rules. In the second row, the Housing threat has 3 High rankings (which equals 1 Very High) and 1 Very High ranking. Thus, the overall Threat Rank is Very High. Likewise, in the Upper Watershed Column, there are 6 High rankings, which equal 2 Very High rankings. Thus, the overall rank for this target is Very High.

Figure B - 1. Example Threat Rating

Active Threats Across Systems	Vernal pool grasslands	Lower Floodplain	Upper Floodplain: Chinook Salmon	Upper Watershed	Ione Chaparral	Blue Oak Woodland	Overall Threat Rank (Type II)
Farms	High	High	High	High	-	Very High	Very High
Housing	High	High	-	High	Medium	Very High	Very High
Groundwater withdrawal	-	High	Very High	-	-	-	High
Levee and dike construction	-	High	Very High	-	-	-	High
Mining	-	-	Medium	-	Medium	-	Medium
Industrial development	-	-	-	-	High	High	High
Fire suppression	Medium	-	-	High	Medium	High	High
Invasive/alien species: Plants	High	Medium	-	-	Medium	Medium	High
Invasive/alien species: Animals	-	Medium	Medium	High	-	-	Medium
Forestry practices	-	-	-	High	-	-	Medium
Operation of drainage systems	-	-	-	High	-	-	Medium
Grazing	Medium	-	-	-	-	Medium	Medium
Recreational vehicles	-	-	-	Low	Medium	-	Low
Agricultural runoff	-	Medium	-	-	-	-	Low
Overfishing or overhunting	-	-	Low	-	-	-	Low
Threat Status for Targets (Type III)	High	High	Very High	Very High	High	Very High	VERY HIGH
Overall Project Rank (Type IV)							

And finally, the cell in the lower right-hand corner contains the overall ranking for the project (a Type IV roll-up), which is calculated by rolling up the far-right hand column using the 2-prime rule.