

## Outcome Monitoring Framework: Intermediate Outcome 1 (IO1)

The diversity of our natural heritage is maintained and restored

See the IO1 assessment templates at [www.doc.govt.nz/omf](http://www.doc.govt.nz/omf) for descriptions of indicators and measures.

Outcome Objective	Indicator	Measure	Domain L=Land F=Freshwater M=Marine
1.1 Maintaining ecosystem processes	1.1.1 Substrate quality	1.1.1.1 Soil structure and chemistry	L
		1.1.1.2 Soil carbon content	L
		1.1.1.3 Sedimentation and sediment quality	FM
	1.1.2 Ecosystem function	1.1.2.1 Ecosystem primary productivity	LFM
		1.1.2.2 Lake biological function	F
		1.1.2.3 Waterway biological function	LF
		1.1.2.4 Marine biological function	M
		1.1.2.5 Exploited species production	FM
		1.1.2.6 Flower and fruit production	L
	1.1.3 Water quality and quantity	1.1.3.1 Freshwater hydrology	LF
		1.1.3.2 Catchment water yield and groundwater	LF
		1.1.3.3 Ocean regime & temperature	M
		1.1.3.4 Water physiochemical factors	FM
	1.1.4 Ecosystem structure	1.1.4.1 Ecosystem fragmentation	LFM
		1.1.4.2 Habitat availability	LFM
	1.1.5 Disturbance	1.1.5.1 Mass movement	LFM
		1.1.5.2 Riverine and coastal alteration	LFM
		1.1.5.3 Anthropogenic landform and substrate disturbance	LFM
		1.1.5.4 Extent and impact of fire	L
		1.1.5.5 Toxic blooms	FM
		1.1.5.6 Disease and invertebrate pest outbreaks	LFM
1.1.6 Land cover	1.1.6.1 Land under indigenous vegetation	L	
	1.1.6.2 Waterway and lake marginal vegetation	LFM	

		<b>1.1.6.3</b> Land, waterway and marine transformation	LFM
1.2 Limiting environmental contaminants	1.2.1 Non-nutrient contaminants	<b>1.2.1.1</b> Non-nutrient contaminants	FM
		<b>1.2.1.2</b> Toxins in biotic tissues	LFM
		<b>1.2.1.3</b> Severely contaminated land and water	LF
		<b>1.2.1.4</b> Marine Litter	M
		<b>1.2.1.5</b> Noise	LM
1.3 Reducing spread and dominance of exotic species	1.3.1 Exotic species occurrence	<b>1.3.1.1</b> Occurrence of self-maintaining populations of exotic species	LFM
		1.3.2 Invasive species dominance	
		<b>1.3.2.1</b> Abundance and distribution of invasive pests and weeds	LFM
		<b>1.3.2.2</b> Area free of mammalian predators	LF
1.4 Preventing declines and extinctions	1.4.1 Conservation status of indigenous taxa	<b>1.4.1.1</b> Status of indigenous taxa	LFM
		1.4.2 Security of threatened and at risk taxa	
		<b>1.4.2.1</b> Current and predicted trends in the status of threatened and at risk taxa	LFM
		<b>1.4.2.2</b> Current and predicted trends in the demographics of threatened and at risk taxa under active management	LFM
	1.4.3 Loss of genetic diversity	<b>1.4.3.1</b> Genetic diversity in relation to conservation status	LFM
		<b>1.4.3.2</b> Genetics of taxa under management	LFM
1.5 Maintaining ecosystem composition	1.5.1 Species composition and diversity	<b>1.5.1.1</b> Demography of functional groups	LFM
		<b>1.5.1.2</b> Representation of functional groups and guilds	LFM
		<b>1.5.1.3</b> Abundance and demography of common and widespread taxa	LFM
		<b>1.5.1.4</b> Changes in species diversity	LFM
	1.5.2 Species occupancy of natural range	<b>1.5.2.1</b> Natural range occupied	LFM
1.6 Ensuring ecosystem representation	1.6.1 Ecosystem representation and protection status	<b>1.6.1.1</b> Ecosystem extent	LFM
		<b>1.6.1.2</b> Proportion of ecosystems protected	LFM
		<b>1.6.1.3</b> Change in extent of naturally uncommon and reduced ecosystems	LFM
		<b>1.6.1.4</b> Proportion of ecosystems remaining relative to natural extent	LFM

1.7 Adapting to climate change	1.7.1 Basic climate series	<b>1.7.1.1</b> Climate averages, indices and extreme events	LFM
	1.7.2 Biological responses to climate change	<b>1.7.2.1</b> Biological responses to extreme climate events	LFM
		<b>1.7.2.2</b> Phenological response to climatic regime change	LFM
		<b>1.7.2.3</b> Range shifts	LFM
		<b>1.7.2.4</b> Ecosystems and taxa vulnerable to the adverse effects of climate change	LFM
1.8 Human use and interaction with natural heritage	1.8.1 Hunting and harvesting of indigenous resources	<b>1.8.1.1</b> Legal hunting and harvesting of indigenous species from PCL&W	LFM
		<b>1.8.1.2</b> Illegal hunting and harvesting of indigenous species from PCL&W	LFM
	1.8.2 Hunting and harvesting of non-native species and resources	<b>1.8.2.1</b> Legal hunting and harvesting of non-native species and resources from PCL&W	LFM
		<b>1.8.2.2</b> Illegal hunting and harvesting of non-native species and resources from PCL&W	LFM
		<b>1.8.2.3</b> Illegal movement of non-native species into PCL&W	LFM
	1.8.3 Human health and well-being and natural ecosystems	<b>1.8.3.1</b> Attitudes towards interaction with natural ecosystems	LFM
		<b>1.8.3.2</b> Current use of PCL&W natural ecosystems for human health and well-being	LFM
	1.8.4 Exploration, appreciation and investigation of natural ecosystems	<b>1.8.4.1</b> Nature appreciation	LFM
		<b>1.8.4.2</b> Scientific investigations	LFM