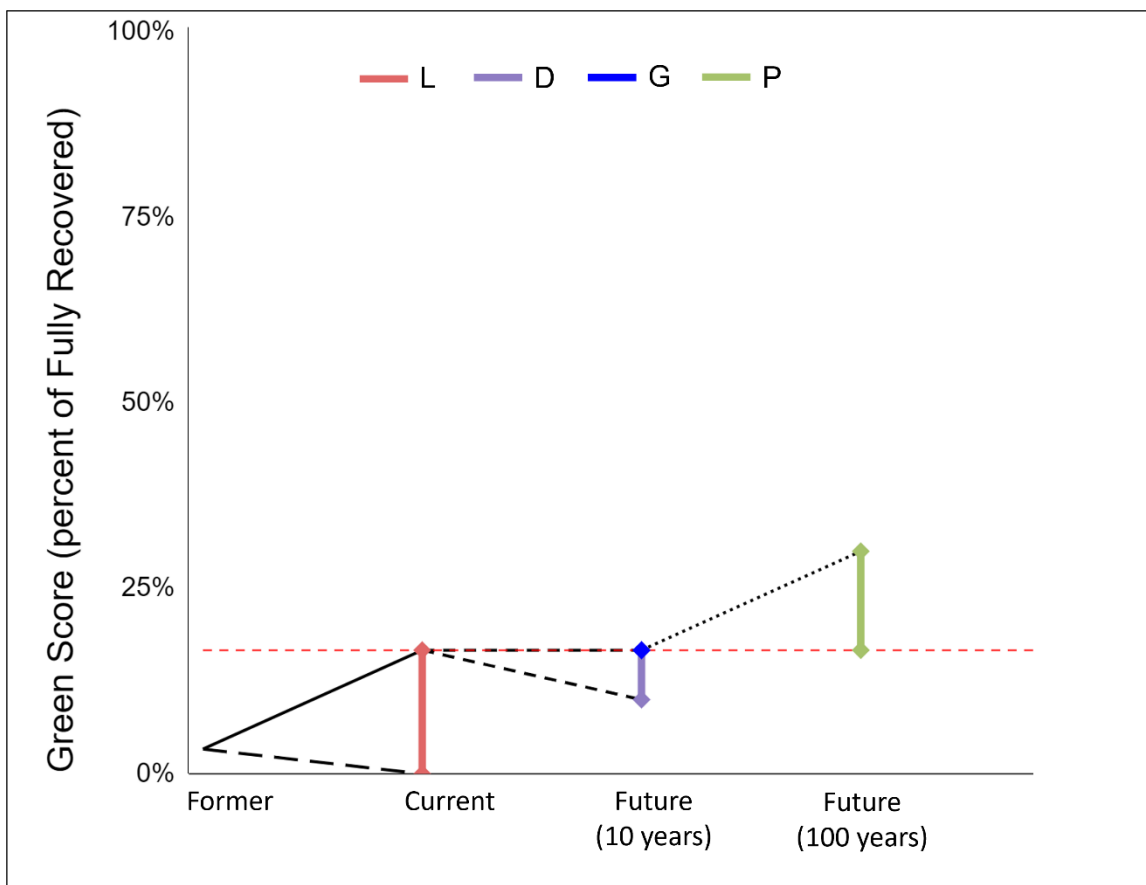
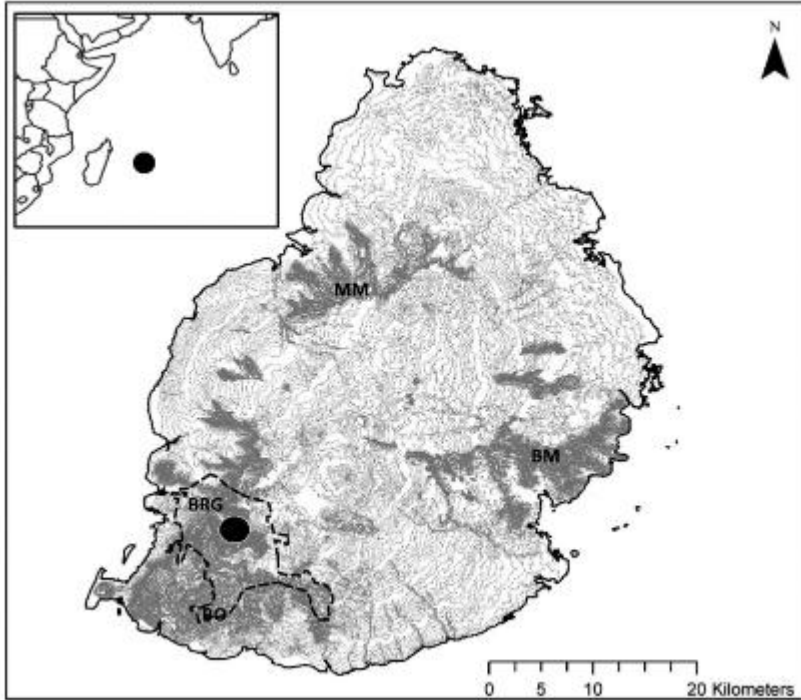


## Mauritius Kestrel (*Falco punctatus*)



**Figure S1.** Graphical representation of the conservation metrics based on the Green Scores. Key: Vertical arrows represent the four conservation metrics: L – Conservation Legacy (may not appear if current and counterfactual states are the same); D – Conservation Dependence (may not appear if current and future-without-conservation states are the same); G – Conservation Gain (may not appear if current and future-with-conservation states are the same); P – Recovery Potential (may not appear if current and potential states are the same). Horizontal red dashed line represents the Current Green Score. Solid black line: observed change in the Green Score of the species (ignore it if "Former" state is not specified). Long-dashed black line: (counterfactual) past change expected in the absence of past conservation efforts. Dashed black lines: future

scenarios of change expected with and without current and future conservation efforts. Dotted black line: long-term potential change expected with future conservation innovation and efforts.



**Figure S2.** The remnant (black-filled oval) and translocated population locations of the Mauritius Kestrel: Black River Gorges (BRG) in the West; Bambou Mountain (BM) range in the East; Moka Mountain (MM) range in the North; and the Bel Ombre region (BO) in the South. The boundary of the Black River Gorges National Park is shown as a dashed line. The inset map shows the approximate location (black dot) of Mauritius in the Indian Ocean. Map source: Nicoll *et al.* 2021.



**Figure S3.** The surviving subpopulations of the Mauritius Kestrel: Black River Gorges (BRG) in the west, the original population; the translocated subpopulation of Bambou Mountain (BM) range in the east; and the Bel Ombre (BO) subpopulation in the south. Much of the Gorges and the Bel Ombre subpopulations are within the Black River Gorges National Park in the southwest of Mauritius. Note that a subpopulation in the Moka Mountain (MM) range in the north/northeast has now disappeared.

**Table S1.** Conservation Actions ([list of action codes](#)).

<b>Classification</b>	<b>Full Description</b>	<b>Past actions (no longer occurring)</b>	<b>Current actions</b>	<b>Actions planned within 10 years</b>	<b>Actions that could be implemented in the long-term aspiration scenario</b>
1.1	1.1 Land/water protection: Site/area protection	Black River Gorges; Bel Ombre region.	Note that actions 1.1 and 1.2 are thought to be discrete events (establishment of protection happens once); ongoing management of protected sites is covered by 2.1.		Bambou Mountain Range; Moka Range.
1.2	1.2 Land/water protection: Resource & habitat protection	Black River Gorges; Bel Ombre region.			Bambou Mountain Range; Moka Range.
2.1	2.1 Land/water management: Site/area management		Black River Gorges; Bel Ombre region.	Black River Gorges; Bel Ombre region.	Bambou Mountain Range; Moka Range.
2.2	2.2 Land/water management: Invasive/problematic species control		Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.
2.3	2.3 Land/water management: Habitat & natural process restoration		Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.
3.1.1	3.1.1 Harvest management				
3.1.2	3.1.2 Trade management				

<b>Classification</b>	<b>Full Description</b>	<b>Past actions (no longer occurring)</b>	<b>Current actions</b>	<b>Actions planned within 10 years</b>	<b>Actions that could be implemented in the long-term aspiration scenario</b>
3.1.3	3.1.3 Limiting population growth				
3.2	3.2 Species recovery				
3.3.1	3.3.1 Species re-introduction: Reintroduction		Black River Gorges.	Black River Gorges.	Moka Range.
3.3.2	3.3.2 Species re-introduction: Benign introduction				
3.4.1	3.4.1 <i>Ex situ</i> conservation: Captive breeding/artificial propagation		Black River Gorges.	Black River Gorges.	Black River Gorges.
3.4.2	3.4.2 <i>Ex situ</i> conservation: Genome resource bank				
4.1	4.1 Education and Awareness: Formal education				
4.2	4.2 Education and Awareness: Training		Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range
4.3	4.3 Education and Awareness: Awareness & communications		Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.
5.1.1	5.1.1 Legislation: International level				

<b>Classification</b>	<b>Full Description</b>	<b>Past actions (no longer occurring)</b>	<b>Current actions</b>	<b>Actions planned within 10 years</b>	<b>Actions that could be implemented in the long-term aspiration scenario</b>
5.1.2	5.1.2 Legislation: National level		Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.
5.1.3	5.1.3 Legislation: Sub-national level				
5.1.4	5.1.4 Legislation: Scale unspecified				
5.2	5.2 Policies and regulations		Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.
5.3	5.3 Private sector standards & codes		Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.
5.4.1	5.4.1 Compliance and enforcement: International level				
5.4.2	5.4.2 Compliance and enforcement: National level				
5.4.3.	5.4.3 Compliance and enforcement: Sub-national level				

<b>Classification</b>	<b>Full Description</b>	<b>Past actions (no longer occurring)</b>	<b>Current actions</b>	<b>Actions planned within 10 years</b>	<b>Actions that could be implemented in the long-term aspiration scenario</b>
5.4.4.	5.4.4. Compliance and enforcement: Scale unspecified				
6.1.	6.1. Livelihood, economic & other incentives: Linked enterprises & livelihood alternatives		Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.
6.2.	6.2. Livelihood, economic & other incentives: Substitution				
6.3.	6.3. Livelihood, economic & other incentives: Market forces				
6.4.	6.4. Livelihood, economic & other incentives: Conservation payments				
6.5.	6.5. Livelihood, economic & other incentives: Non-monetary values				

**Table S2.** Threats (list of [threat codes](#)).

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
1.1	1.1 Residential & commercial development: Housing & urban areas		Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.
1.2	1.2 Residential & commercial development: Commercial & industrial areas		Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.
1.3	1.3 Residential & commercial development: Tourism & recreation areas		Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.
2.1.1	2.1.1 Agriculture & aquaculture: Annual & perennial non-timber crops: Shifting agriculture				
2.1.2	2.1.2 Agriculture & aquaculture: Annual & perennial non-timber crops: Small-holder farming				
2.1.3	2.1.3 Agriculture & aquaculture: Annual & perennial non-timber crops: Agro-industry farming		Bel Ombre region; Bambou Mountain Range.	Bel Ombre region; Bambou Mountain Range.	Bel Ombre region; Bambou Mountain Range.
2.1.4	2.1.4 Agriculture & aquaculture: Annual &				



<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
	perennial non-timber crops: Scale Unknown/Unrecorded				
2.2.1	2.2.1 Agriculture & aquaculture: Wood & pulp plantations: Small-holder plantations				
2.2.2	2.2.2 Agriculture & aquaculture: Wood & pulp plantations: Agro-industry plantations				
2.2.3	2.2.3 Agriculture & aquaculture: Wood & pulp plantations: Scale Unknown/Unrecorded				
2.3.1	2.3.1 Agriculture & aquaculture: Livestock farming & ranching: Nomadic grazing				
2.3.2	2.3.2 Agriculture & aquaculture: Livestock farming & ranching: Small- holder grazing, ranching or farming				
2.3.3	2.3.3 Agriculture & aquaculture: Livestock farming & ranching: Agro- industry grazing, ranching or farming		Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
2.3.4	2.3.4 Agriculture & aquaculture: Livestock farming & ranching: Scale Unknown/Unrecorded				
2.4.1	2.4.1 Agriculture & aquaculture: Marine & freshwater aquaculture: Subsistence/artisanal aquaculture				
2.4.2	2.4.2 Agriculture & aquaculture: Marine & freshwater aquaculture: Industrial aquaculture				
2.4.3	2.4.3 Agriculture & aquaculture: Scale Unknown/Unrecorded				
3.1	3.1 Energy production & mining: Oil & gas drilling				
3.2	3.2 Energy production & mining: Mining & quarrying				
3.3	3.3 Energy production & mining: Renewable energy				
4.1	4.1 Transportation & service corridors: Roads & railroads		Black River Gorges.	Black River Gorges; Bambou Mountain Range.	Black River Gorges; Bambou Mountain Range.
4.2	4.2 Transportation & service corridors: Utility & service lines				

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
4.3	4.3 Transportation & service corridors: Shipping lanes				
4.4	4.4 Transportation & service corridors: Flight paths				
5.1.1	5.1.1 Biological resource use: Hunting & collecting terrestrial animals: Intentional use (species being assessed is the target)				
5.1.2	5.1.2 Biological resource use: Hunting & collecting terrestrial animals: Unintentional effects (species being assessed is not the target)				
5.1.3	5.1.3 Biological resource use: Hunting & collecting terrestrial animals: Persecution/control				
5.1.4	5.1.4 Biological resource use: Hunting & collecting terrestrial animals: Motivation Unknown/Unrecorded				
5.2.1	5.2.1 Biological resource use: Gathering terrestrial plants: Intentional use				

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
	(species being assessed is the target)				
5.2.2	5.2.2 Biological resource use: Gathering terrestrial plants: Unintentional effects (species being assessed is not the target)				
5.2.3	5.2.3 Biological resource use: Gathering terrestrial plants: Persecution/control				
5.2.4	5.2.4 Biological resource use: Gathering terrestrial plants: Motivation Unknown/Unrecorded				
5.3.1	5.3.1 Biological resource use: Logging & wood harvesting: Intentional use: subsistence/small scale (species being assessed is the target [harvest])				
5.3.2	5.3.2 Biological resource use: Logging & wood harvesting: Intentional use: large scale (species being assessed is the target)[harvest]				
5.3.3	5.3.3 Biological resource use: Logging & wood harvesting: Unintentional		Black River Gorges; Bel Ombre region;	Black River Gorges; Bel Ombre region;	Black River Gorges; Bel Ombre region;

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
	effects: subsistence/small scale (species being assessed is not the target)[harvest]		Bambou Mountain Range; Moka Range.	Bambou Mountain Range; Moka Range.	Bambou Mountain Range; Moka Range.
5.3.4	5.3.4 Biological resource use: Logging & wood harvesting: Unintentional effects: large scale (species being assessed is not the target)[harvest]		Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.
5.3.5	5.3.5 Biological resource use: Logging & wood harvesting: Motivation Unknown/Unrecorded				
5.4.1	5.4.1 Biological resource use: Fishing & harvesting aquatic resources: Intentional use: subsistence/small scale (species being assessed is the target)[harvest]				
5.4.2	5.4.2 Biological resource use: Fishing & harvesting aquatic resources: Intentional use: large scale (species being assessed is the target)[harvest]				
5.4.3	5.4.3 Biological resource use: Fishing & harvesting				

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
	aquatic resources: Unintentional effects: subsistence/small scale (species being assessed is not the target)[harvest]				
5.4.4	5.4.4 Biological resource use: Fishing & harvesting aquatic resources: Unintentional effects: large scale (species being assessed is not the target)[harvest]				
5.4.5	5.4.5 Biological resource use: Fishing & harvesting aquatic resources: Persecution/control				
5.4.6	5.4.6 Biological resource use: Fishing & harvesting aquatic resources: Motivation Unknown/Unrecorded				
6.1	6.1 Human intrusions & disturbance: Recreational activities				
6.2	6.2 Human intrusions & disturbance: War, civil unrest & military exercises				

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
6.3	6.3 Human intrusions & disturbance: Work & other activities				
7.1.1	7.1.1 Natural system modifications: Fire & fire suppression: Increase in fire frequency/intensity				
7.1.2	7.1.2 Natural system modifications: Fire & fire suppression: Suppression in fire frequency/intensity				
7.1.3	7.1.3 Natural system modifications: Fire & fire suppression: Trend Unknown/Unrecorded				
7.2.1	7.2.1 Natural system modifications: Dams & water management/use: Abstraction of surface water (domestic use)				
7.2.2	7.2.2 Natural system modifications: Dams & water management/use: Abstraction of surface water (commercial use)				
7.2.3	7.2.3 Natural system modifications: Dams & water management/use:				

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
	Abstraction of surface water (agricultural use)				
7.2.4	7.2.4 Natural system modifications: Dams & water management/use: Abstraction of surface water (unknown use)				
7.2.5	7.2.5 Natural system modifications: Dams & water management/use: Abstraction of ground water (domestic use)				
7.2.6	7.2.6 Natural system modifications: Dams & water management/use: Abstraction of ground water (commercial use)				
7.2.7	7.2.7 Natural system modifications: Dams & water management/use: Abstraction of ground water (agricultural use)				
7.2.8	7.2.8 Natural system modifications: Dams & water management/use: Abstraction of ground water (unknown use)				
7.2.9	7.2.9 Natural system modifications: Dams &				



Classification	Full Description	Past threats (no longer occurring)	Current threats	Threats expected to emerge or continue over next 10 years	Threats that would be relevant in the long-term aspiration scenario
	water management/use: Small dams				
7.2.10	7.2.10 Natural system modifications: Dams & water management/use: Large dams				
7.2.11	7.2.11 Natural system modifications: Dams & water management/use: Dams (size unknown)				
7.3	7.3 Natural system modifications: Other ecosystem modifications				
8.1.1	8.1.1 Invasive & other problematic species, genes & diseases: Invasive non-native/alien species/diseases: Unspecified species				
8.1.2	8.1.2 Invasive & other problematic species, genes & diseases: Invasive non-native/alien species/diseases: Named species		Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range e.g., <i>Macaca fascicularis</i> (Long-tailed Macaque), <i>Rattus rattus</i> (Black Rat), <i>Felis catus</i> (feral Domestic Cat),	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range e.g., <i>Macaca fascicularis</i> (Long-tailed Macaque), <i>Rattus rattus</i> (Black Rat), <i>Felis catus</i> (feral Domestic Cat),	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range e.g., <i>Macaca fascicularis</i> (Long-tailed Macaque), <i>Rattus rattus</i> (Black Rat), <i>Felis catus</i> (feral Domestic Cat),

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
			<i>Herpestes auropunctatus</i> (Small Indian Mongoose).	<i>Herpestes auropunctatus</i> (Small Indian Mongoose).	<i>Herpestes auropunctatus</i> (Small Indian Mongoose).
8.2.1	8.2.1 Invasive & other problematic species, genes & diseases: Problematic native species/diseases: Unspecified species				
8.2.2	8.2.2 Invasive & other problematic species, genes & diseases: Problematic native species/diseases: Named species				
8.3	8.3 Invasive & other problematic species, genes & diseases: Introduced genetic material				
8.4.1	8.4.1 Invasive & other problematic species, genes & diseases: Problematic species/diseases of unknown origin: Unspecified species				
8.4.2	8.4.2 Invasive & other problematic species, genes & diseases: Problematic species/diseases of unknown origin: Named species				

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
8.5.1	8.5.1 Invasive & other problematic species, genes & diseases: Viral/prion-induced diseases: Unspecified "species" (disease)				
8.5.2	8.5.2 Invasive & other problematic species, genes & diseases: Viral/prion-induced diseases: Named "species" (disease)				
8.6	8.6 Invasive & other problematic species, genes & diseases: Diseases of unknown cause				
9.1.1	9.1.1 Pollution: Domestic & urban waste water: Sewage				
9.1.2	9.1.2 Pollution: Domestic & urban waste water: Run-off				
9.1.3	9.1.3 Pollution: Domestic & urban waste water: Type Unknown/Unrecorded				
9.2.1	9.2.1 Pollution: Industrial & military effluents: Oil spills				
9.2.2	9.2.2 Pollution: Industrial & military effluents: Seepage from mining				

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
9.2.3	9.2.3 Pollution: Industrial & military effluents: Type Unknown/Unrecorded				
9.3.1	9.3.1 Pollution: Agricultural & forestry effluents: Nutrient loads				
9.3.2	9.3.2 Pollution: Agricultural & forestry effluents: Soil erosion, sedimentation				
9.3.3	9.3.3 Pollution: Agricultural & forestry effluents: Herbicides & pesticides	Black River Gorges; Bel Ombre region; Bambou Mountain Range.			
9.3.4	9.3.4 Pollution: Agricultural & forestry effluents: Type Unknown/Unrecorded				
9.4	9.4 Pollution: Garbage & solid waste				
9.5.1	9.5.1 Pollution: Air-borne pollutants: Acid rain				
9.5.2	9.5.2 Pollution: Air-borne pollutants: Smog				
9.5.3	9.5.3 Pollution: Air-borne pollutants: Ozone				

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
9.5.4	9.5.4 Pollution: Air-borne pollutants: Type Unknown/Unrecorded				
9.6.1	9.6.1 Pollution: Excess energy: Light pollution				
9.6.2	9.6.2 Pollution: Excess energy: Thermal pollution				
9.6.3	9.6.3 Pollution: Excess energy: Noise pollution				
9.6.4	9.6.4 Pollution: Excess energy: Type Unknown/Unrecorded				
10.1	10.1 Geological events: Volcanoes				
10.2	10.2 Geological events: Earthquakes/tsunamis				
10.3	10.3 Geological events: Avalanches/landslides				
11.1	11.1 Climate change & severe weather: Habitat shifting & alteration				
11.2	11.2 Climate change & severe weather: Droughts				
11.3	11.3 Climate change & severe weather: Temperature extremes				

<b>Classification</b>	<b>Full Description</b>	<b>Past threats (no longer occurring)</b>	<b>Current threats</b>	<b>Threats expected to emerge or continue over next 10 years</b>	<b>Threats that would be relevant in the long- term aspiration scenario</b>
11.4	11.4 Climate change & severe weather: Storms & flooding		Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range.	Black River Gorges; Bel Ombre region; Bambou Mountain Range; Moka Range.
11.5	11.5 Climate change & severe weather: Other impacts				
12.1	12.1 Other threat				

## References

Nicoll, M.A.C., Jones, C.G., Groombridge, J.G., Henshaw, S., Ruhomaun, K., Tatayah, V., Zuel, N. and Norris, K. 2021. Contrasting recovery trajectories of four reintroduced populations of the Endangered Mauritius Kestrel (*Falco punctatus*). *Ibis* 163: 1294–1309.

## **Appendix 1. Assessor Self-Review**

### **1. Disclose any potential conflicts of interest which could bias the assessment.**

There are no conflicts of interest known, and the assessment has been done to the best of my judgement.

### **2. Is there any discrepancy between this assessment and the Red List assessment for the species? If so, comment on the likely reason for this discrepancy.**

The current population size is 250-300 individuals.

### **3. Review the impact that you assigned to the various threats and conservation actions. Would the trajectory of the species be very different if other choices were made? If so, review your justification for these choices. If appropriate, widen the bounds on tabs 4 and 5-8 (change the lower and upper plausible values) to reflect the uncertainty introduced by the possibility of these other choices. How, if at all, did this review question cause this assessment to change? If no changes were needed, please write "no changes".**

No changes necessary as likely trajectories are robust given the detailed knowledge available on the species ecology and each subpopulation's dynamics and demography.