Appendix 6.4 Event and Action Plan for Ecological Monitoring

Table 1: Action and Limit Levels and responses for avifauna monitoring and general site inspection in the LVNP during construction phase

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent (PP)
Avifauna Monitoring					
Action Level					
Reduction in monthly mean abundance of birds compared to the corresponding month of the baseline survey by 30%. Reduction in monthly mean abundance of *Ardeola bacchus*(1) compared to the corresponding month of the baseline survey by 30%.	Action Level exceeded	• Check monitoring data and repeat data analysis to confirm findings; • Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related; • Identify potential source(s) of impact; • Immediately inform IEC, Contractor and PP; • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check monitoring data, analysis and investigation by ET; • Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	• Confirm receipt of notification of the exceedance of Action Level in writing; and • Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	• Check the monitoring results and findings from ET and IEC; • Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and • Supervise the instigated further mitigation measure(s).

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent
Avifauna Monitoring					
Limit Level					
Reduction in monthly mean abundance of birds compared to the corresponding month of the baseline survey by 50%. Reduction in monthly mean abundance of *Ardeola bacchus*(1) compared to the corresponding month of the baseline survey by 50%.	Limit Level exceeded	• Check monitoring data and repeat data analysis to confirm findings; • Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related; • Identify potential source(s) of impact; • Immediately inform IEC, Contractor, and PP; • Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check monitoring data, analysis and investigation by ET; • Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s); • Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; • Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	• Confirm receipt of notification of the exceedance of Limit Level in writing; • Propose and implement the remedial measures(s) to mitigate the impact(s) identified; and • Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s)..	• Check the monitoring results and findings from ET and IEC; • Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor; • Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and • Supervise the instigated further mitigation measure(s).

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent
General Site Inspections					
Action Level					
Activity likely to cause unacceptable environmental disturbance or damage noted in LVNP.	Action Level exceeded	• Investigate if the activity identified is related to the construction works; • Immediately inform IEC, Contractor, and PP; • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) of the activity identified; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check the investigation and findings of the ET; • Review the remedial measure(s) proposed by the Contractor, and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP..	• Confirm receipt of notification of the exceedance of Action Level in writing; and • Propose and implement the remedial measure(s) to mitigate the impact(s) of the activity identified.	• Check the investigation and findings of the ET and IEC; • • Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor; and • Supervise the instigated further mitigation measure(s).

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent
General Site Inspections					
Limit Level					
Activity causing unacceptable environmental disturbance or damage noted in LVNP.	Limit Level exceeded	• Investigate if the activity identified is related to the construction works; • Immediately inform IEC, Contractor and Project Proponent; • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) of the activity identified; • Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check the investigation and findings of the ET; • Discuss with the PP, ET, and Contractor on the on the need for further mitigation measure(s); • Review the remedial measure(s) proposed by the Contractor, and advise the PP accordingly; • Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	• Confirm receipt of notification of the exceedance of Limit Level in writing; • Propose and implement the remedial measure(s) to mitigate the impact(s) of the activity identified; and • Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s).	• Check the investigation and findings of the ET and IEC; • Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor; • Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and • Supervise the instigated further mitigation measure(s).

Remark:
(1) *Ardeola bacchus* was the most abundant waterbird species recorded in Long Valley during baseline survey and was strictly associated with wetland habitats.

Table 2: Action and Limit Levels and responses to evidence of disturbance to large waterbirds using Ng Tung River, Sheung Yue River, and Shek Sheung Rivers

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent
Construction Phase					
Action Level					
Reduction in monthly mean abundance of birds compared to the corresponding month of the baseline survey by 30% Reduction in monthly mean abundance of *Ardeola bacchus*(1) compared to the corresponding month of the baseline survey by 30%	Action Level exceeded	• Check monitoring data and repeat data analysis to confirm findings; • Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related; • Identify potential source(s) of impact; • Immediately inform IEC, Contractor and PP. • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check monitoring data, analysis and investigation by ET; • Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	• Confirm receipt of notification of the exceedance of Action Level in writing; and • Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	• Check the monitoring results and findings from ET and IEC; • Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and • Supervise the instigated further mitigation measure(s).

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent
Construction Phase					
Limit Level					
Reduction in monthly mean abundance of birds compared to the corresponding month of the baseline survey by 50% Reduction in monthly mean abundance of *Ardeola bacchus*(1) compared to the corresponding month of the baseline survey by 50%	Limit Level exceeded	• Check monitoring data and repeat data analysis to confirm findings; • Identify potential source(s) of impact; • Immediately inform IEC, Contractor and Project Proponent; • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; • Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check monitoring data, analysis and investigation by ET; • Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s); • Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; • Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	• Confirm receipt of notification of the exceedance of Limit Level in writing; • Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and • Propose and implement the remedial measures(s) to mitigate the impact(s) identified	• Check the monitoring results and findings from ET and IEC; • Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor; • Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and • Supervise the instigated further mitigation measure(s).

Remark:
(1) *Ardeola bacchus* was the most abundant waterbird species recorded in Long Valley during baseline survey and was strictly associated with wetland habitats.

Table 3: Action and Limit Levels and responses to evidence of declines in aquatic fauna

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent
Construction Phase					
Action Level					
Reduction in the species richness[(1)] of native species compared to the corresponding month of the baseline survey by 30%	Action Level exceeded	• Check monitoring data and repeat data analysis to confirm findings; • Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related; • Identify potential source(s) of impact; • Immediately inform IEC, Contractor and PP. • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check monitoring data, analysis and investigation by ET; • Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	• Confirm receipt of notification of the exceedance of Action Level in writing; and • Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	• Check the monitoring results and findings from ET and IEC; • Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and • Supervise the instigated further mitigation measure(s).

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent
Construction Phase					
Limit Level					
Reduction in the species richness[1] of native species compared to the corresponding month of the baseline survey by 50%	Limit Level exceeded	• Check monitoring data and repeat data analysis to confirm findings; • Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related; • Identify potential source(s) of impact; • Immediately inform IEC, Contractor, and PP; • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; • Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check monitoring data, analysis and investigation by ET; • Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; • Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s); • Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	• Confirm receipt of notification of the exceedance of Limit Level in writing; • Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and • Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	• Check the monitoring results and findings from ET and IEC; • Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor; • Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and • Supervise the instigated further mitigation measure(s)

Remarks:

(1) Species richness is the number or count of native species in the monitoring areas.

(2) The number of native species should be site specific. the number of native species in Ma Tso Lung Stream should make reference to the corresponding monthly number of native species of Ma Tso Lung Stream instead of all the surveyed watercourses, etc.

Table 4: Action and Limit Levels and responses to evidence of declines in the seasonal non-aquatic fauna (herpetofauna, butterfly, and odonates) in ecologically sensitive habitats

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent
Construction Phase					
Action Level					
Reduction in the species richness[(1)] of native species compared to the corresponding month of the baseline survey by 30% For butterflies, reduction in the total species richness compared to the corresponding month of the baseline survey by 30%	Action Level exceeded	• Check monitoring data and repeat data analysis to confirm findings; • Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related; • Identify potential source(s) of impact; • Immediately inform IEC, Contractor and PP. • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check monitoring data, analysis and investigation by ET; • Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	• Confirm receipt of notification of the exceedance of Action Level in writing; and • Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	• Check the monitoring results and findings from ET and IEC; • Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and • Supervise the instigated further mitigation measure(s).

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent
Construction Phase					
Limit Level					
Reduction in the species richness of native species compared to the corresponding month of the baseline survey by 50% For butterflies, reduction in the total species richness compared to the corresponding month of the baseline survey by 50%	Limit Level exceeded	• Check monitoring data and repeat data analysis to confirm findings; • Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related; • Identify potential source(s) of impact; • Immediately inform IEC, Contractor and Project Proponent; • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; • Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check monitoring data, analysis and investigation by ET; • •Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s); • Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; • Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	• Confirm receipt of notification of the exceedance of Limit Level in writing; • Propose and implement the remedial measures(s) to mitigate the impact(s) identified; and • Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s).	• Check the monitoring results and findings from ET and IEC; • Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor; • Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and • Supervise the instigated further mitigation measure(s)

Remarks:
(1) Species richness is the number or count of native species in the monitoring areas.
(2) Total species richness is the number or count of all species in the monitoring areas.

Table 5: Action and Limit Levels and Responses to Evidence of Declines in the Non-seasonal Non-aquatic Fauna (Mammals) on Ecologically Sensitive Habitats

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent
Construction Phase					
Action Level					
Reduction in the species richness[(1)] of native species compared to the corresponding month of the baseline survey by 30%	Action Level exceeded	• Check monitoring data and repeat data analysis to confirm findings; • Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related; • Identify potential sources of impacts; • Immediately inform IEC, Contractor and PP. • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check monitoring data, analysis and investigation by ET; • Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	• Confirm receipt of notification of the exceedance of Action Level in writing; and • Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	• Check the monitoring results and findings from ET and IEC; • Discuss the need for increased site inspection/audit frequency proposed by ET with IEC and the Contractor; and • Supervise the instigated further mitigation measure(s).

Level	Event	Action			
		ET	IEC	Contractor	Project Proponent
Construction Phase					
Limit Level					
Reduction in the species richness of native species compared to the corresponding month of the baseline survey by 50%	Limit Level exceeded	• Check monitoring data and repeat data analysis to confirm findings; • Review relevant ecological data to check if the exceedance is due to natural variation or is construction works related; • Identify potential sources of impacts;; • Immediately inform IEC, Contractor and Project Proponent; • Discuss with the Contractor on the remedial measure(s) to mitigate the impact(s) identified; • Discuss with the PP, IEC, and Contractor on the need for further mitigation measure(s); • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP.	• Check monitoring data, analysis and investigation by ET; • Discuss with the PP, ET, and Contractor on the need for further mitigation measure(s); • Review the remedial measure(s) proposed by the Contractor and advise the PP accordingly; • Review the effectiveness of the further mitigation measure(s) proposed and implemented by Contractor and advise the PP accordingly; and • Conduct necessary site inspections/audits to ensure all remedial measures are properly implemented by the Contractor, as agreed with the PP and feedback the audit results to the PP.	• Confirm receipt of notification of the exceedance of Limit Level in writing; • Discuss with the PP, IEC, and ET on the need of further mitigation measure(s), then propose and implement the further mitigation measure(s); and • Propose and implement the remedial measures(s) to mitigate the impact(s) identified.	• Check the monitoring results and findings from ET and IEC; • Discuss the need for increased site inspection and audit frequency proposed by ET with IEC and the Contractor; • Discuss and confirm the further mitigation measure(s) required with the ET, IEC, and Contractor; and • Supervise the instigated further mitigation measure(s).

Remark:
(1) Species richness is the number or count of native species in the monitoring areas.