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Blood lead concentrations for use as threshold levels for decision-making to minimize the effects of lead exposure in raptors.

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Threshold Level	Pb in blood (µg/dL)	Monitoring/Diagnosis actions	Intervention actions
Level I Background Exposure (L-I-BE)[1]	< 8,0	Standard monitoring[6] of blood lead	Not required
Level II Analytical Monitoring (L-II-AM)[1,2]	8,0 - 20,0	Annual monitoring program[7] of lead, and δ-ALAD in blood. Increase of the individuals to be monitored.	Not required
Level III Subclinical Monitoring (L-III-SCM)[1,2,3]	20,0 - 40,0	Annual monitoring program[7] of lead, and δ-ALAD in blood. Clinical biochemistry and haematology.	Clinical exploration of the individuals in the field (neurologic included)
Level IV Preventive Intervention (L-IV-PI)[4,5]	40,0 - 100,0	Monitoring program[7] of blood lead levels, δ-ALAD, haematology, and clinical biochemistry twice in two months	Clinical exploration of the individuals in the field (neurologic included) and monthly monitoring twice in two months
Level V Clinical Intervention (L-V-CI)[4]	> 100,0	Weekly monitoring of blood lead levels, δ-ALAD, haematology, and clinical biochemistry until blood lead levels are below Level III.	Capture and admission to Wildlife Recovery Center to be treated with chelate until blood lead levels are below Level III.

[1]Based on Espín et al. (2015). [2]Finkelstein et al. (2012). [3]Wiemeyer et al. (2017). [4]Naidoo et al. (2012). [5]García-Fernández et al. (2005).

[6]Standard monitoring: monitoring programs periodically carried out. The first monitoring program should be carried out annually for three years. After this first program, sampling shall be repeated every two years, except there is some indication to the contrary.

[7]Monitoring programs on selected species and zones in order to assess expected risks. It would be carried out annually, except there is some indication to the contrary.

References

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3. Wiemeyer GM, Pérez MA, Bianchini LT, Samprieto L, Bravo GF, Jácome NL, Astore V, Lambertucci SA. 2017. Repeated conservation threats across the Americas: High levels of blood and bone lead in the Andean Condor widen the problem to a continental scale. *Environ Pollut* 220: 672-679.
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5. García-Fernández AJ, Martínez-López E, Romero D, María-Mojica P, Godino A, Jiménez P. 2005a. High levels of blood lead in griffon vultures (*Gyps fulvus*) from Cazorla Natural Park (southern Spain). *Environ Toxicol* 20: 459-463.