

Radiographic Reference Ranges of the Cardiac Silhouette Width in the Bald Eagle (*Haliaeetus leucocephalus*)

Salina Locke, DVM, Daniel Johnson, DVM, Dipl ABVP (Exotic Companion Mammal), Joni Shimp, DVM, Tyler J Pridgen

Abstract: Radiograph imaging is an important diagnostic tool for assessing cardiac size in avian patients. The bald eagle (*Haliaeetus leucocephalus*), once on the United States Federal List of Endangered and Threatened Wildlife and Plants is now a thriving species in the United States. However, there is surprisingly little information regarding bald eagle cardiac reference values obtained through radiographic imaging for use in assessment of cardiac disease in this species. This study was performed to establish reference values of cardiac size in the bald eagle. Ventrodorsal radiographic images were taken from 9 healthy birds obtained from a raptor rehabilitation facility. Cardiac silhouette width to thorax width, cardiac silhouette width to sternum width, cardiac silhouette width to coracoid width, and cardiac silhouette width to hepatic silhouette width were obtained. Ratios were calculated between the respective areas measured. The results showed that the cardiac silhouette averages 44-52% of the thoracic width, 71-86% of the sternal width, 500-920% of the coracoid width and 94-117% of the width of the hepatic silhouette. In the individuals studied there was a strong correlation between cardiac silhouette width to thoracic and sternal width whereas cardiac width with coracoid and hepatic widths had a weak to moderate correlation respectively. The values obtained in this study can be used to radiographically assess the cardiac size of bald eagles, thus aiding in the diagnosis of cardiomegaly in this species.