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## LATERAL AND DORSAL X-RAYS NEEDED TO EVALUATE SPINAL INJURY FROM ELECTROFISHING

We have assessed the effects of electrofishing on rainbow trout (*Oncorhynchus mykiss*) and brown trout (*Salmo trutta*) for the past 3 years. As part of the work, we x-rayed fish to examine damage to the vertebral column. We classified spinal injuries on a 4-point scale (J. Reynolds, Alaska Cooperative Fishery Research Unit, unpublished manuscript) to standardize the reporting of the injuries, thereby enabling information from different researchers to be compared. The criteria for spinal injury are: 0—no spinal damage apparent, 1—compression (distortion) of vertebrae only, 2—misalignment of vertebrae, including compression, and 3—fracture of one or more vertebrae or complete separation of two or more vertebrae. These criteria are in use by others, and were addressed in recent publications by Fredenberg, Dalbey, and Hollender and Carline.

We believe that the severity of some injuries may be underestimated when assessed from a lateral view x-ray. Underestimation is possible when dislocation or breakage of the spine occurs laterally. When viewed from the

lateral aspect, some class 2 injuries can appear to be class 1, and occasionally class 3 injuries can be difficult to distinguish from class 2. Taking x-rays from the dorsal aspect allows a more thorough evaluation of spinal injuries. Injuries that distort the spine laterally are clearly visible from a dorsal view. We recommend that x-rays from both the lateral and dorsal aspects be examined before the classification of an injury.

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