Using acoustic imaging to observe potential predator-prey interactions between Bull Trout (*Salvelinus confluentus*) and migrating Sockeye Salmon (*Oncorhynchus nerka*) smolts

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In this paper, the authors use DIDSON acoustic imaging at several locations near the Chilko Lake-River confluence to investigate potential relationships between: 1) Bull Trout x smolt interactions and smolt density at a temporary counting fence, and 2) Bull Trout x smolt interactions and time of day. Their results strongly suggest that there is a higher number of interactions at night, correlating with higher smolt densities just upstream of the counting fence. There is little evidence of these patterns at the other monitored sites. It remains unknown if this finding can be attributed to the presence of the temporary counting fence.

This study is limited because the acoustic arrays were not deployed simultaneously, monitoring timeframe per location is very short (0-2 nights), and there are no comparisons to systems uninfluenced by a counting fence. Regardless, it offers a valuable reminder to fisheries management agencies of the risks that should be considered before using temporary counting fences, particularly on predator-prey dynamics and the consequences of potentially elevated mortality on the studied species.

Line, table or figure	Comments
Lines 91 - 94	The 2 objectives are redundant. Recommend rewording to: “to investigate spatial and temporal differences in potential Bull Trout feeding activity relative to smolt density” Or “determine if Bull Trout activity is synchronized with Sockeye Salmon migrations.” I prefer the latter.
Supplementary Figure	A photo of the counting fence set up at site would be helpful to readers to understand how constricting the fence may be and where the array was set up relative to the fence
Lines 113 and 116	Include distance between fence and array
Lines 121-123, Table 1	The detection window area for the second deployment at UF is much smaller than during the first deployment and all other locations. Why was the detection window changed between deployments of UF and could this inconsistency impact your conclusions?
Lines 131-133	What does “reacted to” mean? I assume you could visualize the cloud of smolts moving rapidly away from a larger shape? Please include more detail so these methods could be easily replicated by another researcher.
Lines 135-137	“We measured…”. Did you measure Bull Trout as part of this study? If so, please add to methods and results. If not, please clarify. Provide specific size ranges of Mountain Whitefish and Rainbow Trout to strengthen your argument that larger fish were probably Bull Trout. Or, be more clear that you assumed larger fish (over a specific size, or characterized by a specific

	presentation in the video) were Bull Trout. Discuss this assumption and the implications in the discussion.
Line 167	As you are investigating temporal patterns of Bull Trout activity relative to smolt migration, the fact that the fence is closed during the day is a pretty important element to the study design. Do you mean the fence is physically closed to migrating fish? If so, please add this to Paragraph 100-107 so readers can keep this in mind while considering the data. Could also clarify in Figure 3 – I'm not sure if smolt densities were naturally zero during the day or if the fence was physically closed. The only day time fence closure mentioned in Figure 3 was for N29.
Line 182	Mean value is missing unit
Lines 199-213	Although a significant relationship between diel cycle and interactions was found when the data were aggregated, follow-up analysis showed that this was only observed at the location upstream of the fish fence. Therefore, I don't agree there is enough evidence to support the general conclusion that interactions increase during nighttime hours.
Lines 225-231	Would also recommend monitoring Bull Trout x smolt interactions in systems with no fish fences.
Figure 1	One of the white triangles appears to be on land, is this correct?
Figure 2	Recommend color coding data from UF site versus all other sites so readers understand diel pattern was observed at UF site only.
Figure 3	Recommend using similar range for Y axes as much as possible, or at least group deployments with similar Y axes in the same row. Remove yellow line from N29, as fence was closed. Missing period of Bull Trout interactions in N2526.