From the CNN creator on how to retrain the CNN:

There is a way to retrain the model. My guess as to what's going wrong without having heard any of the audio files is that it's in a new region so there's new sounds it's not familiar with. Retraining should definitely fix this.

To retrain, you're going to setup the dataset first. The format for the annotations is a tab separated text file where the columns are: the start time offset in seconds, the end time offset in seconds, and an id. There should be no header row, and the time offsets are from the start of the audio file. I included a screenshot for reference. It's in this format so that the annotations can be viewed in Audacity, a free open source audio software, using its label functionality.

Next you're going to want a training manifest. This file points to the location of all the relevant files. It contains a path to a label file, and a corresponding audio file. The paths listed either need to be relative paths from the executable to the file, or an absolute path. I included another screenshot for reference, in my case I'm using relative paths.

If you're starting from a raven pro annotation I think you can just copy and paste the relevant information. If you're starting from what the CNN GUI app outputs you can use the edit tab to mark false positives in an excel file. Then you can sort by the "true\_positive" column and copy the relevant information.

When you go to retrain the model in the train tab, select dataset, the file you provide to the dialogue should be the training manifest excel file. Then in the drop down you can select a starting model. I suggest the one marked "app\_trained\_10\_hours\_50\_epochs.pth". This one was trained with 10 hours of audio data over 50 epochs. If you want to start from scratch select "None". Finally you'll select the number of epochs to train for. For the data we had it seemed to start performing well after around 10 epochs but that will vary. If you're starting from a pretrained model it will take less.

As for the file formats, I did all the training with .wav files. I don't know if the .flac files are causing issues, It's supposed to be a lossless compression to my knowledge so I wouldn't think so.