Deer-train collisions have become a serious problem in Japan. To keep deer away from tracks, we have invented a deterrent sound and investigated its effectiveness. It consists of a deer alarm call and vocalization of a dog. It is observed that playing the deterrent sound at deer being around a track made them run away immediately. According to a survey on the frequency of the observation of deer, playing the deterrent sound from a train resulted in a 45% reduction of the frequency of deer that were observed every 100 km track.

The deterrent sound was designed to be played back from a train. During 7 days of train runs with sound being emitted, deer were observed 82 times over the total of 1100 km covered by train runs along the test sections. Deer were seen 90 times over a total of 660 km from trains without the sound being emitted over the 4 days of control experiments. These results confirmed that the frequency in deer sightings (deer sightings/100 km of train operation) fell to 7.4 with the sound emissions from 13.5 without any sound emission.