

PEOPLE WHO DID THIS PROPOSAL: Ce'aira Figaro-Bazil and Cody Demayo

BACKGROUND

According to FAA.gov, birds strike planes more than 40 times per day and the airlines in the US spent \$900 million dollars in response to these collisions over a 30-year time span. A total of 292 people died from collisions with birds worldwide. The majority of these collisions occur during landing and take-off.

Turkey buzzards are attracted to thermals, which are pockets of rising air that they can soar on. A landfill is located directly in the path of planes landing at the Fort Lauderdale International Airport. Landfills emit methane and other gases that heat the air and cause it to rise, creating thermal pockets. In addition, the birds are attracted to the landfill as a source of food. It is important to understand their migration patterns in order to be more proactive when determining flight paths and possibly avoid a bird strike.

PURPOSE AND HYPOTHESIS

Bird strikes have resulted in the deaths of 292 people globally since 1988. For a total of thirty years, it has resulted in annual loss of around \$900 million a year. For aircraft in the U.S. the engine of the plane is the component most damaged.

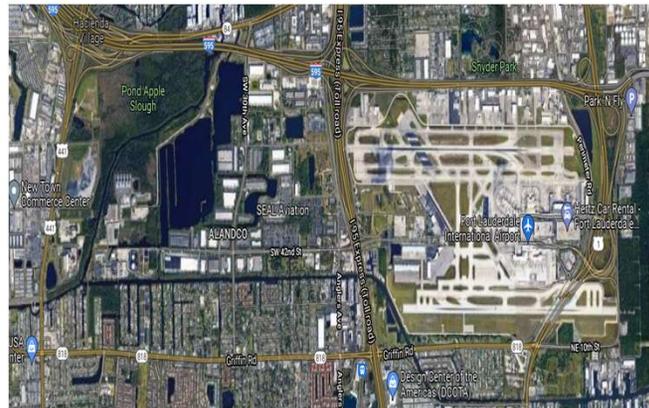
High Frequency Speakers in which will deter Turkey Buzzards from the runway due to most bird strikes occurring when the plane takes off and when it lands.

MATERIALS AND METHODS

We are researching the methods of how we can reduce midair collisions of turkey buzzards, aka vultures, with airplanes in south Florida. These methods will not only save the airlines money on costly repairs and delays but will also save the lives of the passengers due to these collisions.

During our research, we evaluated various solutions and determined that a high-pitch ultrasonic frequency greater than 20,000 Hz can be used to deter the turkey buzzards from the landfill, thus clearing the landing path. These ultrasonic frequencies will not affect humans since we are incapable of hearing them but birds are known to be sensitive to them.

Sensors that can detect motions similar to that of turkey buzzards will trigger the sound which will be emitted when they are in range. We are currently designing a prototype that can do just that. Migration Preparation software can be used in collaboration with the ultrasonic frequencies.



BIBLIOGRAPHY

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