



Wind & Wings

Applications of UV Painted Patterns on Wind Turbines

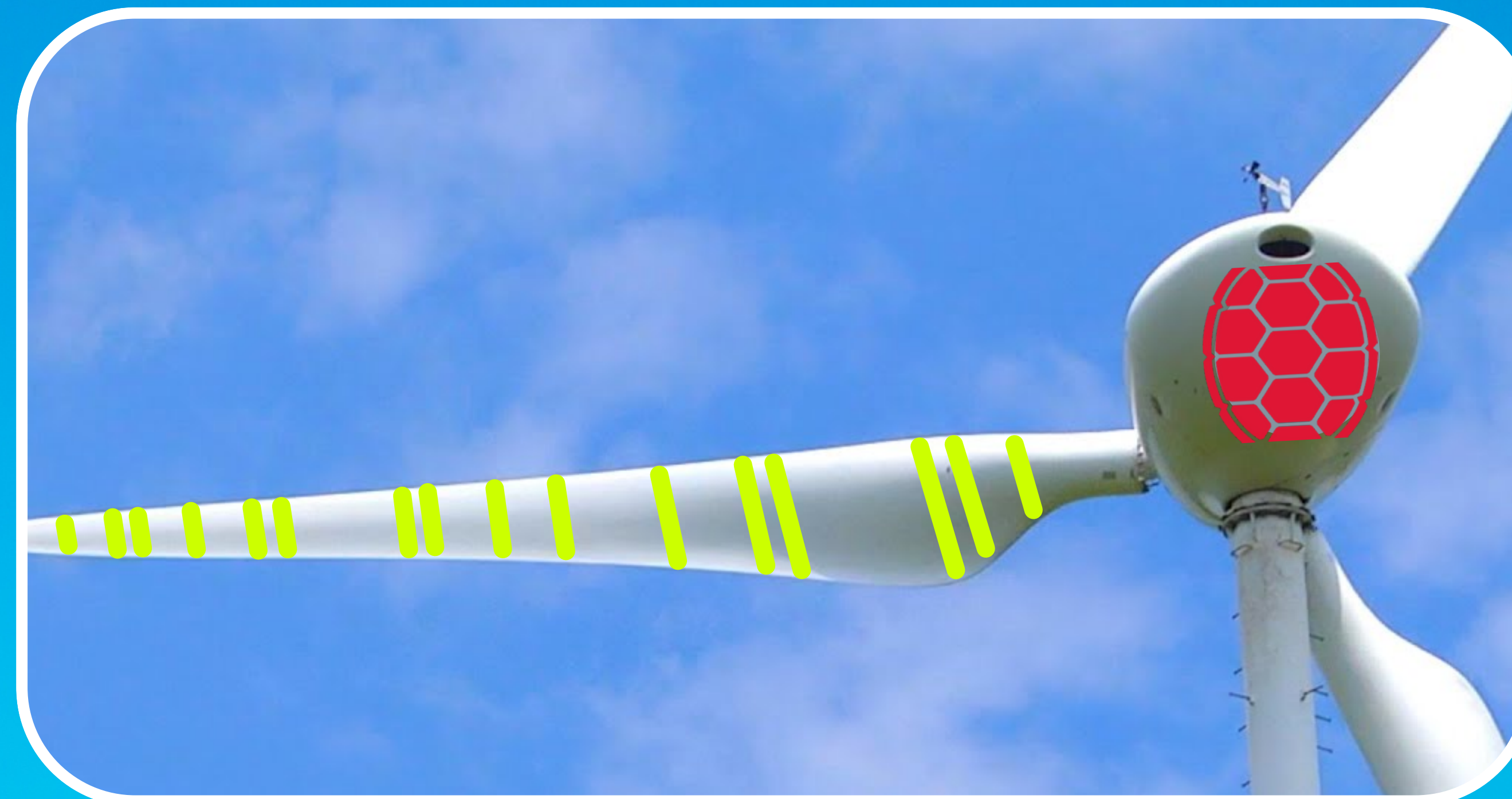
The Problem

Hundreds of thousands of birds are killed each year as a result of the motion smear visibility reduction caused by spinning wind turbine blades.



Our Solution

Staggered, thin stripes will be painted on the front & back of one blade out of three using UV paint. This pattern to reduce motion smear will appear vibrant to birds, while remaining nearly invisible to us. This will reduce avian collisions with wind turbines, while preventing any distractions for us.



Former Research

The study, *Reduction of Motion Smear to Reduce Avian Collisions with Wind Turbines*, was performed here at UMD by Dr. Hodos to determine the optimal pattern to paint on wind turbine blades to maximize avian visibility.

Future Implication

Calcium sulfide, an ingredient in UV paint, has levels of toxicity for aquatic life. Alternative ingredients should be researched for further sustainability.



Figure 1: Three blades, blank



Figure 2: One blade, thin stripes two blades, blank

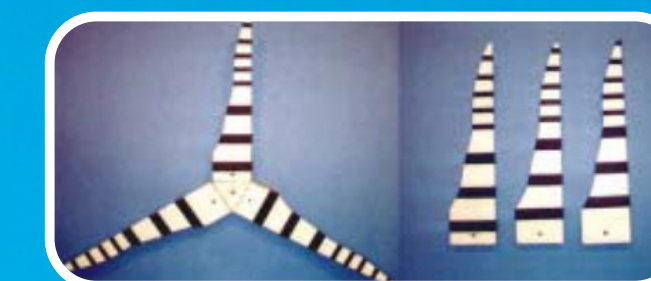


Figure 3: Three blades, staggered, thick & thin stripes

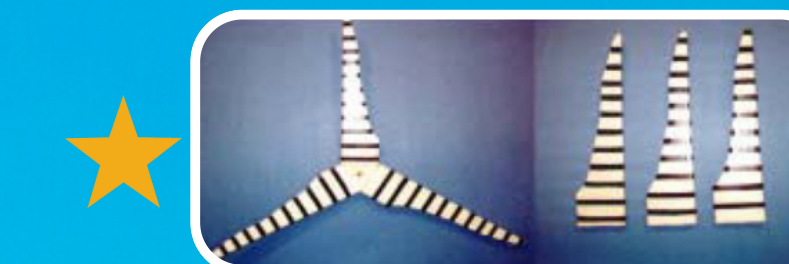


Figure 4: Three blades, staggered thin stripes



Figure 5: One blade, thick stripes at inner and thin stripes at outer, two blank blades

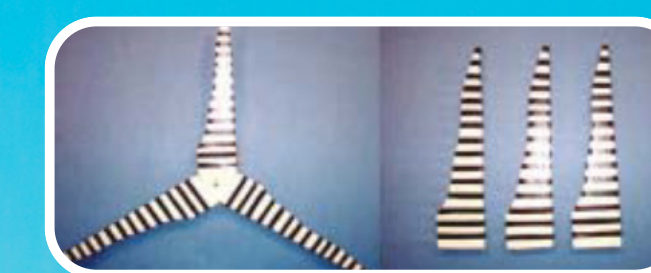


Figure 6: Three blades, nonstaggered thin stripes

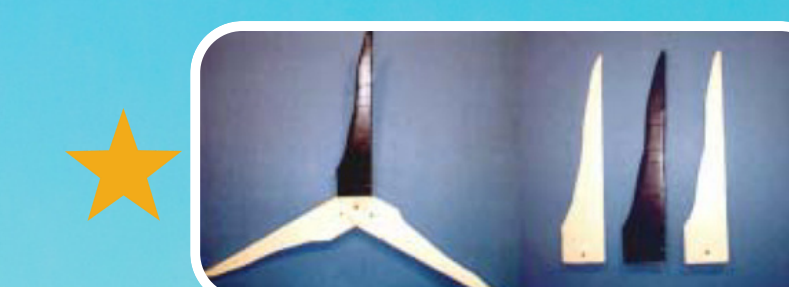


Figure 7: One blade solid black, two blank blades

