Intelligent autonomous detection of man-made objects with irregular shapes in the maritime ecosystem: Technical Report-2: Images with man-made objects not detected

Kaya Kuru, Stuart Clough, Darren Ansell, John McCarthy, and Stephanie McGovern

Index Terms

Maritime man-made object detection, HSV colour space, colour image processing, colour segmentation, ROC curve.

1 Examples for images with man-made objects not detected

The images with man-made objects that can not be detected by the proposed methodology are presented in Figures presented below:

Acknowledgements

We would like to thank APEM Ltd that leads independent environmental consultancy specialising in freshwater and marine ecology, and aerial surveys for providing the big datasets in various surveys. Anyone who wants to use any of these images either in this manuscript or in our technical reports in the supplementary materials should request permission from APEM Ltd, who retain the copyright and intellectual property contained within.

- *K. Kuru is with the School of Engineering, University of Central Lancashire, Fylde Rd, Preston, Lancashire, PR12HE, UK. E-mail: see http://www.uclan.ac.uk/staff_profiles/dr-kaya-kuru.php*
- *D. Ansell is with The University of Central Lancashire and S. Clough, J. McCarthy and S. McGovern are with APEM Ltd., The Embankment Business Park, Stockport, SK4 3GN, UK (https://www.apemltd.co.uk/)*

Manuscript received January 20, 2020.

APPENDIX A:EXAMPLES FOR OBJECTS NOT DETECTED BY THE PROPOSED APPROACH:

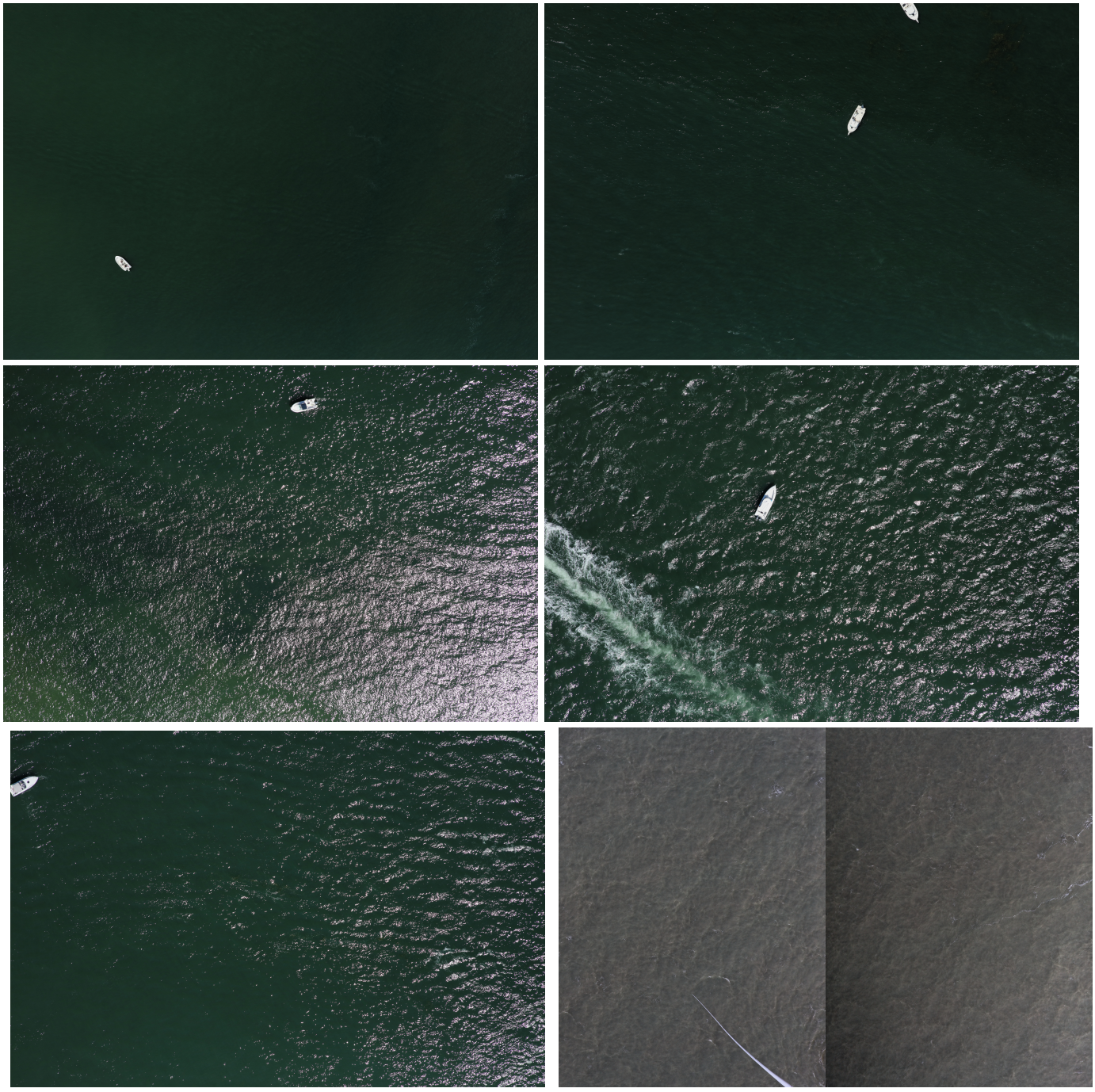

Fig. 1: Examples for objects not detected:

REFERENCES

[1] Kuru, K., Clough, S., Ansell, D., McCarthy, J., & McGovern, S. (2023). Intelligent airborne monitoring of irregularly shaped man-made marine objects using statistical Machine Learning techniques. In Ecological Informatics (Vol. 78, p. 102285). Elsevier BV. https://doi.org/10.1016/j.ecoinf.2023.102285

[2] Kuru, K., Clough, S., Ansell, D., McCarthy, J., & McGovern, S. (2023). WILDetect: An intelligent platform to perform airborne wildlife census automatically in the marine ecosystem using an ensemble of learning techniques and computer vision. In Expert Systems with Applications (Vol. 231, p. 120574). Elsevier BV. https://doi.org/10.1016/j.eswa.2023.120574