

MSc- Dissertation on hovercraft and paramotor disturbance to waterbirds

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A “three-dimensional” Review of the Impacts of Hovercrafts and Paramotors on Water Birds

Background

- Increase in recreational hovercraft and paramotor activities in the Solent
- High risk activity that can impact waterbirds negatively (Hypothesis)

task: To test the hypothesis and increase the evidence base

BUT -

Little room for scientific study

Introduction

1) Literature review

- Similar to that of the Foot Print Ecology for the Solent Disturbance project

2) Wetland survey

- Ramsar site managers, NGOs and others involved
- Within the UK and Europe (Belgium, Denmark, Netherlands, N. Germany, S. Sweden)

3) Monitoring the EA Hovercraft Survey

- Organised by the Langstone Harbour Board and Chichester Harbour Conservancy

Methodology – Survey

Email sent to relevant personnel

Correspondences found via Google search

To whom it may concern,

I recently undertook the project focusing on the development of a hovercraft and paramotor management plan for Langstone and Chichester harbours in the Solent, with the collaboration of Natural England, The Solent Forum and The University of Southampton.

Just wondering if you would be able to spend some time answering the questions below for my master's thesis?

- 1) Are waterfowl on your JNCC, Ramsar and/or Natura2000 or other sites subject to hovercraft and/or paramotor disturbance? (Could you name the site please?)
- 2) If not, is that because hovercrafts and/or paramotors are not present or that they are managed?

The following questions are relevant to sites where disturbance is present:

- 3) Have you got a management plan in place to deal with hovercraft and/or waterfowl disturbance, if so could you briefly describe it?
- 4) Do you think this recreational activity can potentially increase in your area and perhaps will need to be managed in the future?
- 5) How long had you had issues with hovercrafts and/or paramotors?
- 6) Have you any evidence of paramotors and hovercrafts having a negative effect on waterfowl?

Do you consent to naming the wetland site to be ID-d in reporting of this research or would you prefer it to remain confidential (thus your identity is protected)?

Yes/ No

Thank you for your time and help!

All the best!

Aniko Gaal

Methodology- EA Hovercraft Survey

From Louise MacCallum

Results- Literature Review

Review of Impacts on Waterbirds and their Habitat from Jet-skis and Hovercraft –
Department of Natural Resources & Environment, Australia

Loud noise, high speed, sudden turns – Hovercrafts

Loud noise, resemblance to predatory birds – Paramotors

Primary sales are increasing (Burger 2000), while the natural environment is only of a
“great concern” to 15% of users (Whitfield, 2007)

Seasonal activity (Davenport, 2004 Burger, 1998)

Results- Wetland Survey

-Open questions-

51% Response rate
71% of Ramsar sites of the UK

Hovercraft and/ or paramotor are present
on 27 sites (26% n=104)

On 6 sites they are not an issue

Table 1 Number of Ramsar sites in the UK and the number of Ramsar sites covered in this paper

Country	Number of Ramsar Sites	Number of Ramsar sites covered in this paper
England	68	43
England/Scotland	1	1
England/Wales	3	2
Northern Ireland	18	18
Scotland	50	40
Wales	7	0
United Kingdom	147	104

Table 2 List of designated Ramsar sites in the UK with some level of paramotor and hovercraft activity that is not considered disturbing

Site Name	HC	PM	Notes
Firth of Tay & Eden Estuaries	+		HC can be used near Tentsmuir, but are not a problem on important sites, as they are not approaching them.
Lindisfarne	+	+	Recreational activities are not allowed near site, spatial and temporal limitation of HC and PM use.
Newham NNR			
North West Norfolk Reserves		+	PM have been present at site for the past 5-8 years with a spike in activity 3 years ago. There is no evidence of long term negative effects, but there already a lot of disturbance on site.
Poole harbour / Studland	+		There is hovercraft training near, but is restricted to reduce disturbance to Studland bay marine life.
Tiree		+	There have been 2 paramotorists spotted in the past 3 years. 1 Paramotorist has negotiated to be able to fly above the site.

HC= hovercraft, PM= paramotor, + = present

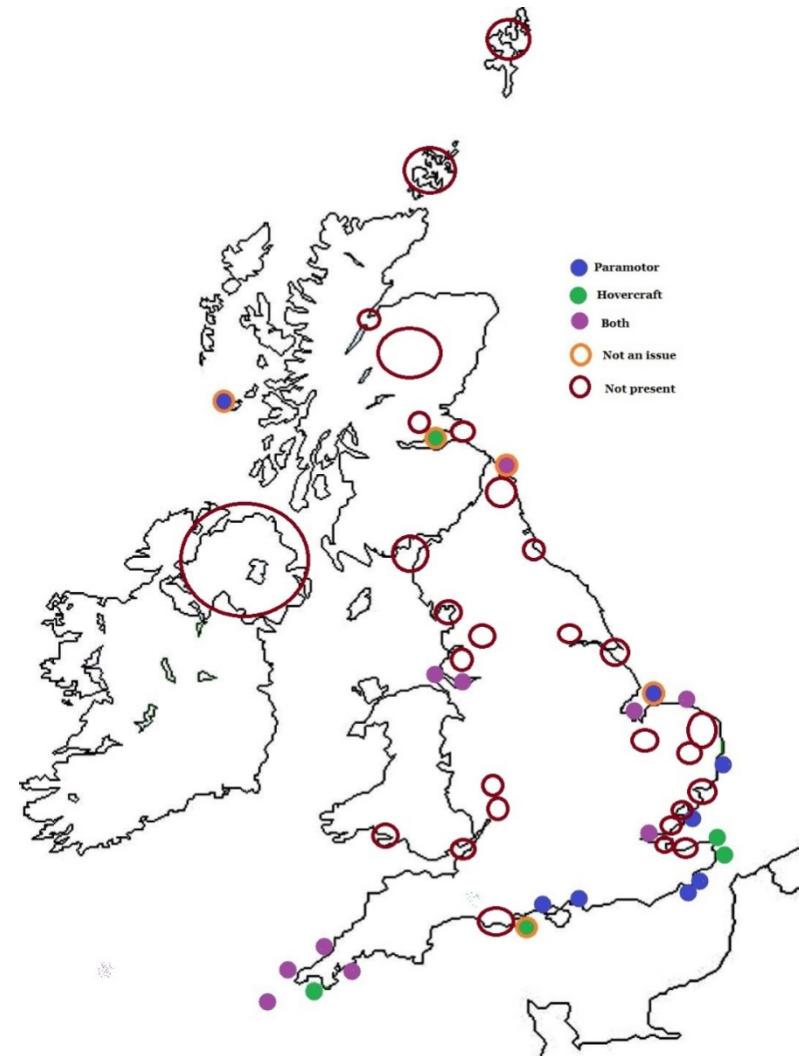
Results continued...

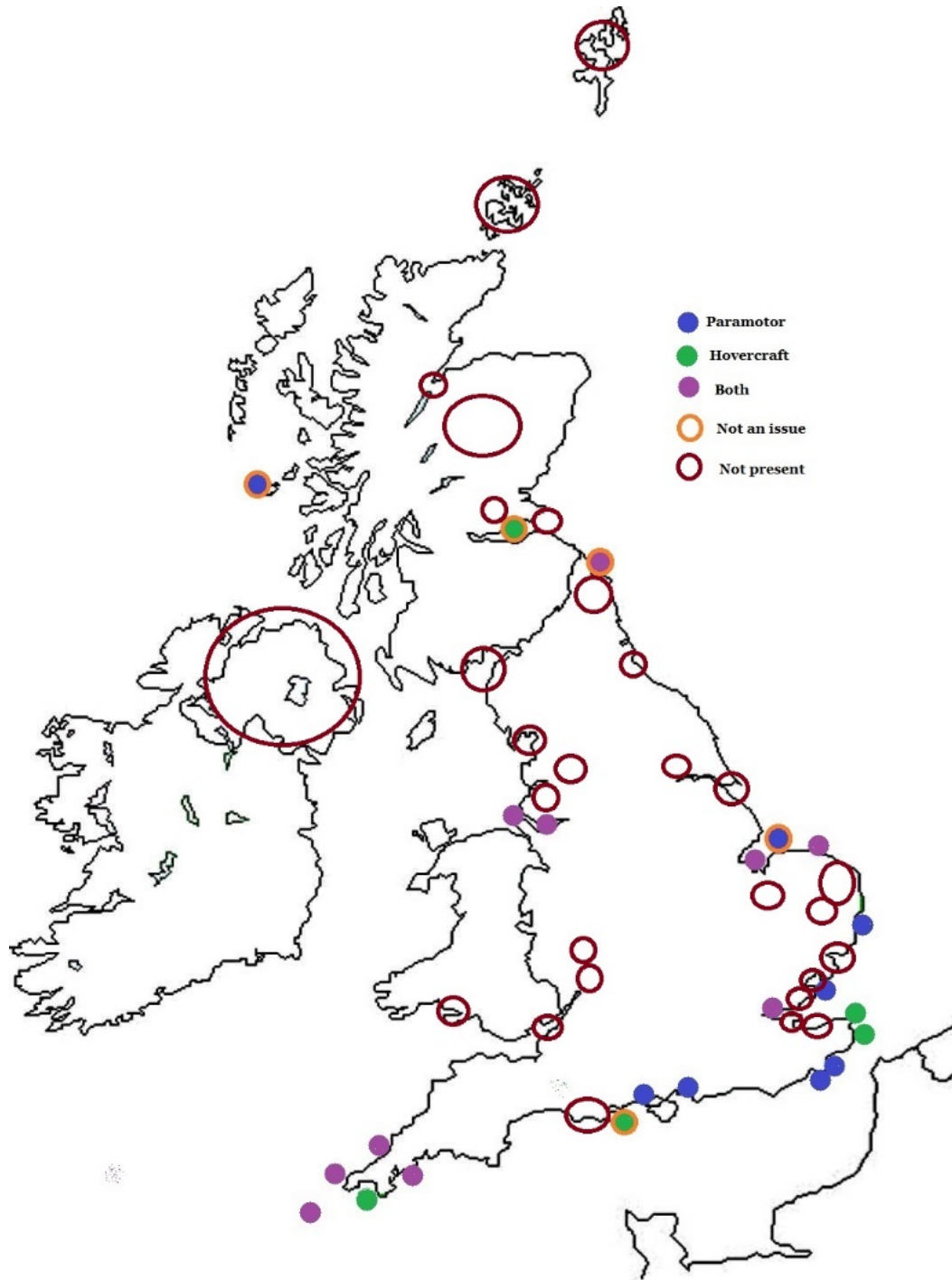
On 21 sites hovercrafts and paramotors are or were an issue

Table 3 List of Ramsar sites in the UK where there is paramotor and/ or hovercraft activity which is considered disturbing

Site name	HC	PM	Length	Notes
Devon				HC and PM presence perceived as negative,
Cornwall				
Isles of Scilly	+	+		*sites include: Braunton burrows, Dawlish Warren, Sidmouth to West Bay and Exe Estuary
Penhale Dunes				
Dee Estuary			PM - 10 years	Paramotor activity has reduced in the past year, Micro-light activity is more disturbing, however easier to manage due to the registration number on the wing
North Wirral	+	+		
Mersey Narrows				Paramotors have been observed disturbing birds during the summer months.
Essex Coast		+		
Langstone Harbour		+	5 years	Byelaws do not permit HC in the area. PM have purposely disturbed birds in 2012, haven't since.
Minismere		+		There have been recent paramotor disturbances, which I currently being pursued. Frequent flushes have been reported
North Warren				
Dingle Marshes				
North Norfolk Coast	+	+	Many years	Observed disturbance to roosting and feeding birds
North Solent NNR		+	5 years	Photographs of PM flying very close to nesting sites
Rye Harbour LNR of Dungeness		+	5 years	Observed flushes of birds
Pett level SPA				
Plymouth	+		many years	HC training area, but spatially limited to protect marine life
Thanet coast, Sandwich bay	+		Past disturbance	Commercial HC activity in the past, landowners' approval to launch hovercraft has been revoked. HC uses inland sites
Stodmarsh and Pegwell bay	+		Past disturbance	Commercial HC port in the past, was economically not feasible and noisy to sustain.
The Wash	+	+		RNLI hovercraft training area, spatially restricted. Personal HC users are discouraged by monitoring slipways.

HC= hovercraft, PM= paramotor, += present





Current methods to reduce disturbance

Human disturbance is recognised as a growing problem

7% (n=104) of the sites using zonation and byelaws to prevent/ reduce disturbance by hovercrafts. 1 site suggest 500m buffer for aircrafts (except helicopters; 1000m)

No specific management plans for hovercrafts and paramotors

In general: Seasonal Facilities (April- September) near over wintering birds

Management of access points

Discouraging putting birds to flight

Leaflets to highlight sensitivity

Results- International survey

Response rate of 0-40%

Contacting individuals is difficult, instead higher organisations were contacted.

Table 4 The number of Ramsar sites found in Belgium, Denmark, Germany, Netherlands and Sweden and the number of sites covered in this paper from each country

Country	Number of Sites	Sites covered
Belgium	10	4
Denmark	29	0
Germany	35	14
Netherlands	44	14
Sweden	39	10

Belgium

Sweden

Netherlands

Germany

Assumptions based on the EA hovercraft survey

Birds in the study were roosting/ feeding in larger mixed groups, when subject to stimuli some species sensitivity was shown.

Table 5 Response to the EA Hovercraft Survey

Tables	Flushing distance (m)			Displacement distance (m)		
	Min	Max	Average	Min	Max	Average
Same	50	500	228	Short flight	500	-
Mixed	100	300	182	400	500	450

Greater variability in single species

Mixed waders were found to be more sensitive (greater displacement)

Previous observation: Batten (1997) found larger flocks are more sensitive than smaller groups of birds

On average no birds present within 200m of craft

Discussion

Literature review

- Very little recorded information on disturbance by hovercrafts or paramotors
- Existing papers suggest loud noise, high speed, sudden turns and resemblance to predators are highly disturbing
- Sales of crafts increasing
- Seasonal activities
- Big drop in numbers in eight of the main wading bird species over 10 years in the UK (Davies, 2014). Significant and consistent population drop.
 - ◇ Several factors. Reasons are not yet understood

Discussion continued....

Main issue

- Definition of disturbance;
 - ◇ Example: definition used in the draft Hovercraft Environmental Impact Assessment defines disturbance as the abandonment of good grounds for poor grounds by a local population.

- Bias towards direct disturbance
 - ◇ Easier to detect and quantify

Discussion

Wetland Survey

- Good network of wetland managers with excellent knowledge of their area and problems birds face. Very keen and approachable.
- Different strategies
- Management of hovercraft is easier
- Paramotor disturbance is more common
- Paramotors are difficult to track- Registering them might help

Discussion

Hovercraft Survey

- Excellent primary data
- Numerous variables as it was a one-time observation
- Buffer distances of 500m will make most harbours unable to host hovercrafts during low tide.

Recommendations for future management

- Including legislation brochures and local bird data in the training package provided during hovercraft and paramotor training, or as online PDFs
- Registering paramotors should effectively reduce incidents.
- Education and raising awareness
- If disturbances become more intensive and frequent, changes in legislation may be necessary

Respondents considered an increase in the activities in the future which along with existing literature and data makes hovercrafts and paramotors worthy of management.

Conclusion

As many respondents considered an increase in the activities in the future which along with existing literature and data makes hovercrafts and paramotors worthy of management.

Thank you for the opportunity provided and for all the help received along the way.

I've thoroughly enjoyed the experience and hope project will be of use!

Questions?

This data holds true for sites with no previous hovercraft activity, or very minimal (1-2/ year) when the hovercraft is driven in a controlled manner with no sudden changes in speed or direction.