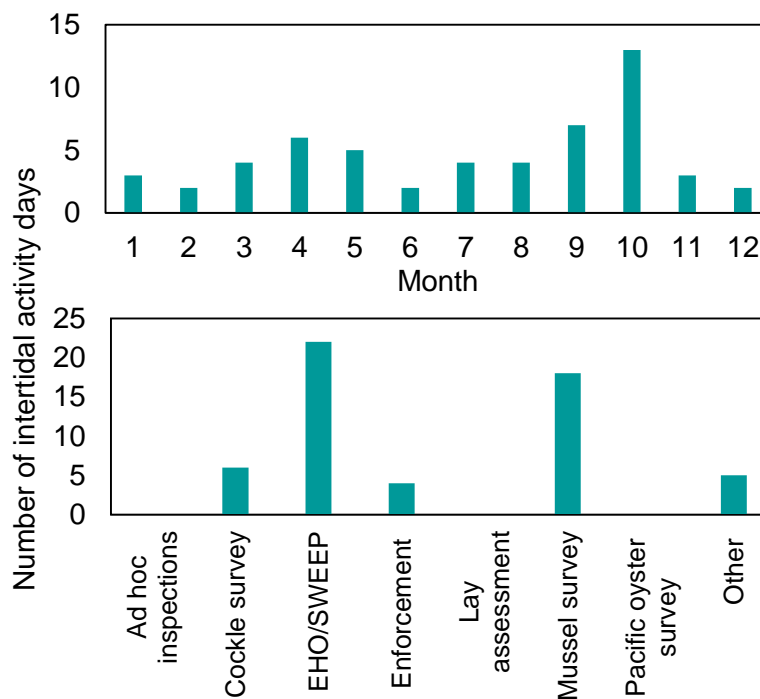




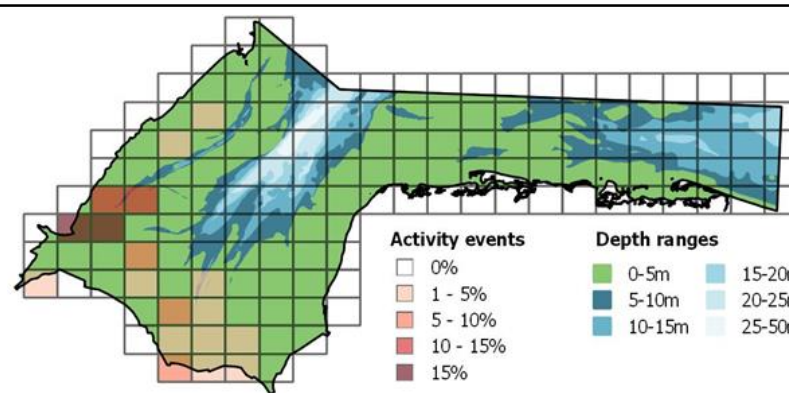
Each year Eastern IFCA conduct a number of on foot surveys in The Wash intertidal zone during low-tide. These include annual Wash Fishery Order (WFO) mussel and cockle surveys, monthly Environmental Health Office (EHO) and shellfish productivity (SWEEP) sample collection and enforcement activities and inspections, among others. To ensure these activities do not have an adverse effect on site integrity a Habitats Regulations Assessment (HRA) was completed in June 2018 and a five-year assent for all intertidal activities carried out within The Wash and North Norfolk Coast SAC was successfully sought. As part of this assent, Eastern IFCA monitor disturbance (defined as a reaction to presence) caused to birds and seals from activities to ensure the requirements of the HRA are met. This report presents the findings from the monitoring completed during 2019.

#### Summary of 2019 intertidal activities

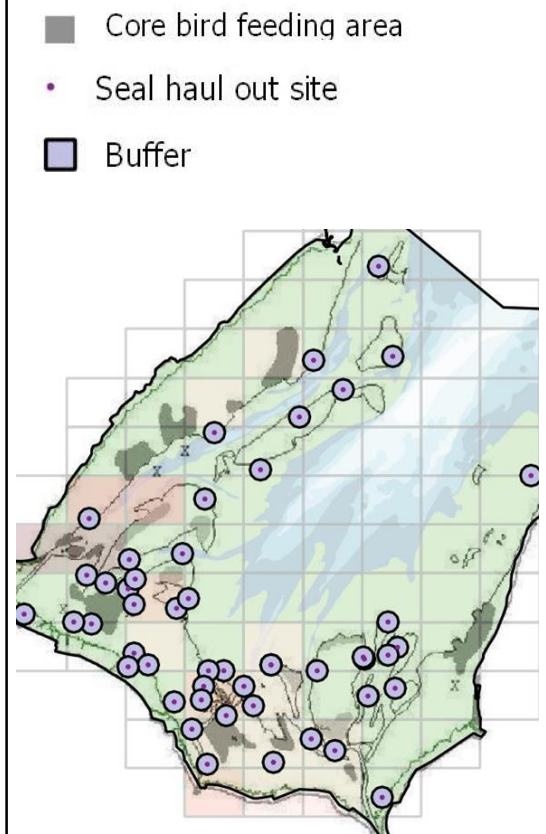
- A total of 55 intertidal survey days completed, this is within the 122 days per year consented within the HRA.
- 32 of the 55 surveys had monitoring forms completed, this is a completion rate of 58% so findings must be considered with this in mind.
- The number of surveys completed per month ranged from 2 to 13, with an average of 5 per month (Figure 1). The highest number of surveys were completed in October (13) as a result of the annual WFO mussel surveys.
- The annual WFO mussel surveys (18 days) and monthly EHO and SWEEP (22 days) surveys contributed to 73% of all intertidal surveys in 2019 (Figure 1)
- The intertidal beds which received the most activity were: Black Buoy, Tofts, Butterwick and Roger (Figure 2). 10-15% of activities occurred in these areas.
- For the 32 days that forms were completed there were a total of 57 activity events (one activity event for every grid cell walked in) (Figure 2).



**Figure 1:** Total number of intertidal survey days conducted by EIFCA in 2019 by month (top) and by type (bottom).



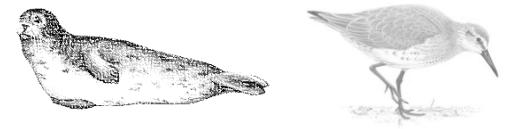
**Figure 2:** Chart showing the percentage of activity events in each grid cell within The Wash and North Norfolk Coast SAC from forms completed in 2019. Forms represent 58% of intertidal activity days.



**Figure 3:** Chart showing seal haul out sites (with 600m buffer) and core bird feeding areas overlaid with areas of intertidal activity. These core areas are particularly important to birds and seals and so it is important to ensure disturbance here is minimal. Areas of high activity overlap with seal haul out sites and core bird feeding areas occur at Black Buoy, Butterwick, Roger and Toft sands.

Seals		Distance	
Occasions encountered = 8 (14.0%)	Disturbed = 5 (62.5%)	<20m	1
		20-100m	3
		100-200m	0
		200-300m	1
		300+m	0
	Not disturbed = 3 (37.5%)	<20m	1
		20-100m	0
		100-200m	2
		200-300m	0
		300+m	0
Occasions not encountered = 49 (86.0%)			

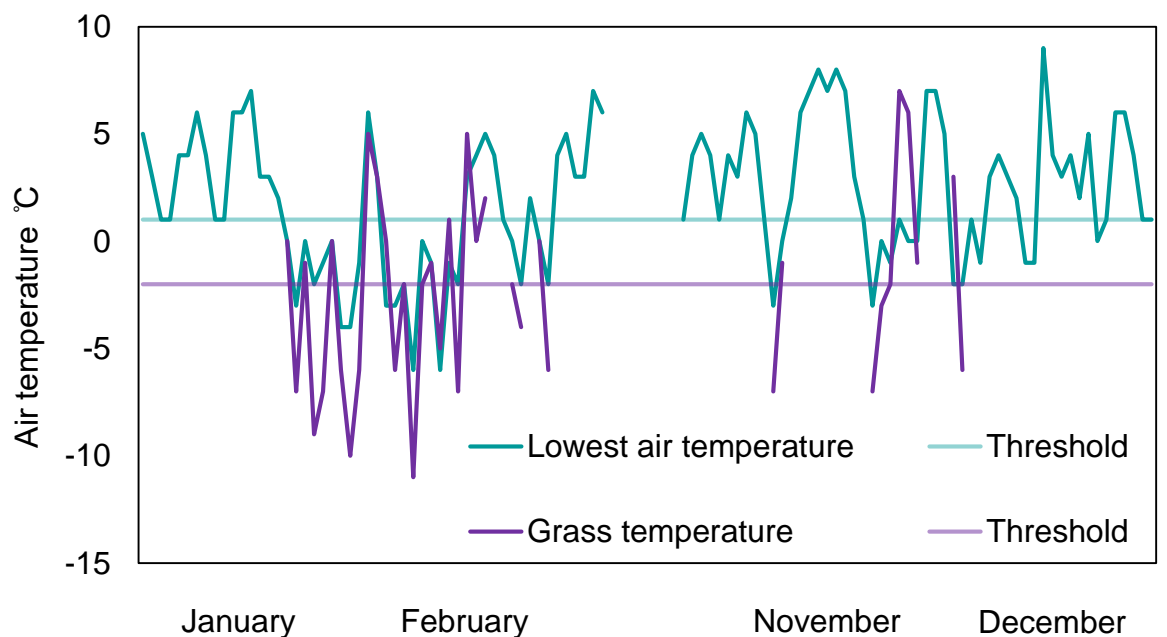
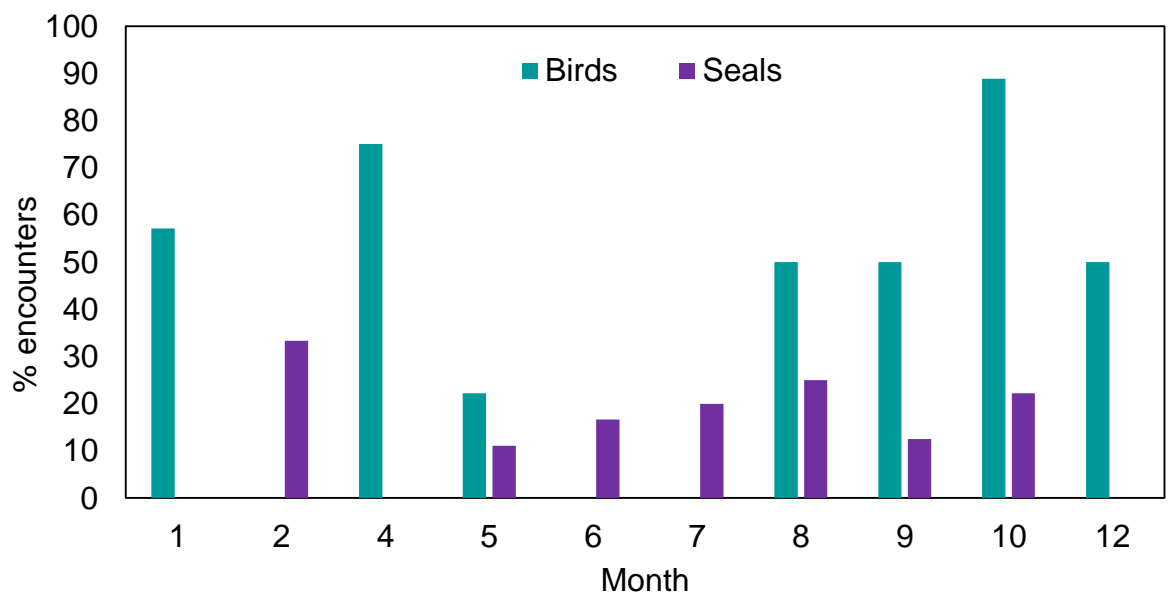
**Table 1:** Of the 57 activity events, seals were only encountered on 8 occasions, this is an encounter rate of 14.0%. Of these 8 occasions, seals were disturbed 62.5% of the time. The majority of seals were disturbed when officers were between 20-100m away, however on one occasion they were closer than 20m and on another they were between 200 and 300m away. Of these 8 disturbance events, 5 occurred on Black Buoy sand during monthly EHO surveys. Seals were also disturbed on Gat sand, Scotsman's Sled and Welland Wall (one occasion each). Where possible and when safe to do so, officers keep a minimum distance of 100m from hauled out seals, however due to weather and tidal conditions, health and safety measures and the nature of some surveys, on some occasions this is not always possible. Notes taken during surveys indicate that any disturbance to seals generally resulted in some seals moving into the water briefly whilst officers walk past.



Birds		Distance	
Occasions encountered = 24 (42.1%)	Disturbed = 14 (58.3%)	<20m	9
		20-100m	5
		100-200m	0
		200-300m	0
		300+m	0
	Not disturbed = 10 (41.7%)	<20m	4
		20-100m	4
		100-200m	0
		200-300m	0
		300+m	2
Occasions not encountered = 33 (57.9%)			

**Table 2:** Birds were encountered 21 times during the 57 activity events and were disturbed at a rate of 58.3%. Disturbance events occurred when officers were at distances of <20m or between 20 and 100m. However, at both of these distances, some encounters did not cause disturbance. Notes taken during surveys identify the birds disturbed to be: sanderlings on 4 occasions; knot on 2 occasions; grey plovers, geese, terns and dunlin on one occasion; and unidentified on 4 occasions. On 8 occasions birds at distances <100m did not appear disturbed, these included knot, dunlin, geese, oystercatcher, gulls and terns. Where possible and safe to do so, officers avoid major aggregations of wading birds, staying at a distance of 300m away, however, due to the nature of surveys, weather and tidal conditions and health and safety measures, on some occasions this is not always possible. Observations of disturbance showed that when disturbed birds tended to take flight and re-settle nearby.

**Figure 4:** Percentage of activity events where seals and birds were encountered by month (Top). No activity events were recorded during March and November. Seals were generally encountered during the summer months (May to October). This is consistent with predictions as these months coincide with the sensitive pupping and moulting periods when seals spend more time hauled out on sands. For birds the highest encounter rates occurred during the winter months. Again this is consistent with predictions, as whilst wading birds are known to utilise The Wash all year round, highest numbers are known to occur during the winter months when an abundance of migratory waders overwinter in The Wash. During the cold weather months there were no periods of severe weather conditions (defined as seven consecutive days of specified temperatures using criteria specified by the JNCC) that resulted in the temporary suspension of activities (Bottom).



**Summary of findings** During 2019 the level of visual disturbance to birds and seals caused by Eastern IFCA intertidal activities was low. This is because of the low number of intertidal activities conducted, but also because of the nature of surveys and the mitigation measure in place to ensure disturbance is minimal. When considering findings, it is important to note that the completion of monitoring forms was incomplete. However, the level of disturbance in 2019 is not considered to be of concern because the level of activity was much lower than that consented. To further improve our understanding of disturbance caused by activities and the accuracy of findings, achieving a higher completion rate in future years is key.

