

Roosting waders attacked by Peregrine Falcons

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The Hunter Estuary is host to a diversity of raptors and an abundance of waders, which are potential prey. Raptors, like all predators, are always looking to exploit a break in the alertness of their prey, and to them a flock of roosting waders with bills buried in their back feathers may provide an excellent opportunity for a surprise attack.

The estuary's White-bellied Sea-Eagles *Haliaeetus leucogaster* are perhaps the raptor on which the wader's eyes are most diligently trained, and for good reason, as water birds appear to be a highly favoured prey of local sea-eagles. However, one day during the study, I observed the flying skills of the wader flock tested to their limit by a pair of Peregrine Falcons *Falco peregrinus*.

The following observations were made during a late afternoon high-tide wader survey in the winter of 2004 with the wader flock settled on one of their dyke roosting sites. Their roost appeared to be a very exposed site between the broad expanse of the river to their east and a full dyke pond (number 3) fringed by mangrove trees to their west; however, they appeared to prefer this open circumstance, due to the vigil they can keep on the estuary.

Suddenly the birds became alert and all lifted their heads together, which alerted me to a pair of Peregrine Falcons approaching from up the estuary to the north. Flying in at sufficient height to generate the required speed for an assault the peregrines made directly for the flock; the tercel (male) in the lead with the larger falcon (female) following close behind. The waders responded immediately and took to the air, but not up or over the river as might be expected, instead they headed for the dyke pond. The waders appeared to have a strategy, they held close ranks and kept very low hugging the water as a refuge, apparently hoping to limit the attack options of the falcons. In response the falcons had their own strategy, the tercel would lead an attack followed closely behind by the falcon some 20 metres back. The tercel would fly at the centre of the flock in what appeared to be a tactic to scatter and disorient the waders and his partner would follow immediately

behind in the hope of capturing an isolated bird. The waders were clearly rattled by the attack with Eastern Curlew flying full speed into dense mangroves to escape. The falcons made a number of assaults on the flock until one of their stoops enabled them to successfully separate a Bar-tailed Godwit away from the flock and the falcons were then able to herd it out over the more open water of the river.

The tercel headed for the sky while his partner closely chased the zigzagging godwit, which was still keeping very close to the water. At this point the tercel's reason for gaining elevation came into play. While his partner occupied the godwit by sticking closely to its tail, he used his elevation to generate speed for a lightning run at the godwit, which the godwit evaded. The tercel used the speed of the initial run to swoop up high again for another run and so they continued, the falcons using this teamwork strategy in order to wear down the zigzagging godwit. After a number of stoops the godwit tired and dove headlong into the river with the falcon closely passing over the spot where it disappeared. The godwit surfaced and sat atop the water in a duck-like manner, to which the falcon responded with a low assault. As it drew near, the godwit duck-dived out of harm's way and the Peregrines finally gave up on it.

However, the Peregrines were not finished for the day, they immediately went back to the flock and once again employed the twofold assault on the waders, with the tercel in the lead followed closely behind by his partner. After a couple of stoops they separated another bird out of the flock, this time a Black-tailed Godwit, and out over the river they went again, the falcon close on the godwit's tail, the tercel stooping over and over repeatedly to try to capture the bird or find a crack in the godwit's escape manoeuvres that the closely following falcon could exploit.

This pattern of attack went on for some time, but the diminutive godwit, which seemed completely out-gunned by its muscle-bound adversaries, continued to evade all attempts by the falcons to

capture it until it wore them both out and they gave up, flying away from their intended prey clearly out-manoeuvred and out-last-ed.

For the first time since the attack had begun the Black-tailed Godwit left the proximity of the water and flew high heading north, its survival a testament to its capable endurance. Although the flying prowess of Peregrines is renowned, upon reflection that godwits can fly thousands of continuous kilometres during migration, it made me wonder who the underdog really was.

Studies in North America have demonstrated that waders forage in zones on mudflats which are away from the shoreline to minimise predation by Peregrine Falcons (Pomeroy 2006). The foraging

zones selected represent a trade-off between food abundance and safety. The behaviour reported in this note suggests that similar trade-offs may apply to diurnal roost site selection. The importance of the ponds in isolating the roost site on the dykes from cover which can be used by raptors and in providing a confined area in which the waders can out-manoeuvre raptors like the Peregrine Falcon in flight may have been underestimated previously.

REFERENCES

- Pomeroy, A. C. (2006). Tradeoffs between food abundance and predation danger in spatial usage of a stopover site by western sandpipers, *Calidris mauri*. *Oikos* **112**: 629–637. doi:10.1111/j.0030-1299.2006.14403.x