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A Black Harrier quartering low over fynbos is an unforgettable sight. But what we cannot see is the larger story: the nest it may return to, the routes it repeatedly follows, the distant landscape it may occupy a few months later.

Earlier articles in this series have covered some of what our research has taught us about Black Harriers: their extraordinary nomadic movements, the breeding habitat they require and the potentially fatal consequences of wind turbines. This article asks a practical question: how can our knowledge prevent future conflicts before they happen?

With only about 800 adult Black Harriers thought to remain, the question is urgent. Habitat is being lost and fragmented, climate is changing and infrastructure is expanding across the species' range. Once a development encroaches breeding habitat or turbines occupy a favoured flight path, protection becomes more difficult and uncertain. We are therefore building

ABOVE Ground-nesting Black Harriers are exposed to numerous predators, which makes it even more important to minimise their exposure to human disturbance.

from tracks to action

Preventing Black Harrier conflicts before they happen

tools to recognise important habitats early enough to prioritise them.

Turning scattered records into practical evidence, we combined more than one million GPS locations from 40 tracked birds, 19 years of SABAP2 data and recent BirdLasser/eBird sightings in a dynamic activity viewer. By highlighting movements, repeated settlements, observation hotspots and possible breeding clusters, this allows us to ask better questions about risks that harriers face and to direct fieldwork where it matters most.

Protecting habitat is paramount, but where do we prioritise resources? Earlier this year, we developed a habitat viewer that combines predicted breeding habitat with more than 300 nest sites. Our published assessment (Colyn et al. 2025; doi.org/10.1093/ornithapp/duaf043) found that only about 32 per cent of climatically suitable areas also contain suitable breeding habitat, while the projected range could contract by up to 83 per cent by 2061–2080. Together, these tools help identify places that may remain especially important as the climate changes.

Wind energy poses a serious risk to harriers. Our flight-risk study used thousands of GPS tracks to map where Black Harriers were most likely to fly at rotor-blade height. Instead of applying the same circular buffer around every nest, it maps risk precisely from movement patterns. To be published soon, this will help developers to avoid areas with the highest flight risk before turbines are built and to guide monitoring at operating facilities.

Even a sophisticated model begins with somebody noticing a bird. We therefore developed a field app through which reserve staff, biologists, stewardship teams and Black Harrier enthusiasts

can record suspected or confirmed nests, roosts, locations, habitat and behaviour, and can attach photographs, at online.cybertracker.org.

After quality checks, these observations feed into the central database. Community observations strengthen the database, the database strengthens the mapping and the maps guide surveys and action to protect habitat. Every contribution matters, but please record and photograph birds from a safe distance, without causing disturbance, and allow researchers to follow up. Please do *not* go to the actual nest, as this increases the chances of breeding failure and predation.

Black Harriers will always retain some of their mystery. They move too far, respond too quickly to conditions and cross too many boundaries to be reduced to one map. Yet uncertainty need not mean inaction. Every well-documented observation, protected refuge and well-informed early decision gives this remarkable raptor more room to survive.

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