

CUMULATIVE EFFECTS ASSESSMENT

WIND POWER IN JORDAN



Creating Markets, Creating Opportunities

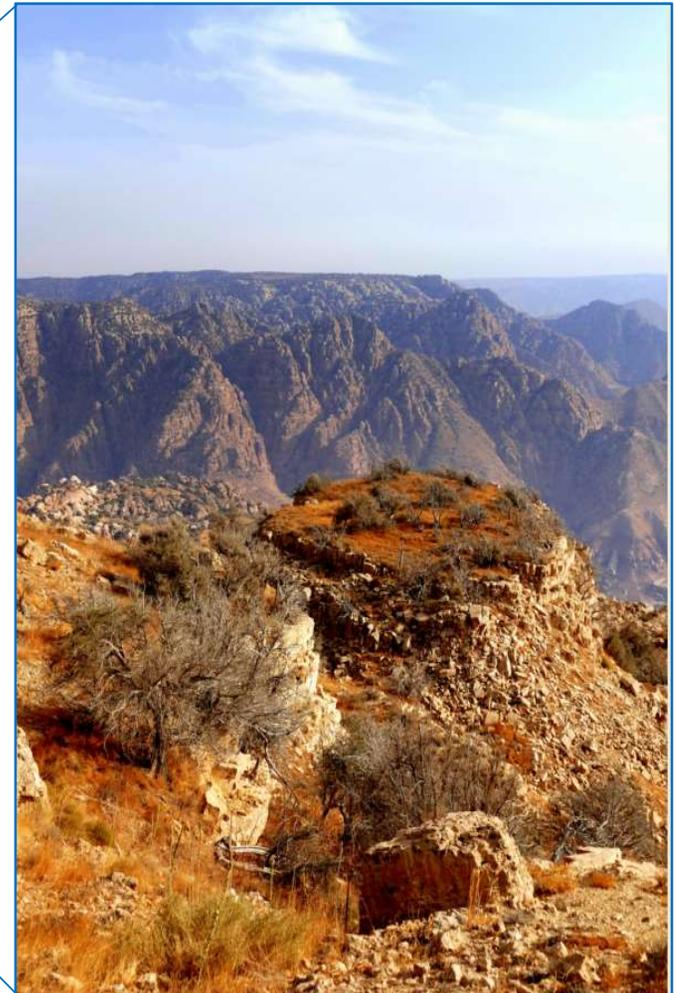
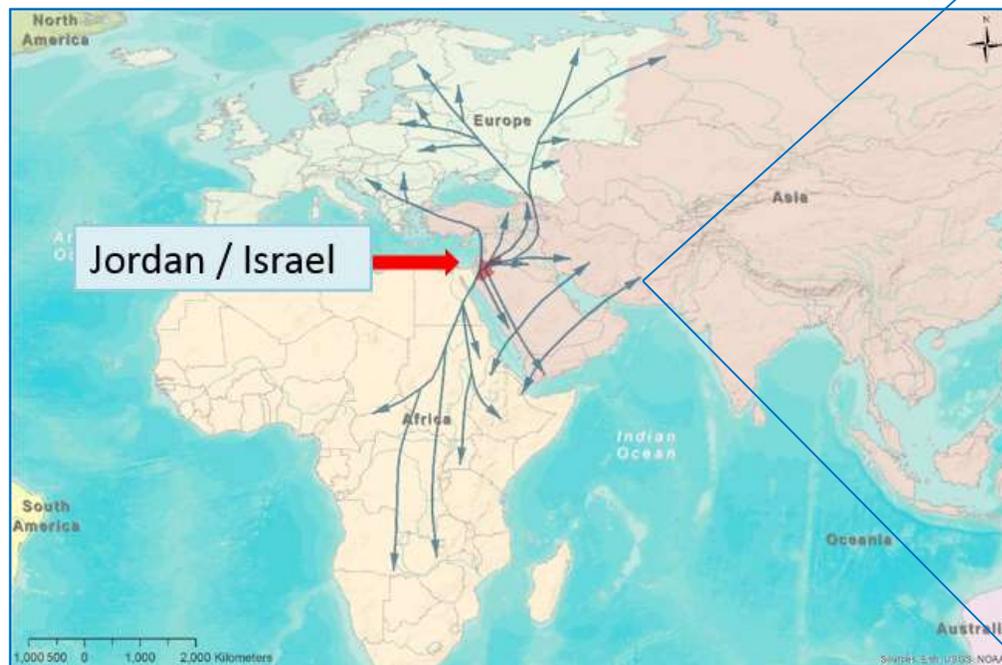
IAIA Special Biodiversity
Symposium

Lori Anna Conzo

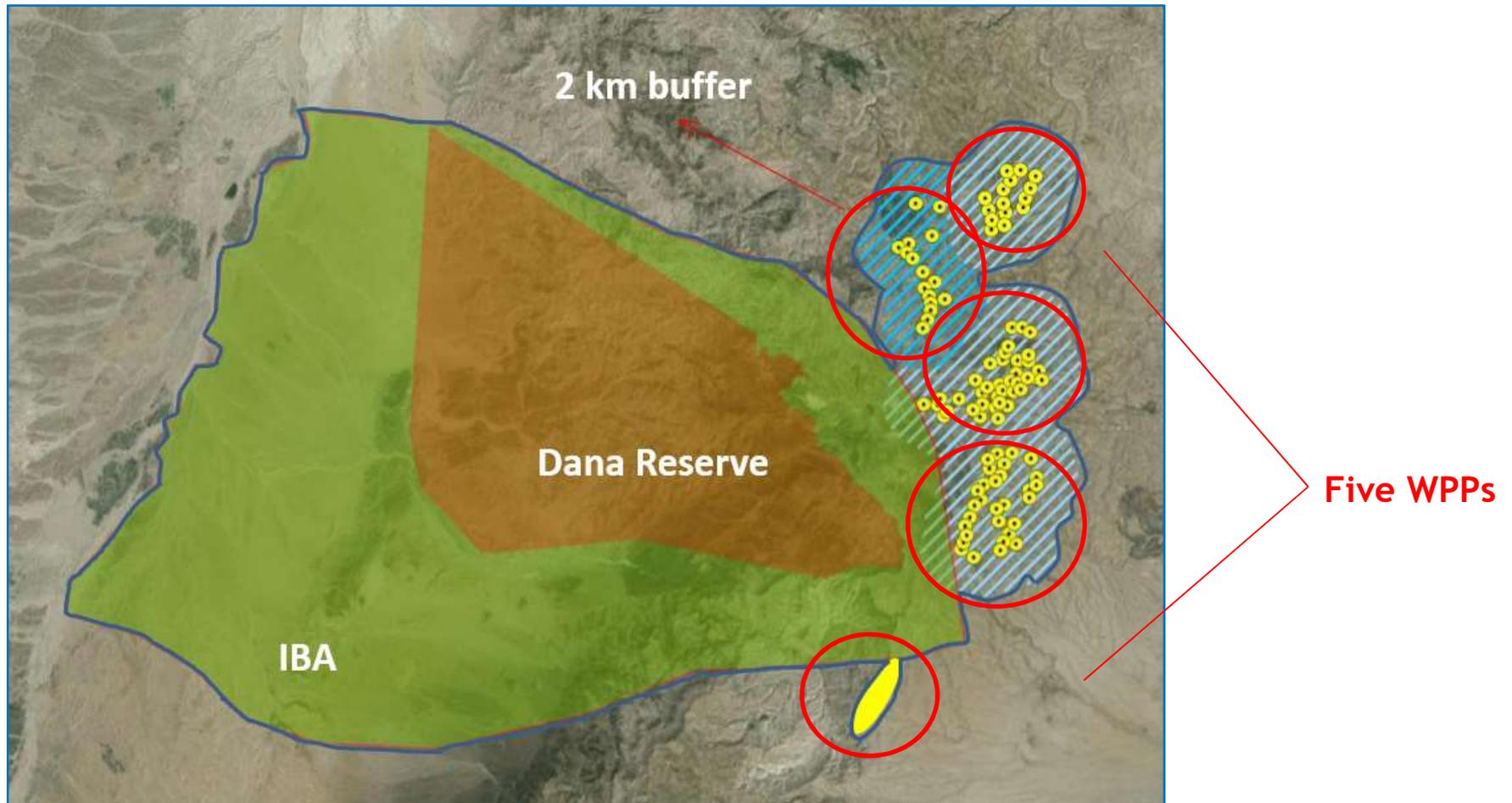
14 November 2017

Tafileh Governate, Jordan

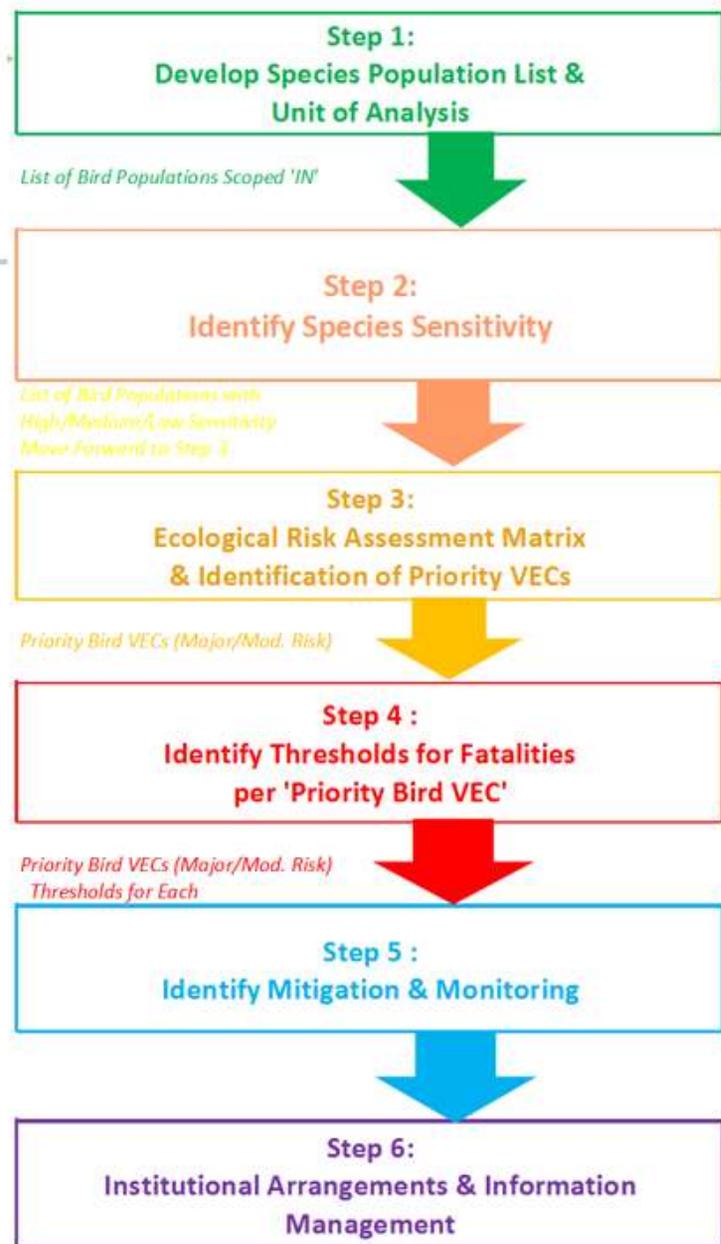
WIND POWER



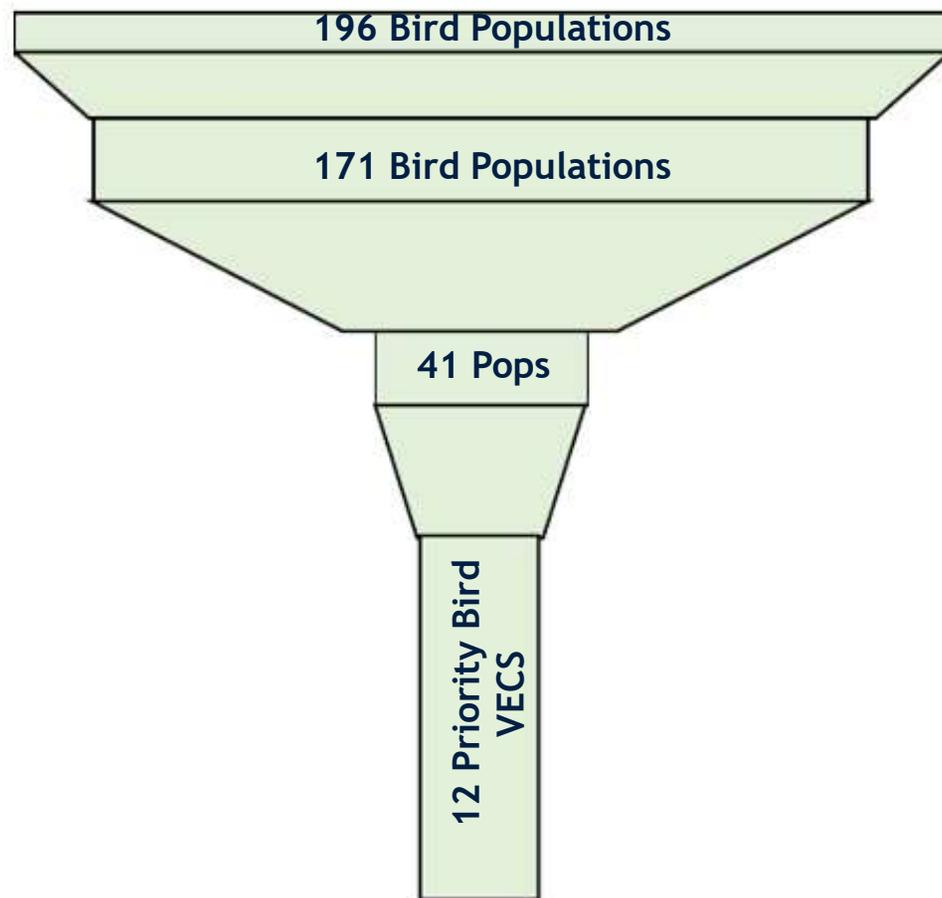
Tafila Region Wind Power Project Cumulative Effects Assessment and Management



“VECs” = Valued Environmental Components -
Birds, Bats and Habitats



Six-Step CEA Framework



Identify
“at-risk” birds for developers
to focus on



Bonelli's Eagle
(*Aquila fasciata*)



Griffon Vulture
(*Gyps fulvus*)



Short-toed Snake-eagle
(*Circaetus gallicus*)



Photo: Neil Gray

Lesser Kestrel
(*Falco naumanni*)



Photo: Paul Cools

Long-legged Buzzard
(*Buteo rufinus*)



Photo: Russian Raptor Research Network

Eastern Imperial Eagle
(*Aquila heliaca*)



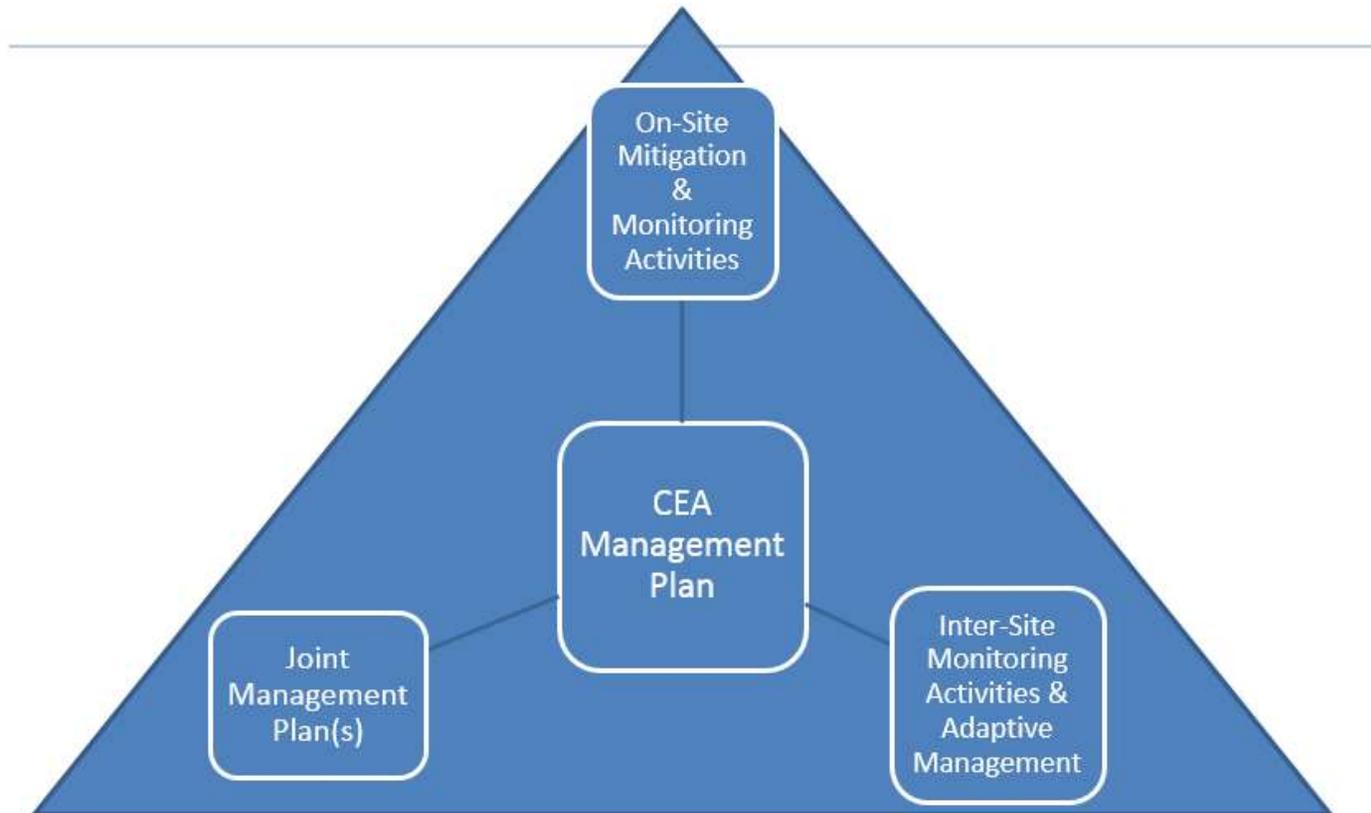
Booted Eagle
(*Hieraaetus pennatus*)



Egyptian Vulture
(*Neophron percipiter*)

Identified Thresholds for each Priority Bird VEC using Potential Biological Removal (PBR) analysis, + estimates of fatalities caused by non-WPP stressors

CEA Mitigation and Management Plan



How did this work influence implementation of the Mitigation Hierarchy?

- Very high threshold of “acceptable” fatality was important factor in individual WPP design and layout
- Common prescriptions for the development of each WPP’s ESIA
- Equal emphasis on all developers - all had the same information
- Allowed us to establish common monitoring framework, which is mitigation for WPPs (also avoidance)
- Shutdown on demand for the 12 priority species
- Common reporting templates to the MoE
- If in the event there is a fatality, common response in CEA Management Plan, including offsetting

CONSERVATION

Assessment identifies steps to mitigate wind farms' risks to wildlife

Wind energy projects located in areas geographically 'delicate' as far as nature is concerned

By Dana Al Enean

AMMAN — The International Finance Corporation (IFC), a member of the World Bank Group, on Thursday released a study on reducing risks posed by wind farms to wildlife in Jordan.

'In Jordan and the wider region, wind power is becoming an increasingly important source of electricity'

The study, described as the first of its kind in Eastern Europe, the Middle East and North Africa, seeks to strike a balance between enhancing sustainable energy projects and protecting biodiversity in

Jordan and the region. The Cumulative Effects Assessment (CEA) of wind power projects in Tafleeh, 190km southwest of Amman, is part of efforts to support the development of renewable energy and other sustainable infrastructure in the region, in compliance with international best practices in biodiversity, according to the IFC.

The assessment, which was carried out in partnership with private and public stakeholders, identifies the potential cumulative effects on biodiversity, especially on bird populations, of multiple wind power projects around the Dana Biosphere Reserve. The assessment resulted in a framework or "management plan" that aims to mitigate, monitor and manage the greatest threats to biodiversity, according to organisers.

Both the assessment and the framework also consider other threats to biodiversity unrelated to wind energy, such as hunting and the collision or electrocution of animals on power lines.

The study highlights practical steps that wind farm operators can take to protect bats and 33 species of birds. The suggestions are based on expert analysis of the migratory and resident bird populations in



Wind speeds in Jordan are as high as 7.5 metres per second and can reach up to 11.3 metres per second in hilly areas

Jordan, which sits on the Rift Valley and Red Sea, the second largest flyway for migratory birds in the world.

"In Jordan and the wider region, wind power is becoming an increasingly important source of electricity, because it's climate-friendly and cost-effective,"

said IFC Country Manager Ahmad Attiga, adding that many wind energy projects in Jordan are located in areas geographically "delicate" as far as nature is

concerned.

"When we financed the first such project in the country, we quickly saw that industry expansion risked impacting the animals and birds that live near or fly past these facilities. So we set about developing and coordinating a plan to address this," he added.

While the IFC has financed 10 renewable energy projects in Jordan over the past five years, the corporation seeks to identify problems related to the sector and find

solutions to these challenges, said Erik Becker, IFC regional infrastructure manager.

He added that the CEA will pave the way for addressing the renewable energy sector, which is witnessing a slowdown in private sector involvement.

For his part, Ahmad Oatameh, secretary general of the Ministry of Environment, highlighted Jordan's commitment to international agreements related to environment preservation.

Meanwhile, Royal Society for Conservation of Nature Chairman Khalid Irani, said protecting nature is not only a matter of ethics, as the clean and sustainable energy sector is a source of income for hundreds of families, both directly and indirectly.

In Jordan, the IFC was a financier and mandated lead arranger of the country's first commercial scale renewable energy project, the Tafleeh wind farm.

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(Thank you)

