ENERGY TASK FORCE MEETING, CAPE TOWN, SOUTH AFRICA

The Soaring Bird Sensitivity Mapping Tool

Pepe Clarke

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FORWARD PLANNING

Location scoping

Site evaluation

Planning & assessment

Construction

Operation

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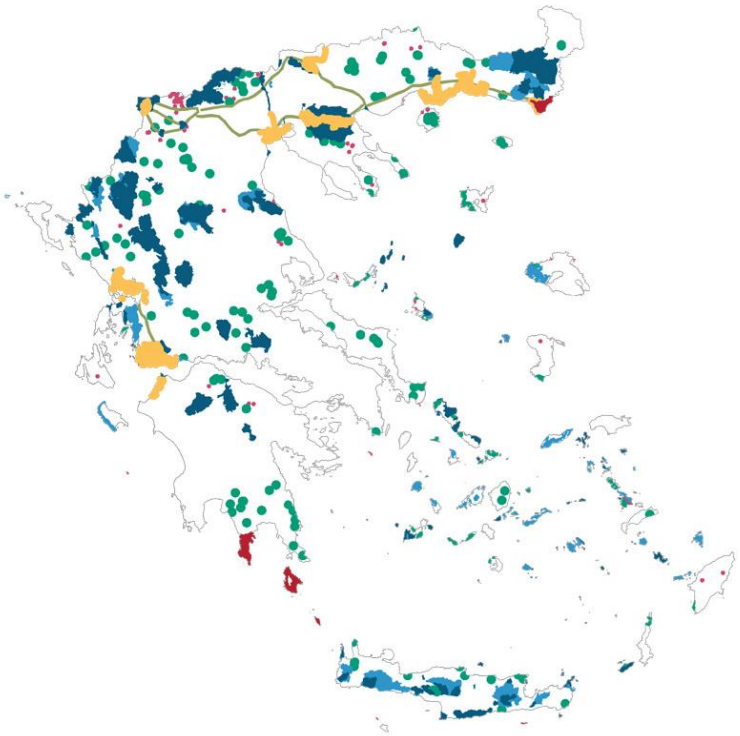
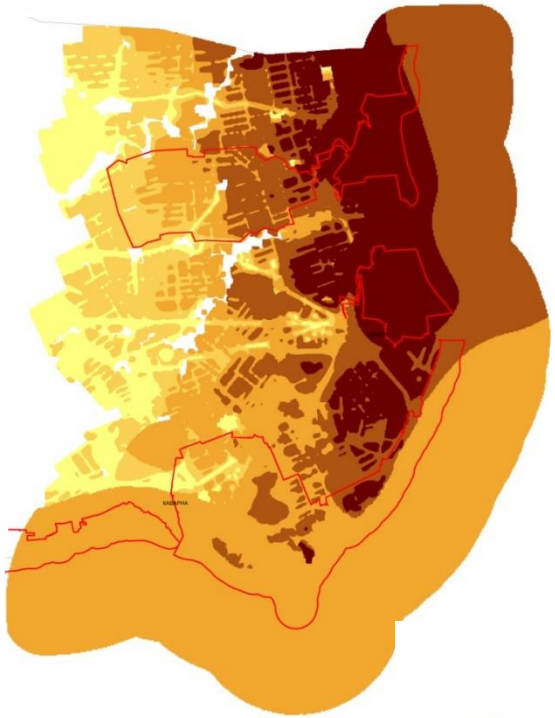
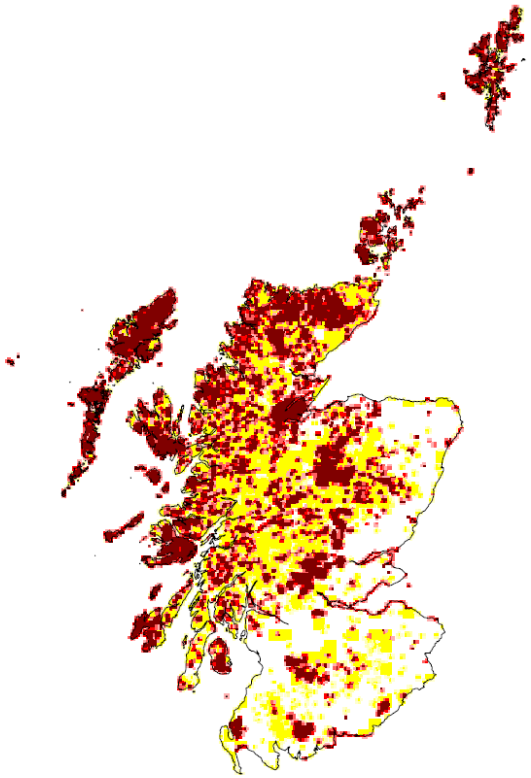
INFORMING SITE SELECTION

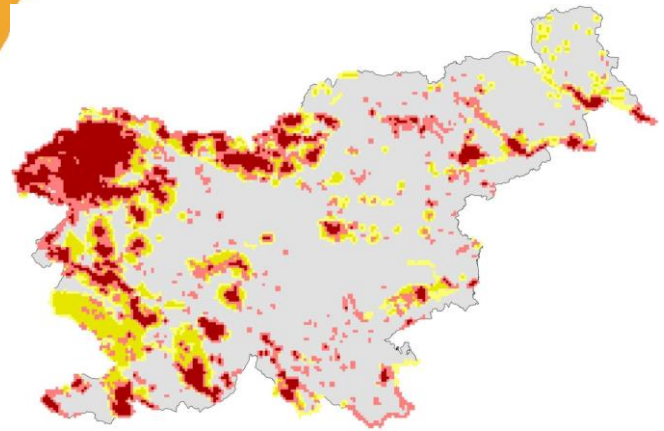
- **Site selection is the key issue**. Ensure wind farms are sited away from sensitive areas and risks and impacts will be substantially reduced.
- Robust, participatory and transparent Environmental Impact Assessment (EIA) protocols are essential.
- However, by the time that an EIA is underway plans for a wind farm may be at an advanced stage.
- Need for accurate, site-scale biodiversity data that can inform the earliest stages of the planning process when it is still relatively easy and inexpensive to make changes.
- Ideally, the expansion of the wind sector should be based on a strategic, landscape-scale planning approach employing sound spatial data.

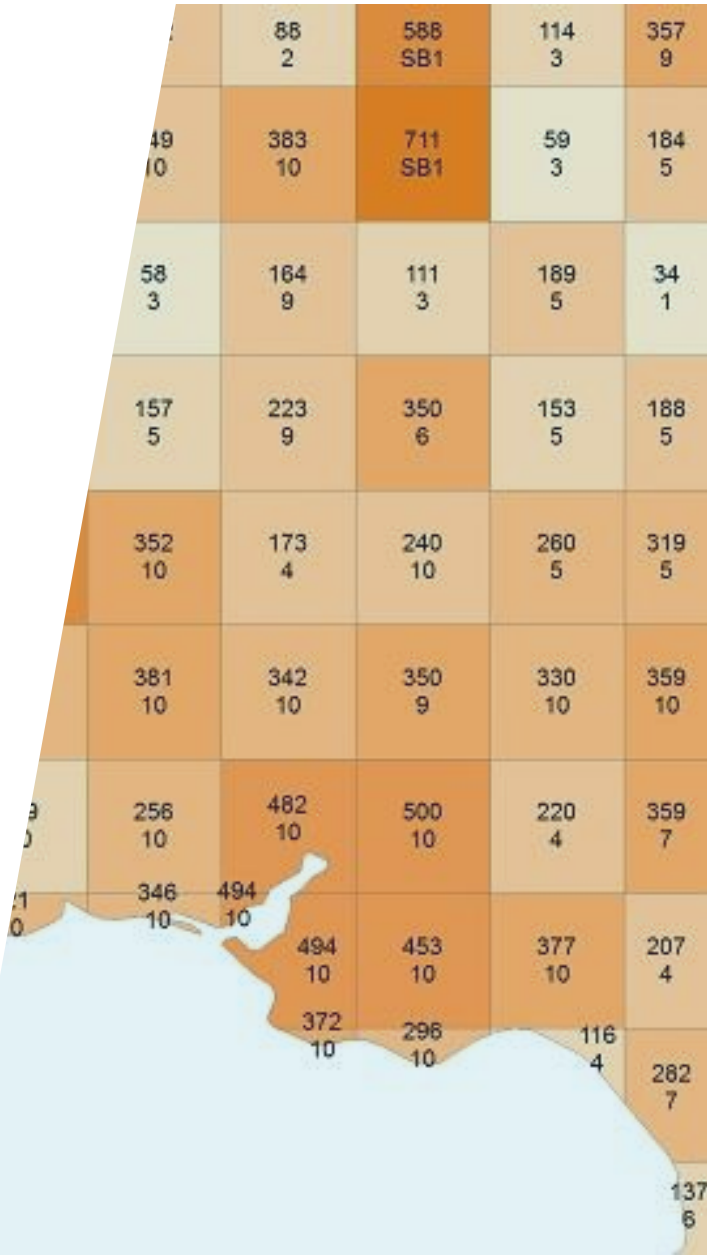
SENSITIVITY MAPPING











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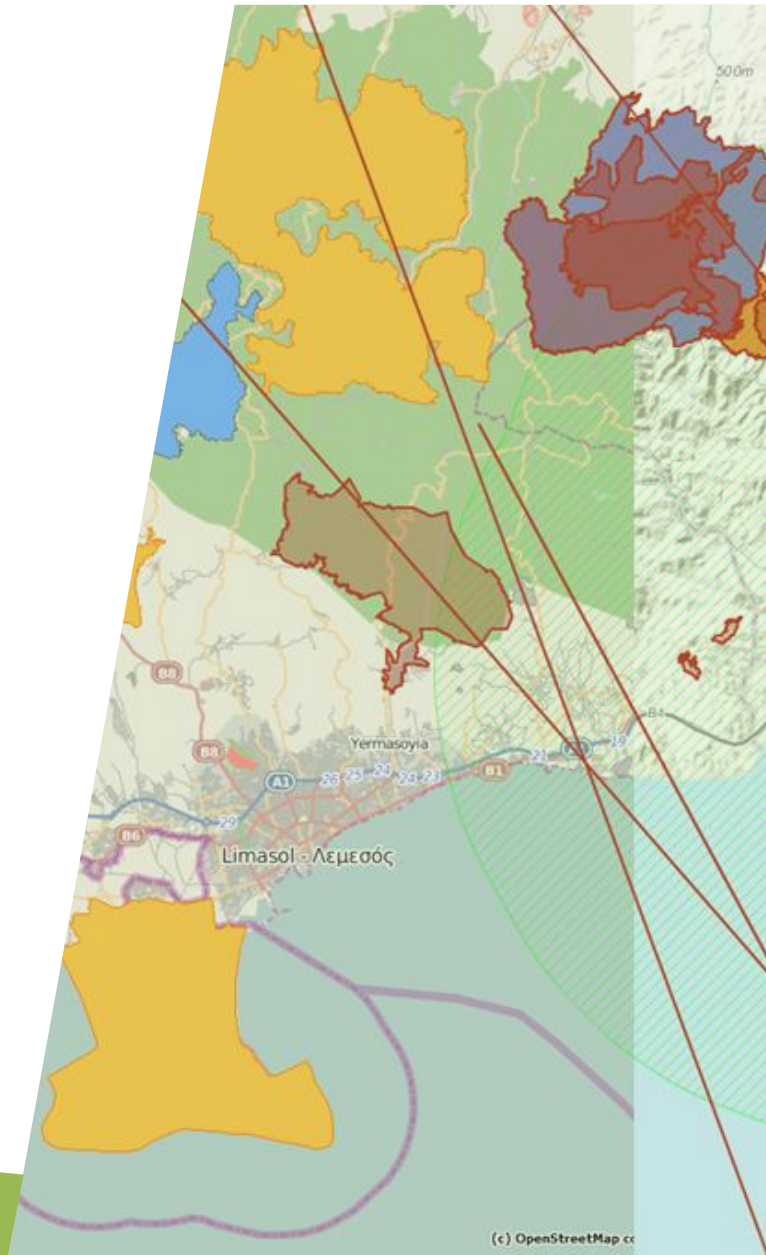
SENSITIVITY MAPPING

- Sensitivity mapping is a valuable tool for effective wind energy planning, helping developers and regulators steer wind energy development away from the most sensitive areas where conflict with wildlife is likely.

- BirdLife International is the leading authority on the development of such tools.

- The first sensitivity maps were developed for Scotland and England by the RSPB. Subsequently, a number of other BirdLife Partners around the world developed similar national tools, including in Bulgaria, Greece, South Africa, Slovenia and Ireland.

- Working with its network of national partners across the Middle East and Northeast Africa, BirdLife has developed the first regional tool—the *Soaring Bird Sensitivity Mapping Tool*.



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RIFT VALLEY / RED SEA FLYWAY

- One of the world's most important avian migration routes.
- Perhaps as many as two million large soaring birds pass through the region each year as they migrate between Africa and Eurasia.
- Already numerous and escalating threats including hunting, agricultural intensification and habitat loss and deterioration.
- To address these multiple threats, BirdLife launched the Migratory Soaring Bird (MSB) project, supported by GEF and UNDP and delivered in eleven countries: Djibouti, Egypt, Eritrea, Ethiopia, Jordan, Lebanon, Palestine, Saudi Arabia, Sudan, Syria and Yemen.

gef

UNDP

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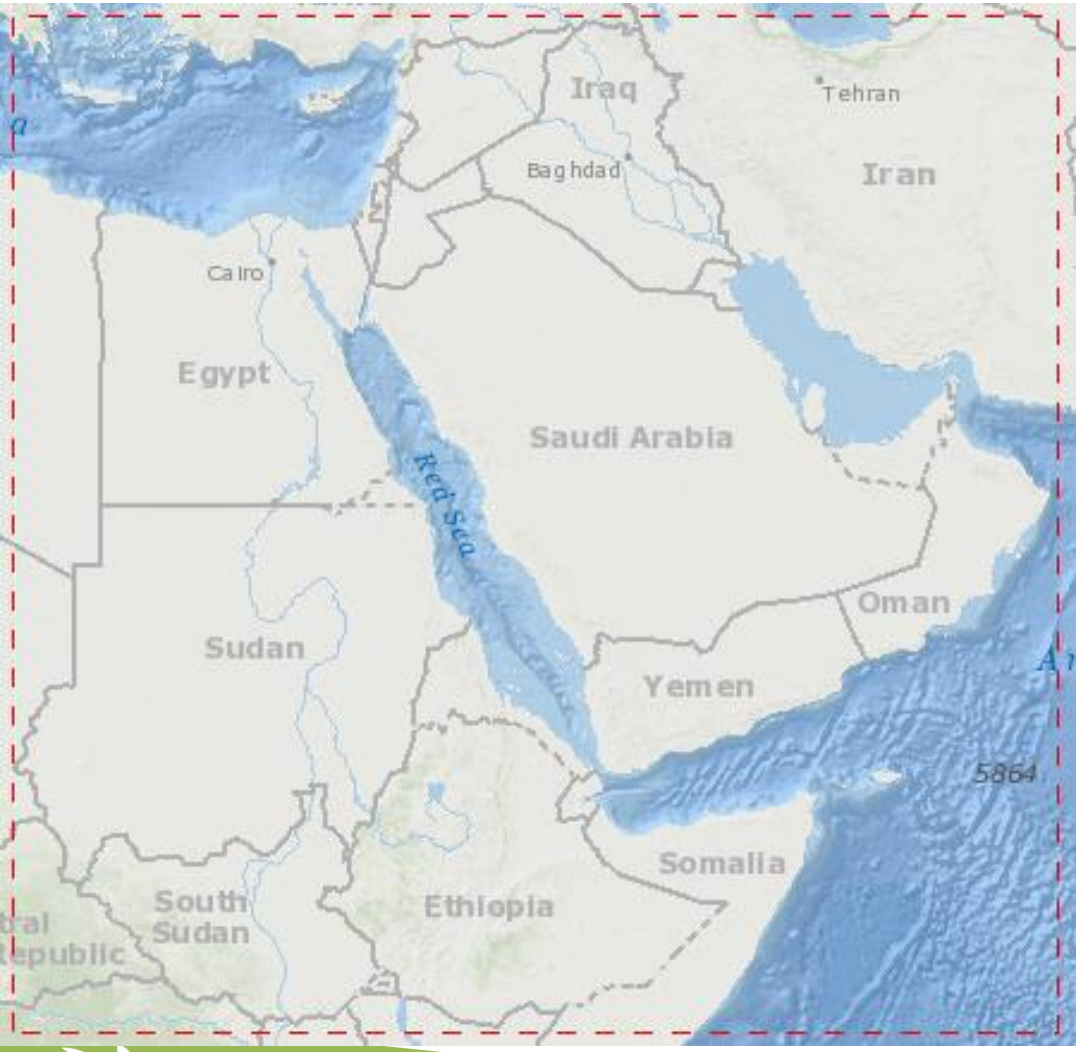
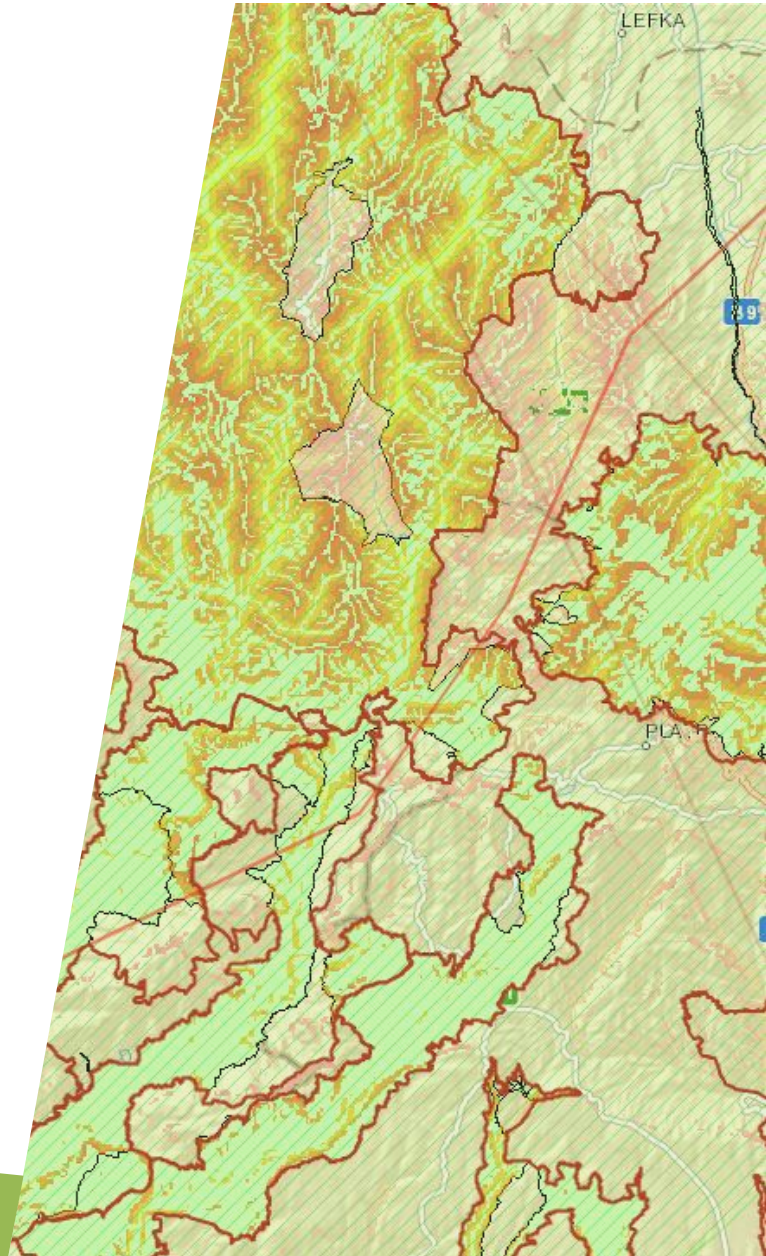
SENSITIVITY MAPPING TOOL



- Through the *Soaring Bird Sensitivity Mapping Tool* (**tinyurl.com/MSBmap**) users have unrestricted access to extensive spatial datasets relating to soaring birds.

- The tool uses a simple, explicit formula to assign sensitivity categories, allowing for an objective assessment and comparison of prospective locations.



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DATA SOURCES

- Important Bird and Biodiversity Areas (IBAs).
- Soaring bird observation records
- Satellite tracking data
- Species range maps
- Protected area data
- Ridgelines

CALCULATING SENSITIVITY

$SI = SSS^1 + SSS^2 + SSS^3 \ldots\ldots SSS^n$

SSS = SSI x Peak Count / Global Population

SSI = SVI x RL

SI Sensitivity Index
SSS Species Sensitivity at Site
SSI Species Sensitivity Index
SVI Species Vulnerability Index
RL Red List Index

Outstanding

Very high

High

Medium

Potential

Unknown

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SENSITIVITY CATEGORIES

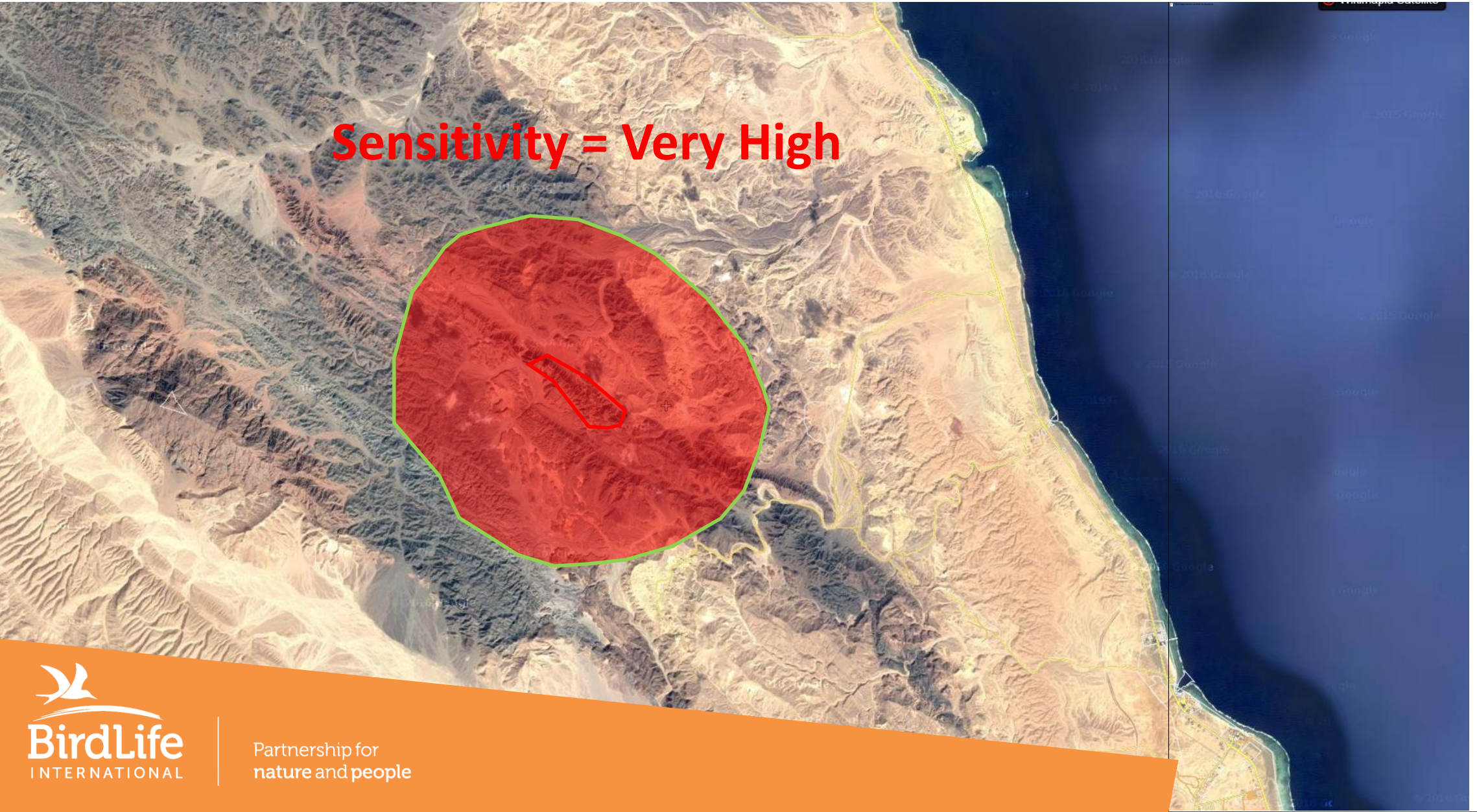
Unknown	No SI value
Potential	SI ≤ 0.001 and all non-soaring bird IBAs
Medium	SI > 0.001 and ≤ 0.010
High	SI > 0.010 and ≤ 0.250
Very high	SI > 0.250 and ≤ 2.000
Outstanding	SI > 2.000

CALCULATING SENSITIVITY

CALCULATING SENSITIVITY

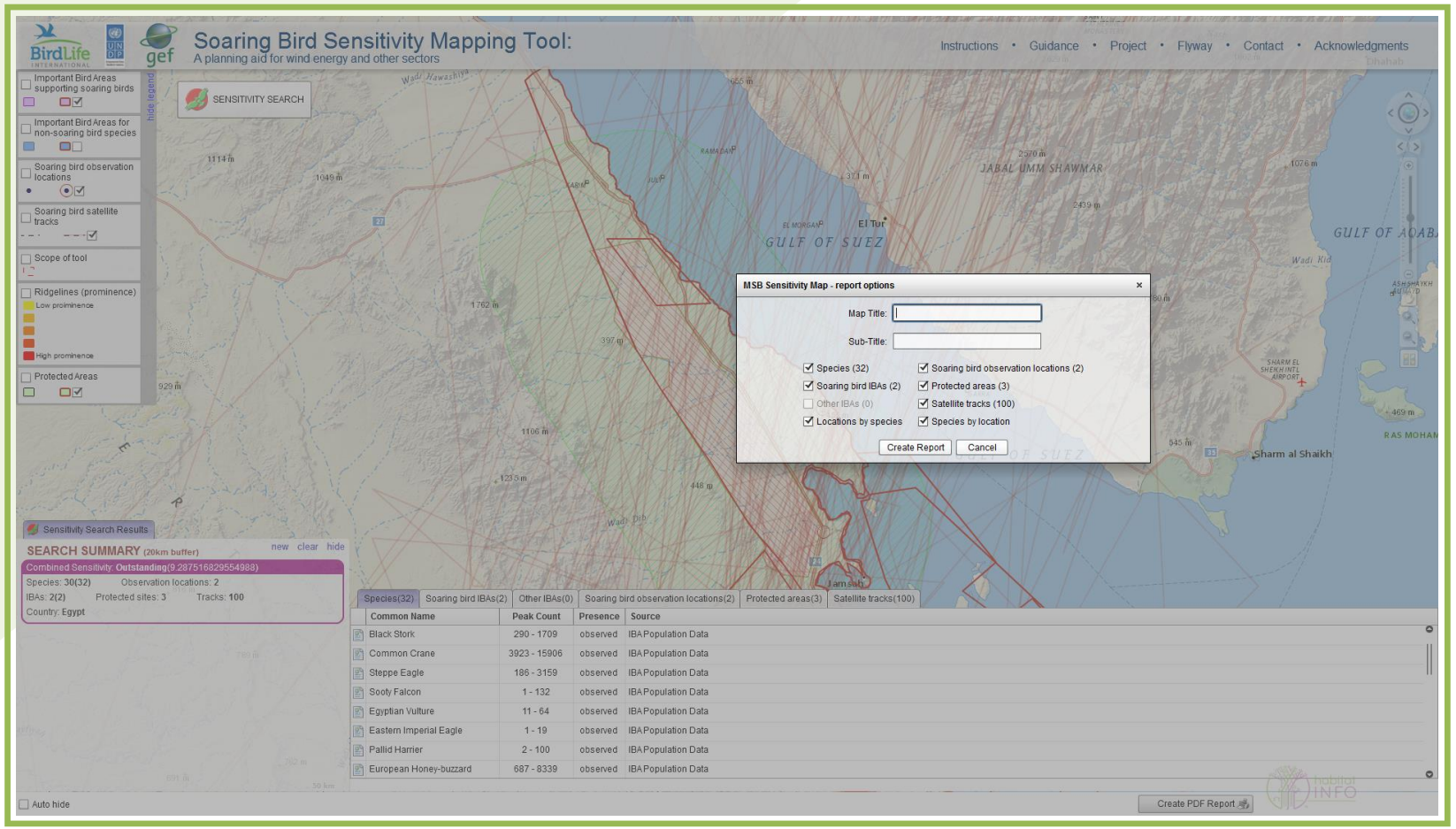
IBA 1	SVI	×	RL	SSI	×	Count	/	Global popn	SSS
Common Kestrel	6		1	6		8		5,000,000	0.0000096
Common Buzzard	8		1	8		5		6,000,000	0.0000067
								TOTAL	0.0000163
IBA 2									
Griffon Vulture	10		1	10		26		100,000	0.0026
								TOTAL	0.0026
Observation Point									
White Stork	10		1	10		4,500		500,000	0.09
Black Stork	10		1	10		300		24,000	0.125
White-backed Vulture	10		10	100		30		270,000	0.0111
Egyptian Vulture	10		8	80		10		20,000	0.04
								TOTAL	0.2661
								SITE TOTAL	0.2687

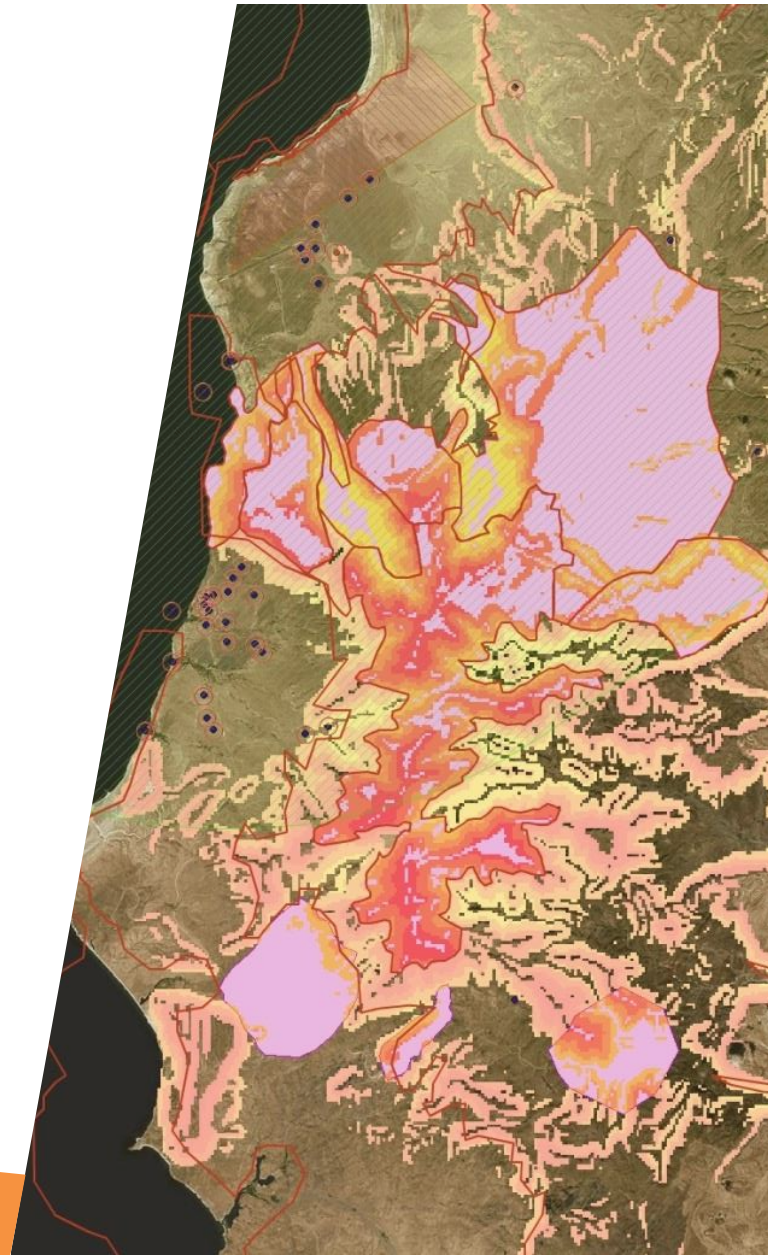
CALCULATING SENSITIVITY



CALCULATING SENSITIVITY

DEMONSTRATION





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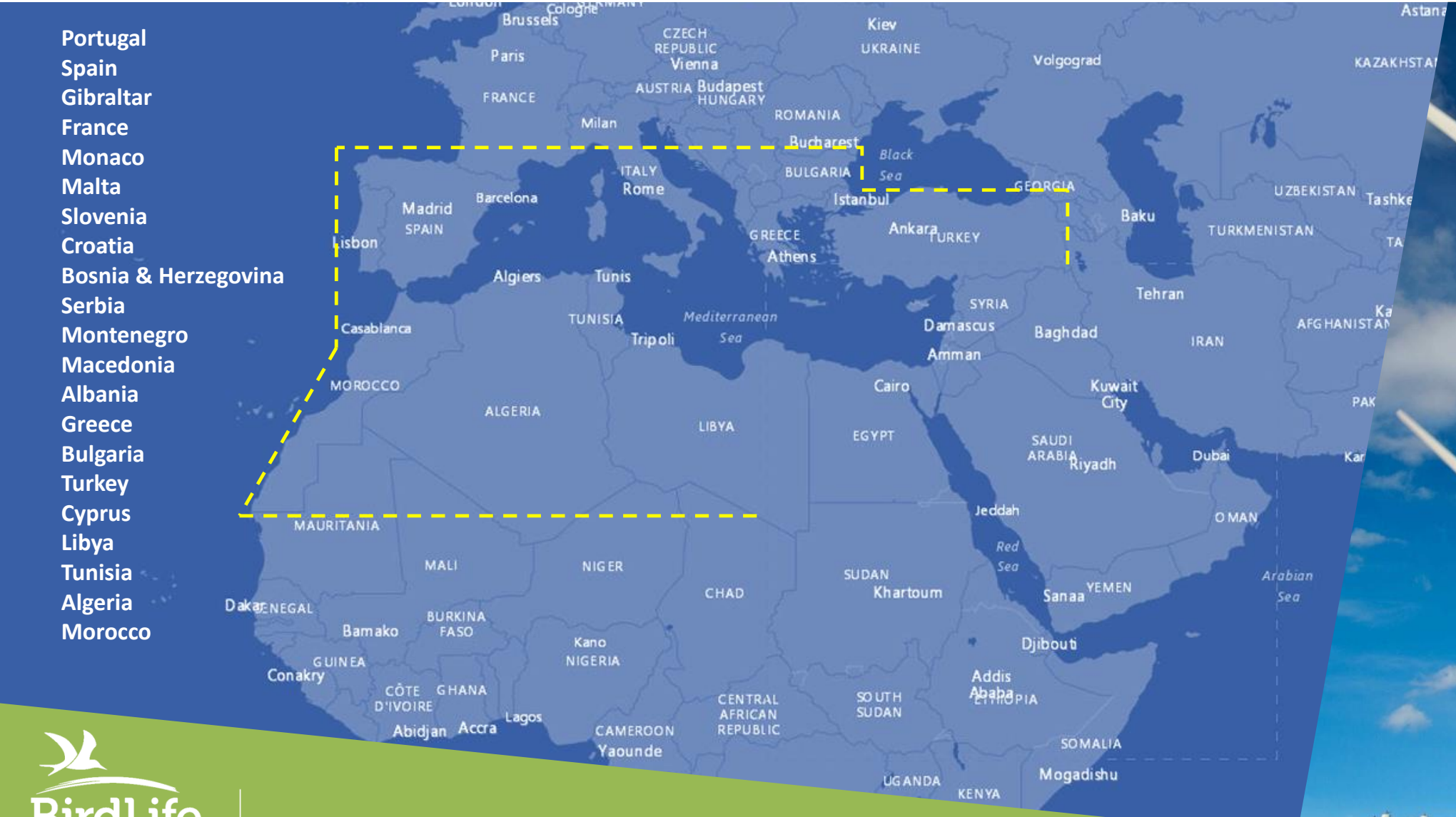
MEDITERRANEAN EXTENSION

- Portugal
- Spain
- Gibraltar
- France
- Monaco
- Malta
- Slovenia
- Croatia
- Bosnia & Herzegovina
- Serbia
- Montenegro
- Macedonia
- Albania
- Greece
- Bulgaria
- Turkey
- Cyprus
- Libya
- Tunisia
- Algeria
- Morocco



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