Soaring Birds Atlas

Lebanon

Project's name	: Mainstreaming Conservation of Migratory Soaring Birds into Key Productive Sectors along the Rift Valley/Red Sea Flyway
Executing Organization	: Ministry of Environment
Managing Organization	: United Nations Development Programme
Funding Organization	: Global Environment Facility
Regional Technical Partner	: BirdLife International
Sub-Contracting Technical Partner	: Society for the Protection of Nature in Lebanon
Collated & Edited by	: Assad Adel Serhal, Bassima Chafic Khatib, Ghassan Ramadan-Jaradi & Zeina Kasem Badran

Printed by : Dar Bilal for Printing and Publishing
Beirut, Lebanon

Tel/fax 00961 1 852 869
00961 3 900879

Layout & Design : Ali Kamal Eddine

Cover Illustrations : Karen Wade

Table of Content

Foreword

The Soaring birds Atlas… A unique Lebanese achievement

It is an excellent International and National effort, to reduce the injustice that is exposing migratory birds to serious threats.

Having the Soaring Birds Atlas in Hands, presents a unique achievement to the Ministry of environment that considers protecting Birds Species on the top of its priorities.

The Atlas sheds light on the Importance of the African – Eurasian flyway, and thus, the importance of Lebanon in the worldwide biodiversity chain. It is also essential at every opportunity and occasion, to discuss ways and methods that must be adopted to minimize posed threats, caused by sectors such as: hunting, energy, agriculture and waste management in Lebanon, and support the efforts undertaken by the Ministry of Environment and environmental community to curb these abuses that affect the phenomenon of migration at the heart of biological diversity conservation.

This has been previously interpreted in international efforts through the signature of many international agreements which deal with the protection of biodiversity and migratory birds, including, for example, but not limited to:

- The Convention on Biological Diversity CBD
- Migratory birds African Convention Euro-Asian, and AEWA

Proceeding from the Lebanese liability to protect these migratory birds, Lebanon acknowledged a modern law to regulate hunting no: 580/2004. This law states for the establishment of the Supreme Hunting Council, headed by the Minister of the Environment, which aims to regulate sustainable hunting through civilized controls that take into account the principle of birds protection.

The phenomenon of bird migration is a metaphor of love and convergence. Migratory soaring birds form an ideal society, unmatched except in mythology, hence, people need to appreciate more birds' lives and delve into the phenomenon of this migration.

One of my highest aspirations to our country, is for all the Lebanese people to mirror these innocent creatures actions in solidarity and unite around the national interest, just as these birds come together around the team's interest.

Again… from the Ministry of Environment and me personally appreciation for this extraordinary effort.

Mohamad Al Mashnouk
Minister of Environment

Acknowledgment

Lebanon is considered a major bottleneck for migratory soaring birds. This "Soaring Bird Atlas for Lebanon" is an achievement for birds and biodiversity in Lebanon. It would be an important resource for monitoring and decision making.

For this achievement, many thanks are extended to Mr. Edgard Chehab, Ms. Jihan Seoud, Mrs. Joelle Salameh, and Mrs. Yendi Ghossein from the Energy and Environment Programme – UNDP for their support and cooperation. Special appreciation is directed to Dr. Saleem Hamadeh – MSB project manager in Lebanon and his team for the support they provided to the Society for the Protection of Nature in Lebanon-SPNL and their cooperation towards the production of this atlas.

Further thanks goes to Ms. Lara Samaha – Head of the Ecosystems Department at the Ministry of Environment for her follow-up, cooperation and support. Sincere gratitude is directed to the Global Environment Facility that provided the opportunity and funds for the Development and production of this important resource for Lebanon, through the Project - Mainstreaming Conservation of Migratory Soaring Birds into Key Production Sectors along the Rift Valley/Red Sea Flyway.

It is also important to acknowledge the technical support provided by Dr. Richard Porter, Middle East ornithologist; the artist Karin Wade for the bird illustration used in the cover pages of this atlas, BirdLife International for their technical comments and the photograhers for the soaring bird photos. Special appreciation and thanks for artist contributions towards the production of the "Soaring Bird Atlas for Lebanon", namely: A. Bearch, G. Gill, M. Langman, and B. Small.

Thank you all for your cooperation and support that made the production of this important resource a reality for Lebanon!

Bassima Chafic Khatib

SPNL Assistant
Director General

Ghassan Ramadan-Jaradi

Expert Ornithologist

Assad Adel Serhal

SPNL Director General
Global Councillor
BirdLife International

Executive Summary

This Atlas aims to map through the presence/occurrence and the distribution of a group of species, the Migratory Soaring Birds (MSBs), across Lebanon. As the distribution of a species is in constant change, continual monitoring is required to maintain accurate, current information on distribution. Such data are vital for the conservation management of species and for understanding the changes. Accordingly, the Atlas has become an important part of the spectrum of methods and programs that are currently used to monitor bird species.

The great value of this Atlas is its comprehensive coverage – It covers most parts of the country, all migratory soaring bird species at fall and spring passages. Thus, it involves spatial (locations) and temporal (time) components. However, the data presented here are the most complete ever gathered on the migratory soaring birds of Lebanon. Of course there are areas that could have been better covered, and species that may have been missed, but these results are the best baseline available for future assessments of change in migrating soaring species' occurrence and distribution. The major benefits of this Atlas are yet to come.

The Atlas required various data that was obtained through extensive research which included the following information: The African-Eurasian flyway, introduction to migratory soaring birds, the threats they are being exposed to, the benefits of MSBs, the importance of Lebanon, and the families of soaring birds. Moreover, detailed specific information about each soaring bird species in Lebanon was included.

Role and function of the MSBs Atlas

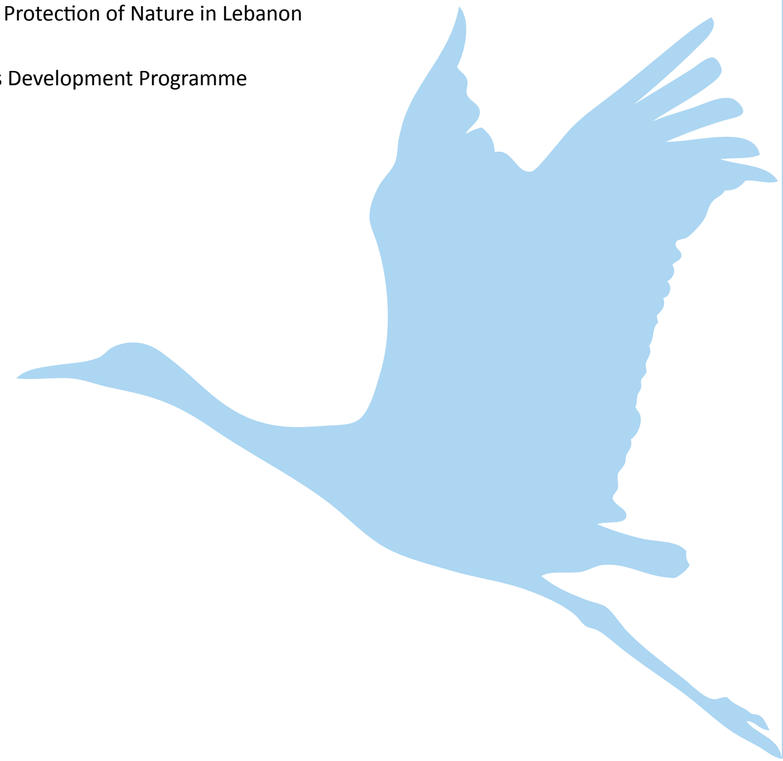
- We expect to use the migratory soaring bird Atlas data to identify important bird areas, bottleneck bird areas, and sensitive areas to wind turbines.
- The present Atlas data may be compared with future Atlases to quantify the change.
- The Atlas may reveal changes caused by the impact of the hunting sector on the distribution and occurrence of migratory soaring birds.
- The Atlas may assist in monitoring the impact of climate change on

the migratory soaring birds.

- Users of this Atlas may view the locations of specific migratory soaring bird species or create a list of expected birds for an area.
- This Atlas will be an asset for national plans in order to take into consideration the migratory soaring birds concerns. For example, this information will highlight many things that will serve of great benefit to SPNL concerning the hunting issue and that would help in trying to organize the hunting process in collaboration with the UNDP and the MoE as well as SPNL's partners. Moreover, it will facilitate in giving them a chance to minimize the current threats that these MSBs are exposed to.
- The Atlas has been designed to provide developers, planning authorities and other interested stakeholders access to information on the distribution of soaring bird species across Lebanon on the same model approached for the Soaring Birds Sensitivity Map (http://migratorysoaringbirds.undp.birdlife.org/en/sensitivity-map).
  This information can help to inform decisions on the safe siting of new developments, such as wind farms. Consequently, this Atlas would help the wind energy project which is currently being implemented by UNDP and the Ministry of Environment; thus providing them with information related to MSBs. So, the MoE will have a better insight as to what could be a hindrance to MSBs and in considering what mitigation measures they should take so that the wind energy plan does not negatively affect the migratory soaring birds.
- Habitat changes will continue to occur, and an important function of this Atlas is to record bird distribution in a particular period so that future changes can be assessed.

List of Abbreviations

EIA	Environmental Impact Assessment
IBA	Important Bird Area
MSBs	Migratory Soaring Birds
NGO	Non-Governmental Organization
MAVA	MAVA Trust
MoE	Ministry of Environment
SB	Soaring Bird
SEA	Strategic Enviromental Assessment
SPNL	Society for the Protection of Nature in Lebanon
UNDP	United Nations Development Programme



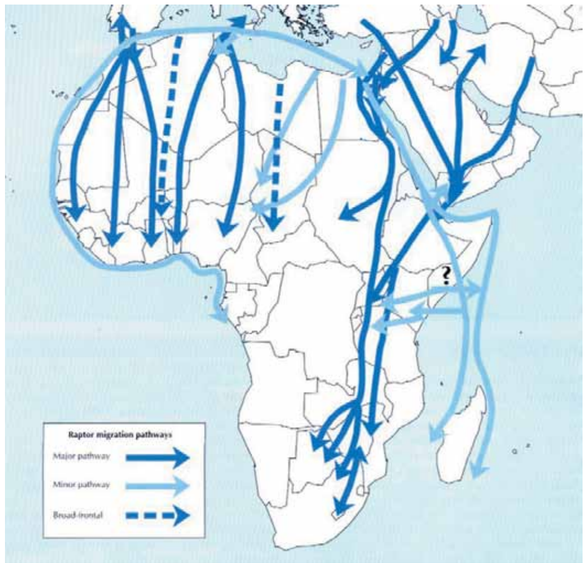
I. Introduction

Introduction to the African-Eurasian flyway

When discussing the African-Eurasian Flyway, it is important to address the different types of migration that migratory soaring birds have, because this has an effect as to how they choose their flyway route. The soaring birds adopt two types of migration:

1- The *long-distance migration* involves birds that travel over long distances and so there are some aspects that should be taken into consideration when discussing the flyway. Barriers and alternative routes should be taken into account for instance, an area of land that has no water is not accounted as a feeding area and so this is viewed as a hindrance to birds that feed on coastal regions. Moreover, open seas are considered as barriers as well, hence this causes a diversion in the birds' flyway which affects the migration process. It is important to mention, that the migratory soaring birds that are classified as long distance migrant birds, seem to be genetically programmed to adapt to the alterations in **day length**. This helps them in the migration process and distinguishes them from the short-distance migration birds.

2. The *short-distance migration* which includes birds that can only travel short distances and it seems they are biologically different from long distance migrant birds because they do not need the timing mechanism. They just adapt to variable **weather conditions**, thus affecting their ability of the distance they can cover.



The African-Eurasian flyway is known as the Rift Valley/Red Sea Flyway and it includes 11 countries that are: Djibouti, Egypt, Eritrea, Ethiopia, Jordan, Lebanon, Palestinian Authority, Syria, Sudan, Saudi Arabia, and Yemen. In general, the northern end of the flyway is along the Syria-Turkey border and it includes the Jordan Valley through Syria, Lebanon, Jordan, and Palestine, then it splits into three routes with two of them crossing the Gulf of Suez and passing down the Nile Valley, along the West coast of the Red Sea (Egypt, Sudan, Eritrea, Ethiopia and Djibouti). While the third route along the East coast of the Red Sea (Saudi Arabia, and Yemen) crosses the Southern end of the Red Sea at the Strait of Bab al-Mandeb to **rejoin** the other two before continuing South to the East African Rift Valley.

The African-Eurasian flyway is considered to be the second most important flyway for migratory soaring birds (MSBs) such as (raptors, storks, pelicans) in the world and it is the most significant route of the Africa-Eurasia flyway system. More than 1.2 million birds of prey and 300,000 storks migrate along this passage between their breeding grounds in Europe and West Asia and their wintering areas in Africa each year. Overall, more than 1.5 million birds of 36 species, including 8 globally threatened species, frequently use the flyway.

Introduction to Soaring Birds

Soaring birds are called so because of their movement, because they utilize a special technique which is more of a glide where they fly using rising air currents; and this helps the bird in being able to maintain its height relative to the ground with minimal effort. The soaring flight process has certain times and areas where it can take place; for instance the sun heats the air above the ground; thus causing it to be warm and it can rise from the hot ground into the sky, so the rising air current is known to be *thermal*. Thermals can rise up along the slopes of a hill or they form over flat ground. It is known that soaring birds can find rising air in areas where the wind is forced to flow upwards the side of a hill. Normally, soaring birds depend on long ridges because it provides them with a good lift which aids them more than when there are smaller hills; since smaller hills can cause the air to flow around the sides and they don't go over the top. The direction and speed of the wind plays a role in the amount of lift and the place of Migratory soaring birds' passage, moreover the land's shape controls the place of the thermals.

Ghassan Ramadan-Jaradi

Moving to another soaring technique which is called *dynamic soaring*, this technique does not depend on rising air currents; however it utilizes the difference in wind speed between the ground and higher up. In this process, the bird climbs up into a fast airflow around 10 or 20 meters above the ground and climbs facing the wind, where it will also take advantage of using the continual increase in air speed which enables them to go higher So, the bird's speed relative to the surrounding air is actually increasing and is not slowed down.

The bird then turns and heads back downwind, and in this phase it will gain a lot of speed since it is flying along the wind. After that, the bird dives down into the lower, slower air. Only this time, its gravity that enables it to increase its air speed, then the bird turns back upwind and repeats the cycle.

Threats affecting MSBs

During the migration season, the soaring birds are exposed to threats mostly caused by human activities. These threats they are exposed to are due to lack of people's awareness of the significance of these birds. In addition to that, there are no conservation plans for these birds, so the migration process can be stressful and tiring and they become prone to local threats particularly when they fly slowly and at low elevations while roosting, feeding and drinking.

Some of the sectors that are considered to pose a threat to MSBs are: Hunting, Agriculture, Energy and Waste Management.

I. Hunting Sector:

The hunting sector in Lebanon is probably one of the most crucial sectors affecting soaring birds in Lebanon, where hunting is considered as a hobby. The hunters either trap these birds or just kill them for the thrill and the excitement that it makes them feel. To the hunters, it is a sport and part of their social culture where they pass this tradition to future generations. It is essential to bear in mind that these hunters hunt birds irrespective of: the type of bird species, the season, areas, the time, and without taking into account the safety of others.

The hunting law exists since March 2004, and the application decrees has been issued by end of year 2012. Currently SPNL is conducting a national survey which will aid in:

- Identifying the core problems in the issue of hunting in Lebanon.
- Finding the appropriate and most feasible mitigation measures which will help to decrease the severity of the problem.
- Revealing if there is any need of modification in the current hunting law.

- Providing a framework for organizing the hunting issue, where it will ensure the safety and well-being of the communities and the hunters. When hunting is well organized, it will not pose a huge threat to MSBs because there will be monitoring and enforcement, and hunters will have to abide by the law.

Hopefully, some measures will be carried out soon in order to reduce the severity of the problem, because further delays will have a negative impact on humans, birds specifically MSBs, as well as the environment.

II. Energy:

Another threat to soaring birds is the electrical high voltage power lines due to collision or electrocution causing their death. Furthermore, this incidence of collision or electrocution will add to the economic loss of the country because of the need for maintenance to the power lines or wind turbines in order to restore its functionality. What is escalating the problem is that there is no monitoring, no incentive nor motivation by the authorities to solve the problem mainly due to the lack of awareness and knowledge about the issue. So, certain mitigation measures should be taken into account concerning the power lines; in addition to the possible renewable energy sources such as wind turbines causing a threat to MSBs. Therefore, feasibility studies and EIAs should be carried out in order to identify the best possible locations to place wind turbines, without harming the migratory soaring birds. It would be a positive step if the government aids in the process of promoting renewable energy, but taking into consideration MSB concerns and the needed mitigation measures.

Here it is also worth mentioning that some initial steps have been taken by the Ministry of Environment (MoE) in collaboration with the United Nations Development Program-UNDP. A wind atlas has been produced which suggests the possible and feasible locations to install wind turbines. The UNDP project team is currently working in collaboration with SPNL to mainstream the concerns of MSBs into the wind atlas, because the flyway of the MSBs coincides with the wind direction.

Further, the Ministry of Enviroment is working with the United Nations Development Pogram on Developing SEA framework for renewable energy where SPNL contributed with the needed information on soaring birds and IBAs.

III. Agriculture:

Agriculture is one of the sectors that have a direct impact on birds. For instance, there is an increase in birds' mortality due to mis-use of pesticide. The reason for this mortality is due to the ingestion of a prey that feeds on plants sprayed with chemicals, or through contaminated water from increased utilization of agro-chemicals. Other chemicals are being used such as Rodenticides in order to kill rats that might damage the agricultural area, and so this affects some raptors because it contains zinc phosphide.

Insecticides are other types of chemicals that are used to kill insects, but this type of chemical has a negative impact on migratory soaring birds such as storks. Even if it is not a high dosage, it can to some extent affect their ability to reproduce. This is why other measures should be taken in order to prohibit the use of toxic banned materials, and to have certain mitigation measures that can limit the expansion of the problem.

Agriculture consumes around 65% of the national water demand in Lebanon. Doing certain studies which assess ecological impacts aren't always mandated during the development of a national plan, thus the use of pesticides that contain either organo-chlorine or other mercury based will have an impact on the land. That will naturally cause the deterioration of the land's quality, thereby affecting the plants and crops so this will have an effect on the migratory soaring birds that feed on agriculture. It is a chain effect, which necessitates resolving any potential threats of agriculture activities to the migratory soaring birds, through enforcement of the laws and banning toxic chemicals. This is where spreading more awareness amongst the public will be needed the most in order to have better control of the situation.

IV. Waste Management:

Waste management is one of the problems that are affecting Lebanon badly. The lack of awareness and government plans is a contributing to the continual deterioration of the environment in Lebanon. For instance, many people dump their waste in rivers, pits, near the streets or on sea shore and sometimes they burn the waste in open dumps. The solid wastes placed in open areas are an attraction to scavenging birds such as raptors that end up feeding on some of the wastes which is filled with various toxic substances or they end up injured from scraps of metal, wires or glass and from other possible sharp objects that could be present there.

There should be properly designed waste management systems in order to prevent the pollution of rivers and other sources of water; thus this will contribute to minimizing the negative environmental impact caused by waste management. Waste management has a counter-effect on the lands thus affecting agricultural lands or non-agricultural lands which can cause serious effects on biodiversity.

This is why taking precautionary and preventative measures in the issue of waste management are essential, because it affects the quality of food and water that the migratory soaring birds need in order to stay healthy, alive and uninjured.

Benefits of MSBs

Birds of prey are soaring birds that have been persecuted for hundreds of years in Lebanon, Europe and other parts of the world, usually as suspected predators of chickens or small livestock, such as goat kids or lambs; to the extent that hawks, eagles, owls, falcons and other birds of prey that breed for example in North America were excluded from the 1918 Migratory Bird Treaty Act (MBTA). After recognizing that raptors are predators at the top of the food chain, an important component of our ecosystem, important indicators of the general state of our biodiversity and health of our environment, sensitive to many environmental changes in an ecosystem and can indicate when something is wrong with our environment and when we need to take action; it was necessary to change the thoughts that people have on MSBs. This paragraph will shed light on the value of MSBs in our environment:

1- MSBs very rarely predate on livestock. Sometimes scavenger/ predators get blamed for a kill when in fact they are just eating what was killed by local dogs or died of natural causes.

2- MSBs have a positive role in insect control because some of them eat the insects that normally cause damage to the agricultural sector.
3- MSBs usually hunt animal preys that are sick or weak, contributing as such to natural selection.
4- Some raptors and vultures feed on dead carcasses which aid in removing them from our environment.
5- MSBs are indicators of pollution. For example, the thinning of raptors' eggshells is attributed to the use of DDT (*Dichlorodiphenyltrichloroethane*) and Dieldrin in the environment. These pesticides and others like organochlorides and organophosphorous tend to have similar effects on humans and so by trying to study the behavior of MSBs and what is affecting them, this gives humans a better perspective as to what is occurring in their environment. Based on this information, they could find ways to resolve or to reduce any possible threat or harm that could affect their safety and well-being.
6- MSBs can also indicate the change in land usage through the species composition, as well as the number of migratory birds which can reflect the effects and alterations that have occurred in farms and rangelands.
7- Migratory soaring birds are also indicators of climate change effects on biodiversity. This can be noticed through the change in birds' migration routes or period of migration. Any alteration in the weather conditions or temperature can have an effect on these birds as to whether they delay their migration or alter their breeding process.

The Importance of Lebanon for MSBs

Lebanon's geographic location helps to attract large numbers of Soaring Birds. The flyways routes vary from one soaring bird species to another and their migration differs between the seasons. The fall migration of the Migratory Soaring Birds is witnessed in the North from Upper Akkar and they exit from the South, mainly from the region of Ebel es-Saqi IBA. Normally, the number of migratory soaring birds during the fall is greater than the spring migration. This is because during the fall, parents and their young migrate, whilst in spring only the survivors do return.

Autumn Migration

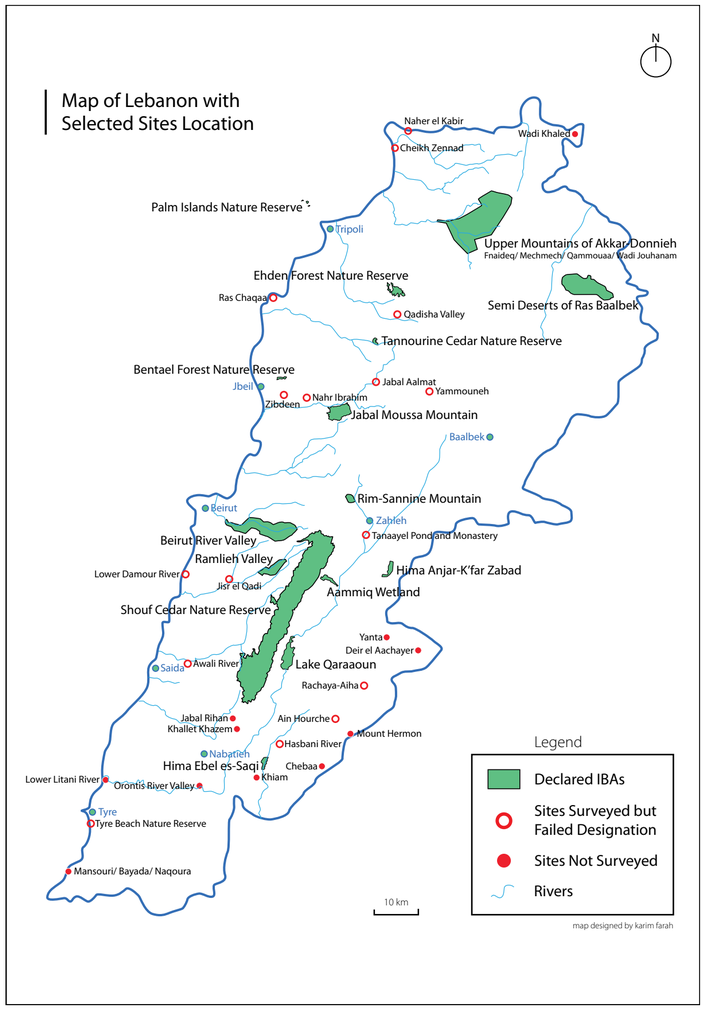
Spring Migration

In autumn, the first of the soaring birds to migrate South are the White Storks, Honey Buzzards and Black Kites where they migrate mostly at the end of August and early September. Then, there is the Levant Sparrowhawks in mid-September; afterwards they are followed by Black Storks and Lesser Spotted Eagles at the end of September and early October, and the last of them are the Steppe Eagles that migrate in the second half of October. These timings are significant because they give a general idea as to when the migration period is for each species and so that the MSBs can be monitored along the years identifying any alterations.

In spring, the major route used by soaring birds migrating to the North through Lebanon is along the Eastern flanks of the Mount Lebanon Range and the Western half of the Bekaa. This includes Cranes, Pelicans and White Stork which seems to follow the Litany River path; birds of prey such as Honey Buzzard, Common Buzzard and Lesser Spotted Eagle.

Smaller numbers of birds, dominated by White Pelicans and White Storks pass up the Western side of the country where they can sometimes be seen in large flocks at sites such as Bhamdoun in Beirut River Valley.

Some soaring birds like Vultures, Eagles, Buzzards, and Storks avoid sea crossings so they end up forced to fly on certain migratory flyways over lands where thermals and ridge lifts abound. Thus, Lebanon that is known to be one of the Mediterranean Hotspots for biodiversity is considered to be important for migratory soaring birds because its mountains extend in a direction North–South that is parallel to the Mediterranean Sea and perpendicular to the Atlas Mountains of Europe. This provides the MSBs with thermals (where air rises due to heat) along day, and ridge lifts (where the wind from the sea is forced upward by the slopes) that are used as source of energy by these soaring species.



Because of the locations of the Black, Caspian and Mediterranean seas, Lebanon lies at one of the concentrated points in this migratory route**.** So it is considered an important "bottle neck site" where many migratory soaring birds pass over Lebanon each spring and autumn.

Here it is also significant to mention that there are 15 Important Bird Areas (IBAs) that have been identified through the combined efforts of the Society for the Protection of the Nature in Lebanon-SPNL (Birdlife partner in Lebanon) and A Rocha Lebanon that was funded by the MAVA Trust. These IBAs are: Aammiq Wetland, Beirut River Valley, Bentael Forest Nature Reserve, Ehden Forest Nature Reserve, Hima Anjar –Kfar Zabad, Hima Ebel es-Saqi, Lake Qaraoun, Palm Islands Nature Reserve, Ramlieh valley, Semi-Desserts of Ras Baalbek, Rim-Sannine Mountain, Shouf Cedar Nature Reserve, Tannourine Cedars Nature Reserve and the Upper Mountains of Akkar Donnieh and Jabal Moussa mountains.

These IBAs were declared based on globally agreed criteria for selection. Most of these sites were declared as Global IBAs while two satisfied the regional IBA criteria only. The conservation of these sites plays a fundamental role in aiding the conservation of the migratory soaring birds, because they will have safe places where they can roost and eat. It will also provide them a resting place during their journey as they migrate from one place to another. Having IBAs does not only help in preserving and maintaining birds in particular and biodiversity in general, but it also helps in benefiting the local communities as well; because it will contribute in minimizing the adverse impacts that climate change might have on the environment such as drought, damage to the crops and so forth. So the continued efforts of SPNL and partners such as BirdLife International had an impact on encouraging the local community to take part in conserving and preserving not only their surrounding environment but the bird species as well. Hopefully, the future efforts of SPNL and other partners will persist to work in various projects that aim to achieve the overall goals needed to preserve the migratory soaring bird species and to support the local communities to remain active in taking participatory proactive roles to preserve the environment and biodiversity.

II. Families and Groups of Soaring Birds

This section highlights the differences between the soaring bird families and groups or categories; which includes a brief background on each group, afterwards there is a focus on their physical appearances, their feeding, and any special characteristics that distinguish them from each other.

Family: Ciconiidae

1. Storks:

Storks belong to the family of Ciconiidae; they form the only family in the biological order Ciconniformes. There are 19 living species of storks in six genera. They live in drier habitats than the closely related Ibisis and Herons and they lack the powder down[1]that other groups of related species have to clean up fish slime. Many of them are migratory .

Physical Appearance:

- Large
- No syrinx
- Mute
- Bill-clattering
- Wide wingspans
- Long-legged
- Long-necked
- Long stout bills

Note: Storks use the soaring, gliding flight pattern so as to preserve energy. Storks may change mates after migrations and it is possible for them to migrate without a mate, also later on they might return to the mate they were with previously.

Family: Pelecanidae

2. Pelicans:

Pelicans belong to the bird family Pelecanidae, they are large water birds, and they also make up in the order of Pelecaniformes. From the modern pelicans, there are eight species that are found in all continents except Antarctica. They are birds of inland and coastal waters, and they are not apparently found in these places like: Polar Regions, deep oceans, oceanic islands nor in inland South America.

Physical Appearance:

- Large throat pouch
- Four webbed toes
- Large wings
- Large bills

FEEDING: Fish, but sometimes they eat chicks of other birds

Family: Falconidae

3. Kestrels:

Kestrels are birds of prey species that belong to the falcon family Falconidae. The kestrels are widespread in Europe, Asia, Africa, Australia and America.

Physical Appearance:

- They have a wingspan of 65–82 cm (26–32 in).
- Long wings
- A distinctive long tail
- Plumage is mainly chestnut brown with blackish spots on the upper side
- Buff with narrow black streaks on the under side
- Remiges are black
- The bill is dark
- Small size compared with other birds of prey

FEEDING: They feed on small mammals, lizards, large insects.

4. Falcons:

Falcons belong to the family Falconidae, they are known to be in any species of raptors in the genus *Falco* and the genus includes 37 species that are distributed on all continents except Antarctica. It is important to mention that the fledgling falcons in the first year have longer flight feathers, which facilitates their flying process. It is noted that the Peregrine Falcons have the fastest record when it comes to diving at speed of 320 km/h. Some small falcons have long narrow wings like hobbies; and other falcons that hover as they hunt are known as kestrels.

Physical Appearance:

- Thin tapered wings
- Long flight feathers
- Fast diving speed
- Visual acuity of 2.5 - 3.0 times that of a normal human

FEEDING: They feed on small birds and insects.

Family: Pandionidae

5. Osprey:

Ospreys are either known as sea hawks or as fish eagles and differ from the sea Eagle species. They are also diurnal, fish-eating birds of prey. Ospreys are found in all continents except Antarctica. In South America, it occurs only as a non-breeding migrant. It nests near water. Due to their unique features

1- Powder down are fluffy feathers where, the tips of the barbules on powder down feathers disintegrate, forming fine particles of keratin, which appear as a powder, or feather dust,"among the feathers.

they have their own taxonomic genus Pandion and family, Pandionidae. Four subspecies are often recognized.

Physical Appearance:

- 60 cm in length
- 2m wingspan
- Brown on the upperparts
- Greyish on the head and underparts
- Black eye patch and wings

FEEDING: Fish

Note: It tolerates different habitats; it is known to nest near areas that are close to a body of water which provides it with sufficient food supply.

Family: Accipitridae

6. Kites:

Kites are birds of prey that are also from the family Accipitridae alongside hawks, buzzards and eagles. The Kites can be found in Europe, Asia, Africa and Australia.

Physical Appearance:

- Very lightly built
- Long narrow wings
- Long narrow often forked tail
- Small face
- Small beak
- Weak legs

FEEDING: They eat a large amount of carrion.

Note: In flight, the wings help them to get good lift, and because they have a low body weight they have low wing loading, which helps to keep them afloat in the air. They are known to soar most of the time.

7. Vultures:

Vultures belong to two groups of scavenging birds: the New World Vultures including the well-known Californian and Andean Condors, and the Old World Vultures that includes the birds which are seen scavenging on carcasses of dead animals on African plains. New World Vultures are found in North and South America whereas the Old World Vultures are found in Europe, Africa and Asia. So basically, Vultures are found on every continent except Australia and Antarctica.

Physical appearance:

- Usually with Bald head
- Large and heavy built body bird usually dark from distance

FEEDING: They feed on dead carcasses, small live preys.

Note: Their bald head helps to keep the head clean while they are feeding and it has been shown by research that their bare skin might play a significant role in thermoregulation. Their stomach acid is corrosive which enables them to safely digest putrid carcasses that are infected with anthrax bacteria, hog cholera and botulinum toxin. This characteristic distinguishes them from other scavengers as a protection mechanism. This gives them the capability of using their reeking as well; for example when they are threatened they use their corrosive vomit as a defensive mechanism.

8. Harriers:

Harriers are a group of the Accipitridae family. They are known to hunt by flying low over open ground. Many harriers are put in the genus Circus and so their scientific name has come from the circling movements that female and male do when courting.

Physical Appearance:

- Slender build
- Long tail
- Long legs
- Very large ear openings

FEEDING: They feed on small birds, mammals and lizards.

Note: Their large ears provide them with the capability of having a developed sense of sound which helps them in detecting their prey.

9. Hawks

The hawks are known to be a group of predators, where many of them are named as Goshawks and Sparrowhawks. Their long tails aids them in maneuvering during their flight; the talons are used to kill the prey and their sharp hooked bill aids them in their feeding process.

They ambush their prey, and then they seize it after a short chase. Also, they are known to be able to chase their preys between trees. Their flight pattern involves series of flaps that are followed by a short glide.

Physical appearance:

- Slender
- Short broad rounded wings
- Long tail
- Long legs
- Long sharp talons
- Sharp hooked bill

FEEDING: Insects, small birds and small mammals.

Note: Females tend to be larger than males.

10. Buzzards

Buzzards can be found throughout Europe, Russia, spreading down to Turkey and to the Northern tip of Africa, and to the west as far as the Pacific

Coast. It is a bird of prey in the family Accipitridae.

Physical Appearance:

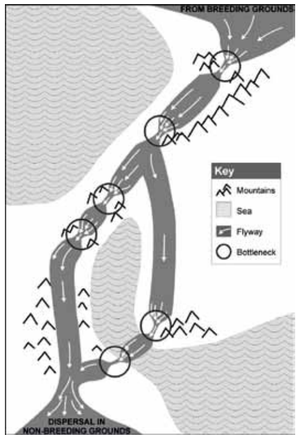
- Broad wings, longer than those of hawks
- Pronounced primaries look like fingers in flight
- Broad rounded tail, shorter than that of hawks.

FEEDING: They feed on small mammals and insects. Some buzzards eat reptiles.

Note: Buzzards can search for a prey by soaring on thermals, the spread of primary feathers allow for very slow flight, without stalling. They are more suited to catching their prey in open or very lightly wooded areas, and they are much less maneuverable than the hawks.

11. Eagles:

Eagles are members of the Accipitridae, and they are distributed over several genera[2]. More than 60 bird species are in Eurasia and Africa. But outside these two areas, two species are found in Canada and in the United States, nine are found in Central America and South America, and three others are in Australia.



They include birds from 6 different subfamilies, True Eagles, Fish (or Sea) Eagles, Booted Eagles, Hawk Eagles, Snake Eagles & Specialist Eagles. Eagles are generally much larger than buzzards and they are powerfully built. In flight, they differ from buzzards, and they rely on surprise to catch their prey, rather than pursuit. It is noted that the booted eagles, have fully feathered legs, all the way down to the feet which distinguishes it from the fish and snake eagles. Their eyesight provides them with the ability to spot a prospective prey from a very long distance; it is their very large pupil which helps in minimal diffraction of the incoming light.

2- The plural of genus is genera, where Species that are believed to have the same ancestors are grouped together as genus.

Physical Appearance:

- Broad rounded wings
- Broad rounded tail
- Large feet
- Large hooked beak
- Strong muscular legs
- Powerful talons
- Strong eyesight
- Heavy head

FEEDING: small-medium sized reptiles birds and mammals.

Note: The females are bigger than the males.

Family: Gruidae

12. Cranes:

Cranes are from the family of Gruidae and there are fifteen species of cranes in four genera, they fly with necks outstretched like storks and not pulled back like herons. It is known that they live in all continents except Antarctica and South America. Moreover, some of the crane species migrate over long distances but some others do not migrate.

Physical appearance:

- Long legs
- Their color is brown, white or gray
- They have a wingspan of up to 7 feet

FEEDING: They eat many kinds of plants, amphibians, reptiles, small mammals, and other birds.

Note: Cranes usually build their nests in marshy areas. Cranes are very vocal, they use several different types of calls. They are known to change their diet depending on the season and their nutritional needs.

General Note: Some of the MSB species listed below are rare in Lebanon; thus maps highlighting their identified locations couldn't be developed.

English & Scientific Names of Avifauna mentioned in Text (Birdlife sequence)

	English Name	Scientific Name	Family
1	Black Stork	*Ciconia nigra*	Ciconiidae
2	Western White Stork	*Ciconia ciconia*	Ciconiidae
3	Great White Pelican	*Pelecanus onocrotalus*	Pelecanidae
4	Lesser Kestrel	*Falco naumanni*	Falconidae
5	Common Kestrel	*Falco tinnunculus*	Falconidae
6	Red-footed Falcon	*Falco vespertinus*	Falconidae
7	Eleonora's Falcon	*Falco eleonorae*	Falconidae
8	Merlin Falcon	*Falco columbarius*	Falconidae
9	Eurasian Hobby	*Falco subbuteo*	Falconidae
10	Lanner Falcon	*Falco biarmicus*	Falconidae
11	Peregrine Falcon	*Falco peregrinus*	Falconidae
12	Osprey	*Pandion haliaetus*	Pandionidae
13	European Honey-Buzzard	*Pernis apivorus*	Accipitridae
14	Black Kite	*Milvus migrans*	Accipitridae
15	Red Kite	*Milvus milvus*	Accipitridae
16	White-tailed Eagle	*Haliaeetus albicilla*	Accipitridae
17	Egyptian Vulture	*Neophron percnopterus*	Accipitridae
18	Eurasian Griffon Vulture	*Gyps fulvus*	Accipitridae
19	Short- toed snake eagle	*Circaetus gallicus*	Accipitridae
20	Western Marsh-harrier	*Circus aeruginosus*	Accipitridae
21	Hen Harrier	*Circus cyaneus*	Accipitridae
22	Pallid Harrier	*Circus macrourus*	Accipitridae
23	Montagu's Harrier	*Circus pygargus*	Accipitridae
24	Levant Sparrowhawk	*Accipiter brevipes*	Accipitridae
25	Eurasian Sparrowhawk	*Accipiter nisus*	Accipitridae
26	Northern Goshawk	*Accipiter gentilis*	Accipitridae
27	Common Buzzard	*Buteo buteo*	Accipitridae
28	Long-legged Buzzard	*Buteo rufinus*	Accipitridae
29	Lesser Spotted Eagle	*Aquila pomarina (pomarina)*	Accipitridae
30	Greater Spotted Eagle	*Aquila clanga*	Accipitridae
31	Steppe Eagle	*Aquila nipalensis*	Accipitridae
32	Eastern Imperial Eagle	*Aquila heliaca*	Accipitridae
33	Golden Eagle	*Aquila Chrysaetos*	Accipitridae
34	Bonelli's Eagle	*Hieraaetus fasciatus*	Accipitridae
35	Booted Eagle	*Hieraaetus pennatus*	Accipitridae
36	Eurasian/Common Crane	*Grus grus*	Gruidae

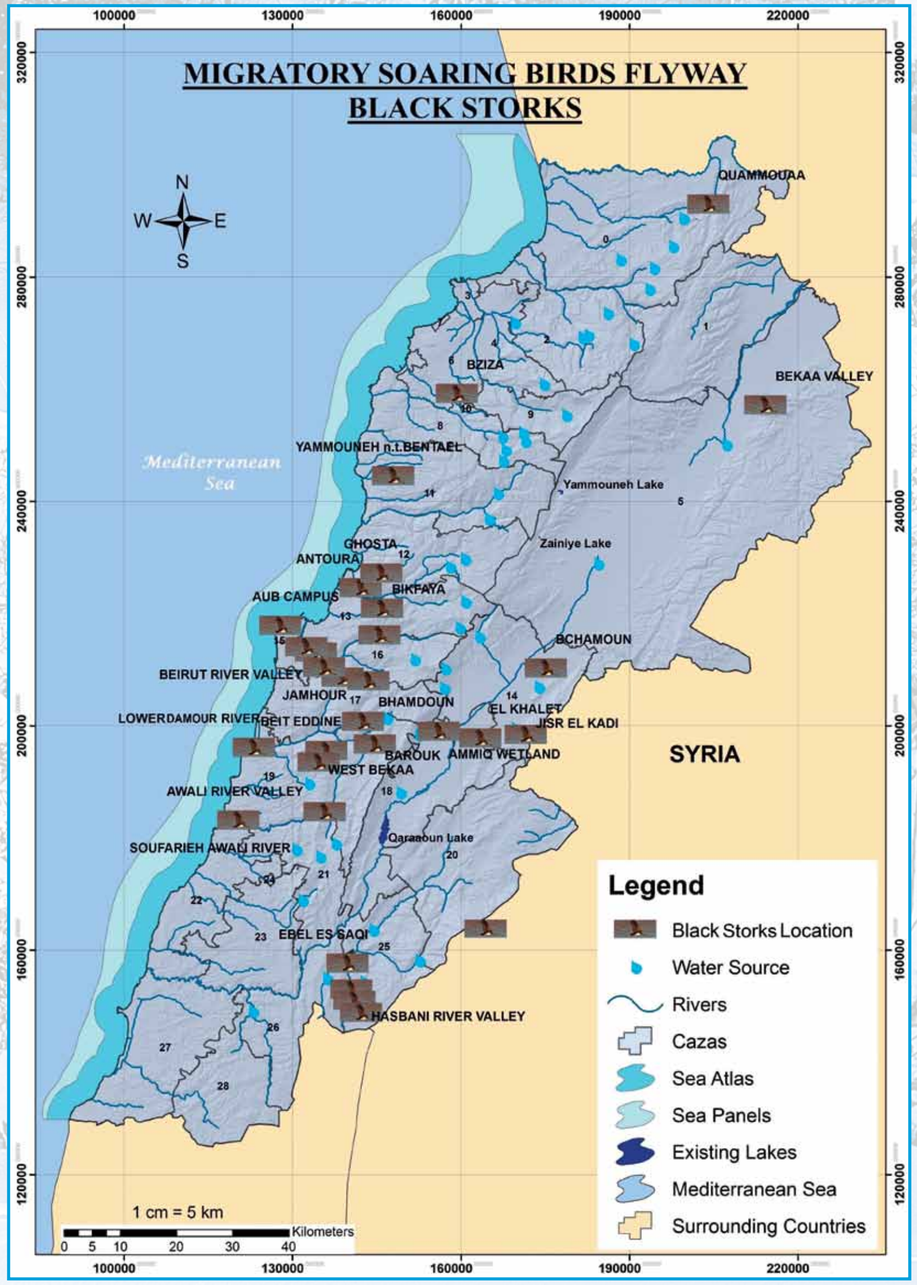
Storks

English name: Black stork
Scientific name: *Ciconia nigra*
French name: Cigogne noire
Arabic name: لقلق أسود

Black Stork *Ciconia nigra*
L: 95. W: 150. Glossy-black stork with white lower underparts. It can only be confusable with Abdim's Stork but identified by all-black upperparts (no white on lower back and rump) and by small white auxiliary-patch on black underwing (larger white area in Abdim's Stork). The adult has red bill and legs, whereas the browner, less glossy juvenile has greyish-green bill and legs.
HABITAT: Damp forests, marshes and Rocky River margins; it nests in woodlands or on crag[3].
FEEDING: They feed on fish, amphibians, reptiles, small mammals, large insects, and whatever kind of available food.
STATUS in Lebanon: Passage migrant in spring and autumn.

Dave Nye

3- Crag is a steep or rugged cliff or rock face.



Storks

English name: Western White Stork
Scientific name: *Ciconia ciconia*
French name: Cigogne blanche
Arabic name: لقلق أبيض

Western White Stork *Ciconia ciconia*
L: 100. W: 170. Easily told by large size, white plumage with black flight-feathers, straight red bill and long red legs. In flight, the neck is extended and legs protrude beyond tail. Juvenile has duller white plumage, and duller red bill and legs. It can be identified from the adult Yellow-billed Stork (a vagrant to the region) by the straight red bill and all-white tail (black in Yellow-billed).
Voice Clatters bill when greeting mate at nest; otherwise silent.
HABITAT: Wetlands, plains and farmland.
FEEDING: Insects, fish, amphibians, reptiles, small mammals and small birds, they take their food mostly from the ground among low vegetation and from shallow water. They usually feed in slightly drier areas than Black stork.
STATUS in Lebanon: Passage migrant in spring and autumn.

Ferran Turmo Gort

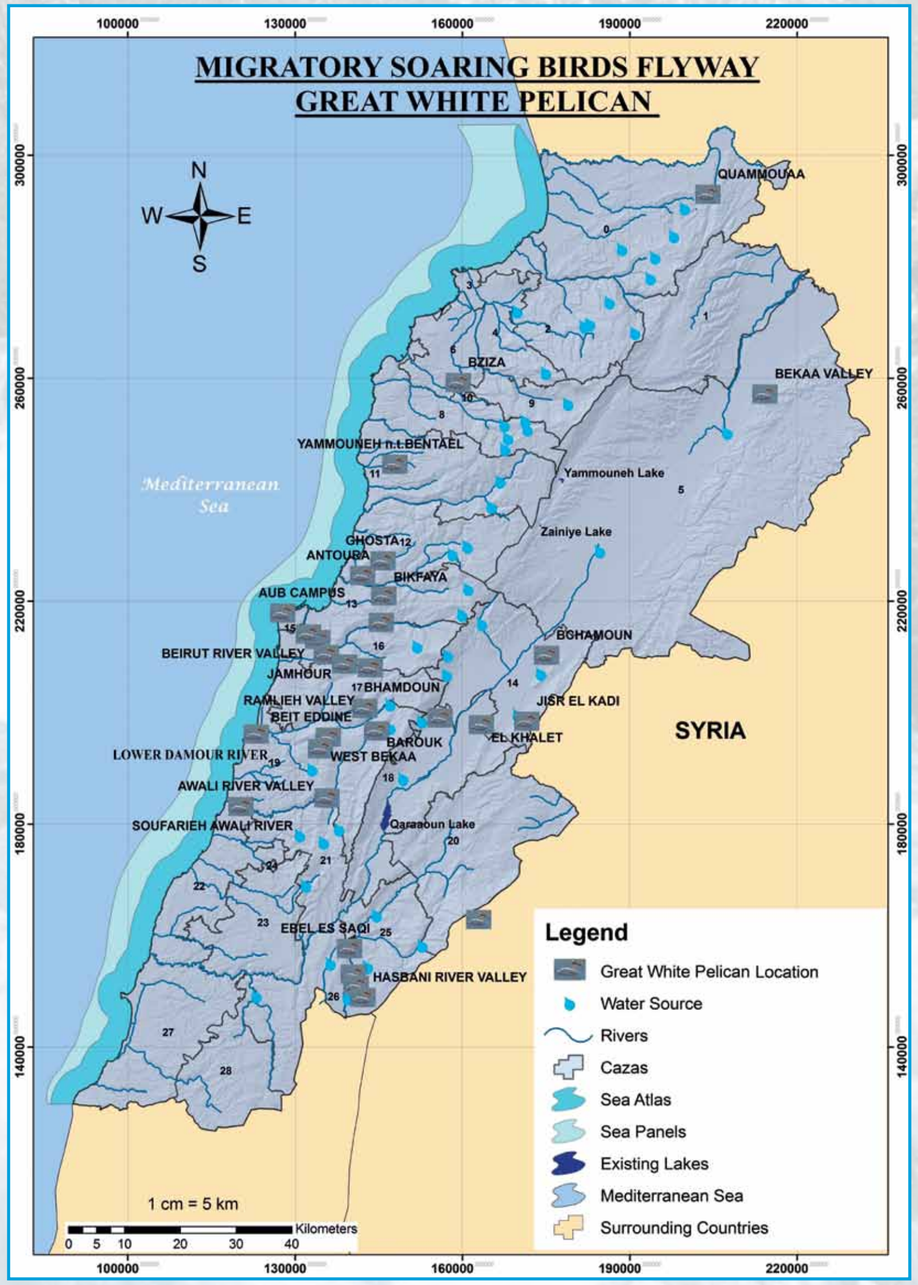
Pelicans

English name: Great White Pelican
Scientific name: *Pelecanus onocrotalus*
French name: Pélican blanc
Arabic name: البجع الأبيض

Great White Pelican *Pelecanus onocrotalus*
L: 140–175. W: 270–330. Large with huge wing-span. The Adult is white with contrasting, solid black flight-feathers below, but body is tinged yellowish-rosy in breeding plumage (Dalmatian Pelican has greyish underwing, and body appears greyish-white). At close range, you can note short shaggy crest on nape (in breeding season), dark eye surrounded by naked rosy skin, fleshy-yellow legs and pointed forehead-feathers where meeting culmen[4] .These later characteristics are also useful when separating immature from similar Dalmatian Pelican. Immature Great White Pelican has clearly darker grey-brown upperparts than the grey-buff Dalmatian Pelican. Flight consists of a few slow wingbeats followed by a glide; flocks often fly in regular lines, or circle in formation.
HABITAT: Large inland wetlands and shallow coastal lagoons.
FEEDING: They mainly eat fish, but sometimes they eat chicks of other birds.
STATUS in Lebanon: Common passage migrant in spring and autumn.

Carol Foil

4- Culmen is the upper ridge of a bird's bill.

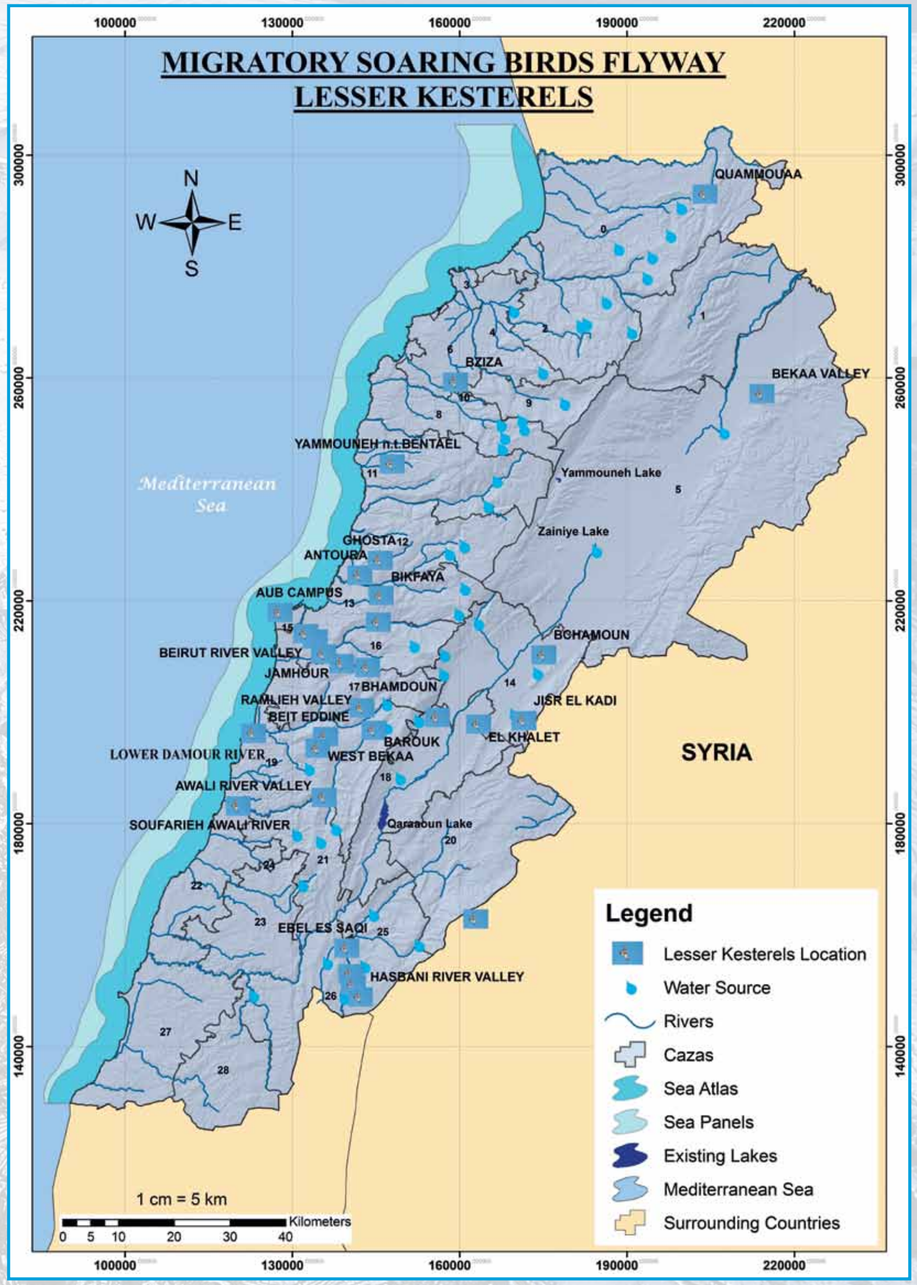


Kestrel

English name: Lesser Kestrel
Scientific name: *Falco naumanni*
French name: Faucon crécerellette
Arabic name: عويسق

Lesser Kestrel *Falco naumanni*
L: 28–33. W: 63–74. Very like Common Kestrel, but slightly smaller and slimmer, with slightly narrower wings, more wedge-shaped tail and quicker wingbeats. Male is unmarked rufous above but greater coverts are usually blue-grey. Head is ash-grey without moustache or pale cheeks. From below, white underwing contrasts with dark wing-tip and creamy-buff body, both of which have small black spots; in some, the underwing-coverts are virtually unmarked. Female is like the Common Kestrel but on average has slightly whiter, less barred flight feathers below, sometimes fewer and finer spots on underwing-coverts and greyer upper tail-coverts. The Female and juvenile can be identified, on close views, by pale claws (black in Common Kestrel).
It hovers less persistently than the Common Kestrel, mostly taking insects in flight. Gregarious at breeding sites and on passage. **Voice** Rasping, trisyllabic chae-chae-chae, very different from the Common Kestrel's.
HABITAT: Old buildings, rocky gorges, but hunts over open country; often nests colonially in holes in roofs, walls or rocks.
FEEDING: They feed on insects, small birds, lizards, reptiles and rodents
STATUS in Lebanon: Rather uncommon breeding summer visitor; passage migrant in spring and autumn.

Michael Sveikutis



Kestrel

English name: Common Kestrel
Scientific name: *Falco tinnunculus*
French name: Faucon crécerelle
Arabic name: صقر الجراد أو العوسق

Common Kestrel *Falco tinnunculus*
L: 32–38. W: 70–78. Long, narrow, fairly pointed wings, long slightly tapered tail, shallow loose wingbeats, persistent hovering and rufous upperparts, contrasting with darker flight-feathers. Compared to Lesser Kestrel, the male has black spots on back and wing-coverts, lacks blue-grey greater upper-wing-coverts, has different head-pattern and more marked underwing. Female can approach male in greyness on head, tail-base and uppertail-coverts, in other words they tend to look similar. Juvenile is paler brown with thin white fringe to greater coverts. Active flight alternates with glides, some soaring and frequent hovering. At all ages, common kestrel can be identified from Lesser Kestrel by black claws and wing-tip formula: primary 10 (longest primary) shorter than P8 and equalling P7 (useful when soaring at close range outside autumn period of primary-moult). **Voice** Shrill kee-kee-kee, often repeated and heard mostly in breeding season.
HABITAT: Open country with trees, mountains and semi-arid areas; nests in hole or ledge on cliff or building; use old nests of other species.
FEEDING: They feed on small mammals, small birds, insects and lizards.
STATUS in Lebanon: Widespread resident and passage migrant.

Jose Sousa

Falcons

English name: Red-footed Falcon
Scientific name: *Falco vespertinus*
French name: Faucon kobez
Arabic name: صقر أحمر القدمين أو اللزيق

Red-footed Falcon *Falco vespertinus*
L: 30. W: 73. Male uniformly slate-grey with silvery primaries above, red thighs and undertail-coverts and blackish underwing-coverts. Female has rusty-yellow underparts and head, dark eye-mask and barred tail; yellow-buff underwing has dark trailing edge (conspicuous in juvenile). First-spring male show slate-brown with rufous and slate underparts, but underwing-coverts, flight-and most tail-feathers as juvenile. In second-autumn, some adults' central primaries show variegated pattern as moult progresses. Less stocky than Eurasian Hobby in flight with loose, kestrel-like, wingbeats. Gregarious; hunts flying insects, alternating with spells of hovering.
HABITAT: Plains with trees, bushy wastelands.
FEEDING: They feed on insects but they also capture small mammals.
STATUS in Lebanon: Uncommon passage migrant in autumn and rare in spring.
Red List: Near-threatened.

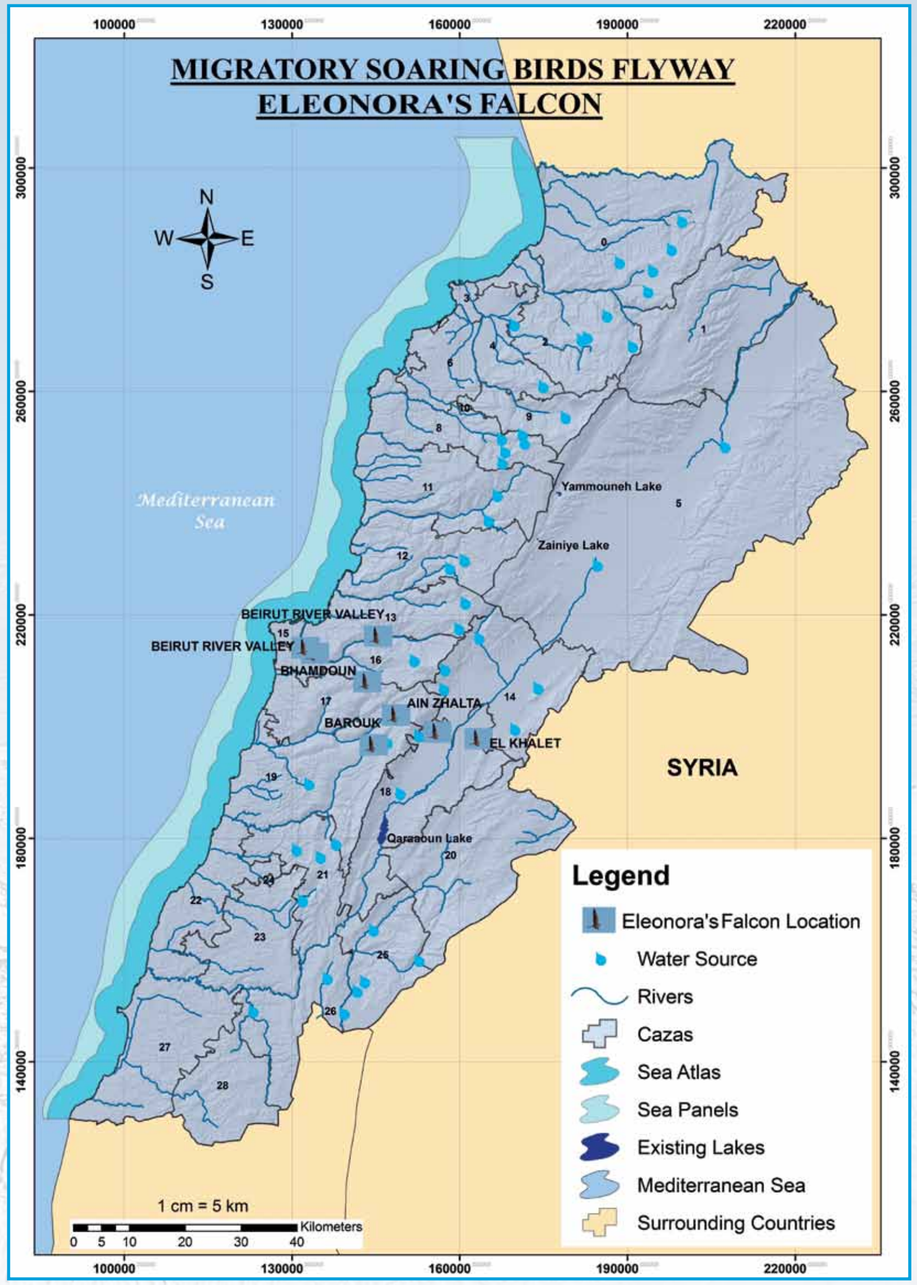
polandeze

Falcons

English name: Eleonora's Falcon
Scientific name: *Falco eleonorae*
French name: Faucon d'Éléonore
Arabic name: صقر اليونورا

Eleonora's Falcon *Falco eleonorae*
L: 39. W: 97. Long-winged, long-tailed, recalling Eurasian Hobby but larger. Flight is swift and agile or relaxed with slow wingbeats. Pale morph recalls Eurasian Hobby but has darker underparts and dark, unmarked underwing-coverts contrasting with pale-based, unbarred flight-feathers; at distance it looks dark below except for pale throat and cheeks. Dark morph (25 % of population) has uniform blackish brown; identified from male Red-footed Falcon by size, proportions, flight, underwing-pattern, dark primaries above and lack of red thighs. Juvenile (both morphs) are paler below than adult pale morph. It is identified from Hobby by dark underwing-coverts contrasting with paler flight-feathers which have dark trailing edge, and thinner moustache. See Sooty Falcon for separation. Often hunts in flocks, especially at dusk. Catches insects in flight, sometimes hovers; capable of tremendous stoops. Breeds late summer, feeding young on autumn migrants. Voice is loud hoarse kjie-kjie-kjie when breeding.
HABITAT: colonial, nesting in holes on rocky islands and sea-cliffs; often hunts over wetlands.
FEEDING: Feeds on small to meduim birds and insects that are captured during flight.
STATUS in Lebanon: Scarce to rare passage migrant in spring and autumn (Breeding suspected in Ras Al Chaka'a cliff and palm Islands), mostly in coastal areas.

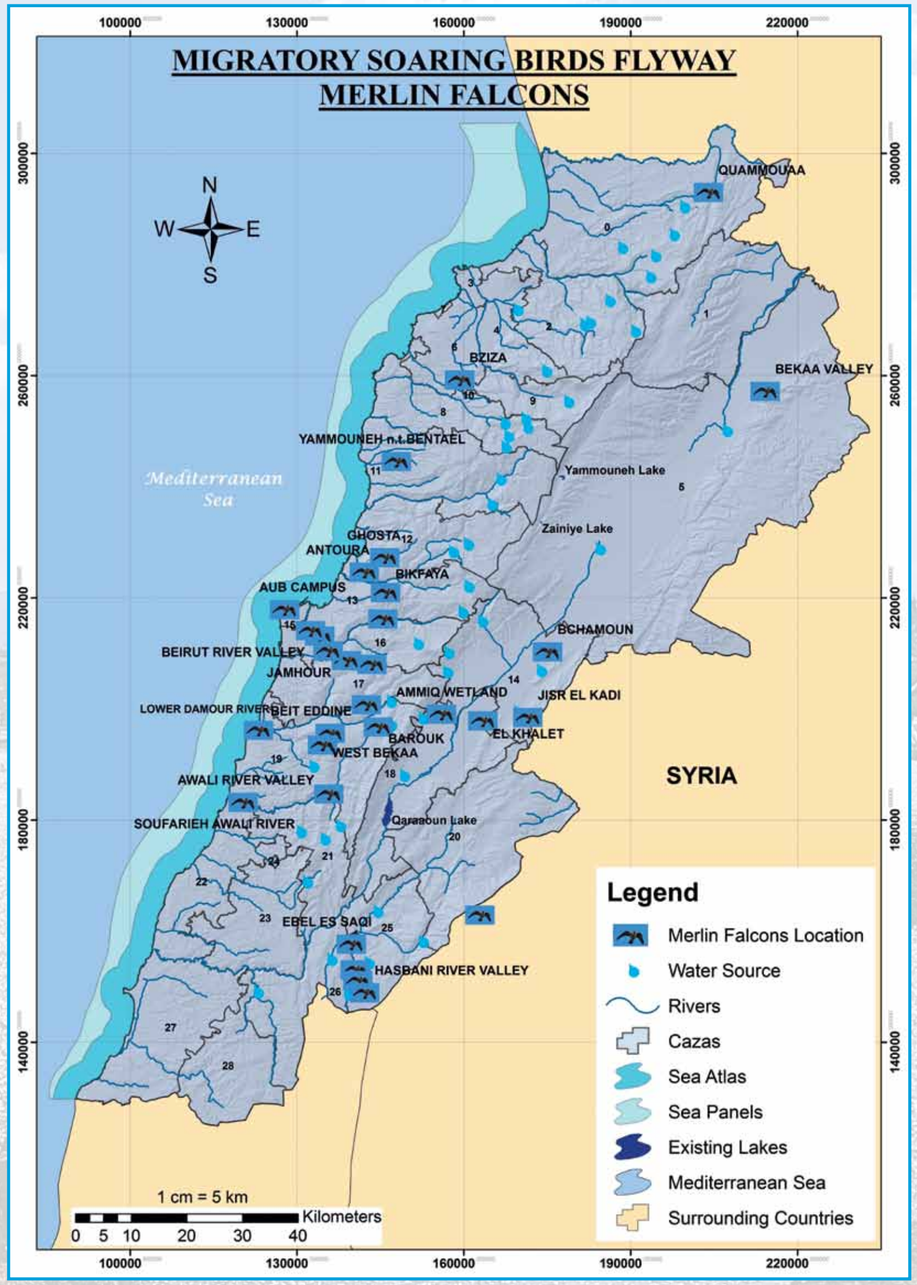
Dave Nye



Falcons

English name: Merlin Falcon
Scientific name: *Falco columbarius*
French name: Faucon émerillon
Arabic name: صقر الحمام أو اليؤيؤ

Merlin: *Falco columbarius*
L:25 -30. W: 55-65. Female is larger than male. It is the smallest falcon in the region. It has short, pointed wings, medium-length tail, speedy flight with fast wingbeats, interspersed with short glides. Male is identified by blue-grey upperparts with blackish primaries, broad black tail-band and ill-defined head pattern. Underparts are buffy or whitish with dark streaks, or sometimes rich reddish spotting. Female and juveniles are brownish above, creamy below with dark streaks or dense dark spotting, with a diffuse moustache, barred primaries above and five pale/dark bands of equal width on uppertail. In Siberian race, pallidus, the male is distinctly paler blue-grey above with some rusty on neck, shoulders and mantle, and underparts are whiter. Female and juvenile pallidus are rufous above with Common Kestrel-like dark bars (but kestrel's flight, proportions and denser tail-barring prevent confusion). Hunts usually low over ground with undulating flight, changing direction, followed by a straight attack. When perched, wings fall well short of tail tip.
HABITAT: Open country; steppes and semi-arid areas, marshes, farmland and plains.
FEEDING: They feed on small mammals, reptiles, insects and other meduim birds.
STATUS in Lebanon: Scarce to rare passage migrant and winter visitor.

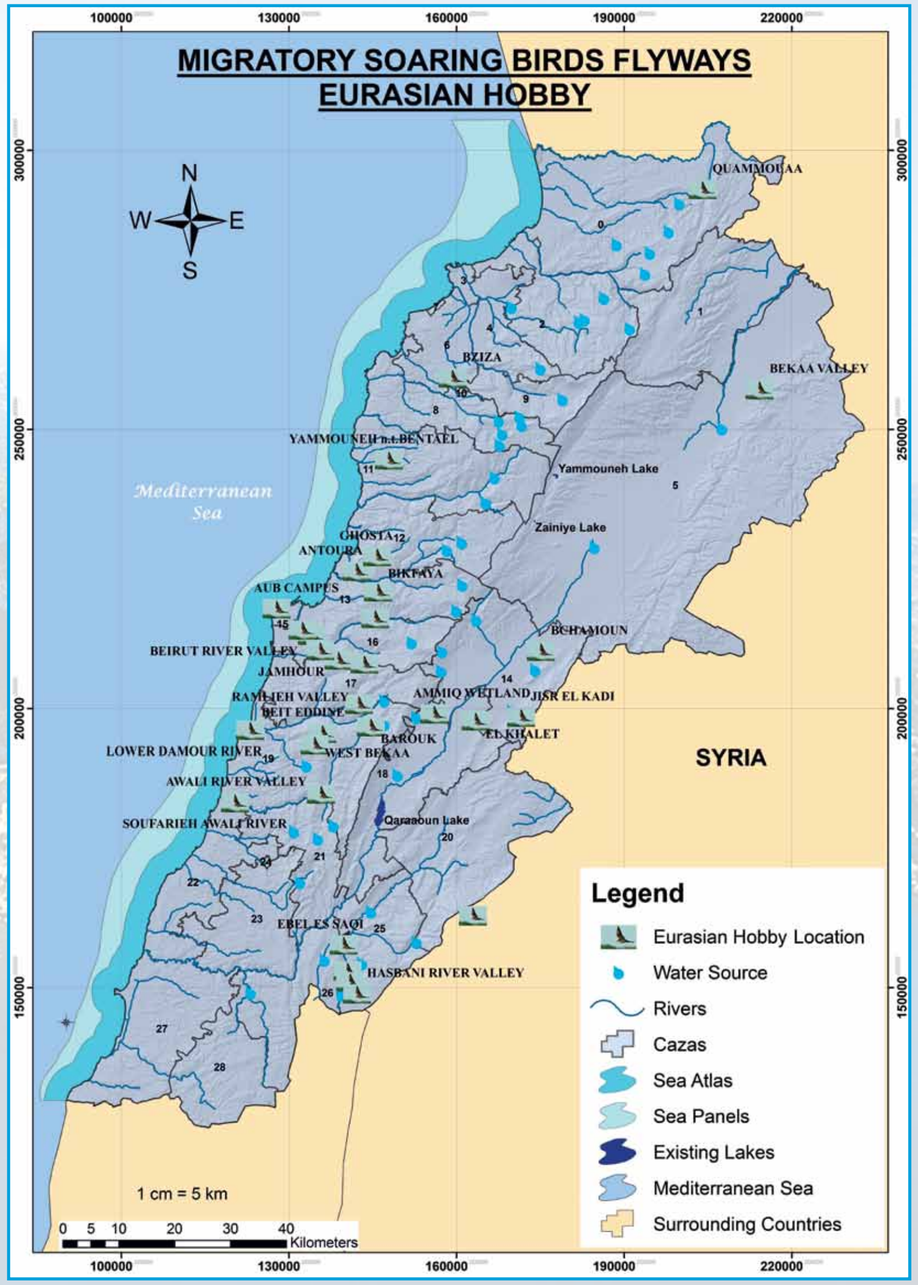


Falcons

English name: Eurasian hobby
Scientific name: *Falco subbuteo*
French name: Faucon hobereau
Arabic name: بيدق (شويهين)

Eurasian Hobby *Falco subbuteo*
L: 32–36. W: 74–92. Scythe-like, pointed wings and relatively short tail. Adult has slate-grey upperparts, uniform tail, prominent moustache and conspicuous white cheeks, densely streaked underparts with red thighs and undertail-coverts. Juvenile is browner above with pale feather fringes and absence of red thighs and undertail-coverts; It is identified from juvenile Red-footed Falcon by more distinct breast streaking, darker head with more contrasting face-mask, un-barred uppertail and underwing pattern. Flight is swift and agile; has strong steady wingbeats, short fast glides; accelerates when hunting birds but more relaxed when catching insects; rarely hovers (briefly).
HABITAT: Scattered woodland, cultivated areas with trees; nests in old nest (often crows).
FEEDING: Feeds on birds and insects in flight.
STATUS in Lebanon: Common breeding summer visitor. Fairly common passage migrant over most areas of the country.

Mark Kilner

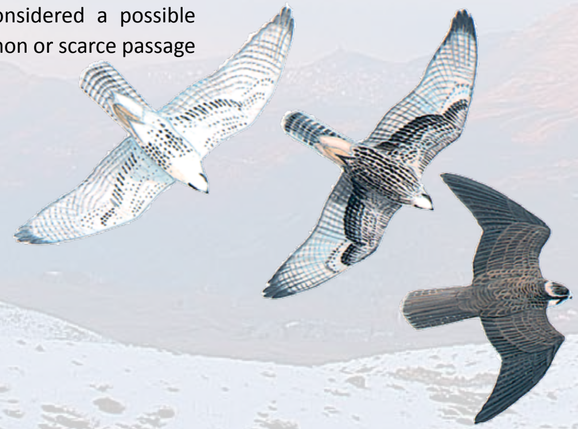


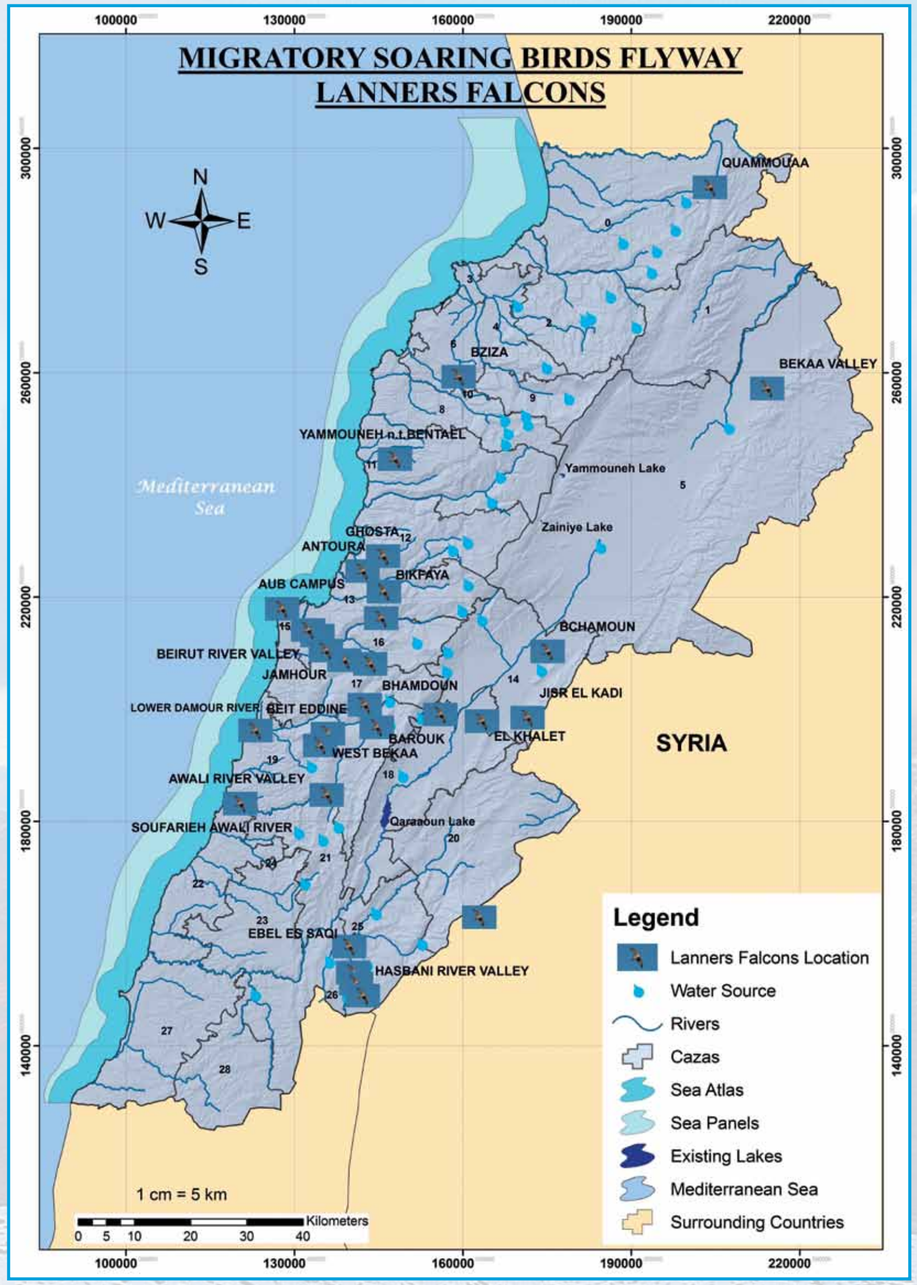
Falcons

English name: Lanner Falcon
Scientific name: *Falco biarmicus*
French name: Faucon lanier
Arabic name: وكري حرار أو الصقر الحر

Lanner Falcon *Falco biarmicus*
L: 42–52. W: 95–115. Peregrine-sized, resembling Saker Falcon in plumage and shape; long wings, slightly blunt-ended when soaring; tail relatively long. Identified from Adult Saker by barred, greyish upperparts, distinctly barred uppertail, more contrasting head-pattern: black forehead band, clear-cut narrow black eye-stripe, conspicuous moustache and spot-bars on flanks. Crown unstreaked creamy-buff (Near Eastern tanypterus), chestnut (South West Arabian abyssinicus) or pale rufous rear crown and nape (European feldeggi) are three different lanner races that differ from the saker falcon. Juvenile is dark brown above with boldly streaked underparts and rear underwing-coverts; unbarred closed uppertail (unlike most Sakers). Contrasting underwing pattern and more densely streaked underparts, which separates it from juvenile Peregrine and Barbary Falcons. Moderately slow, stiff wingbeats, faster when hunting; stoops or runs down prey; soars with wings level or slightly up curved. Voice is slow, scolding kraee-kraee-kraee at breeding site.
HABITAT: Mountains, plains and semi-deserts.
FEEDING: Feeds on small to medium birds but eats small vertebrates and insects also.
STATUS in Lebanon: Formerly considered a possible breeder, but no evidence. Uncommon or scarce passage migrant and winter visitor.


Muchaxo



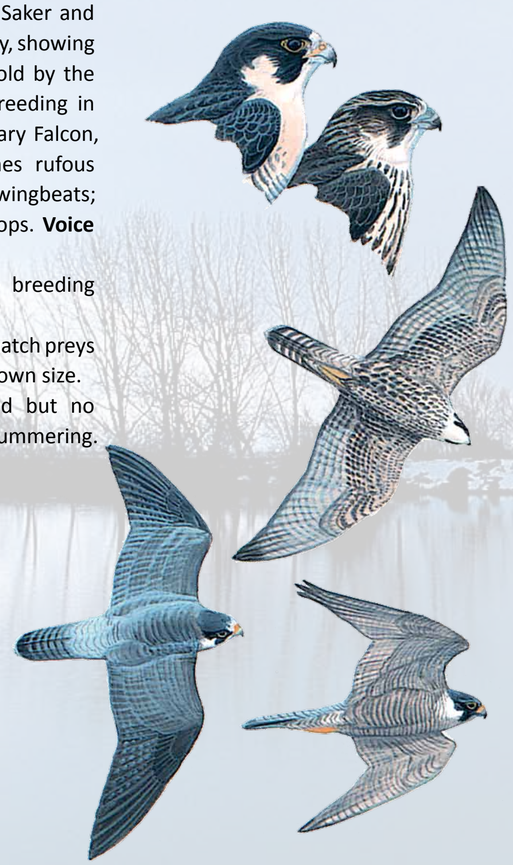


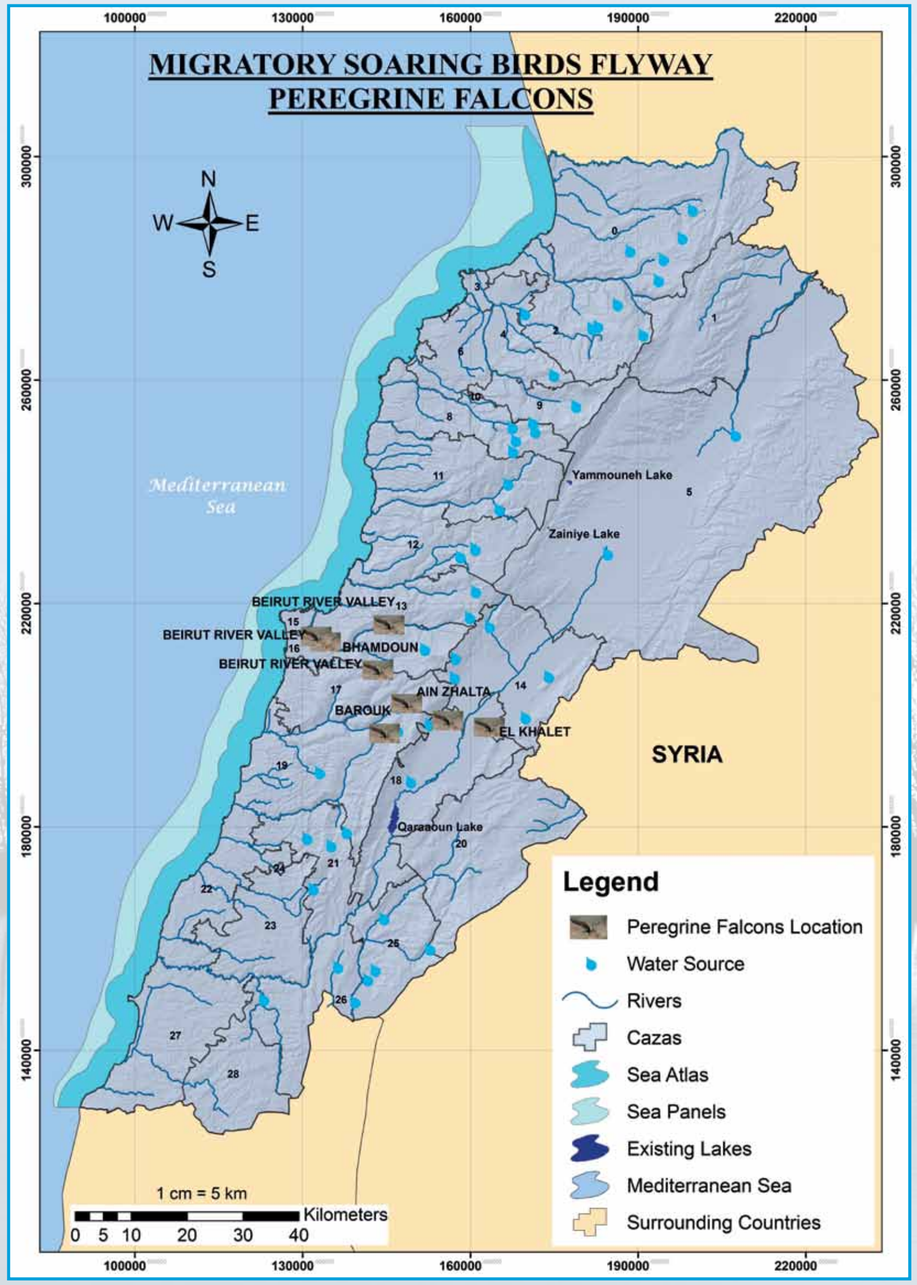
Falcons

English name: Peregrine Falcon
Scientific name: *Falco peregrinus*
French name: Faucon pèlerin
Arabic name: الشاهين

Peregrine Falcon *Falco peregrinus*
L: 40–52. W: 85–120. Large, stocky with relatively short tail and broad-based, sharply tapering wings, more pointed than Saker and Lanner when soaring. Adult is identified by black crown and bold moustache, contrasting with white throat and cheeks, barred underparts, white upperbreast and uniform underwing. Juvenile has smaller whitish cheek-patch (not reaching eye, unlike Saker and Lanner) and also uniform underwing (unlike Saker and Lanner). Young of the migrant calidus[5] are tricky, showing Saker-like head pattern and large size, but told by the underwing pattern and wing shape. Rare breeding in region, brookei[6], is more compact, like Barbary Falcon, with salmon wash to breast and sometimes rufous wash on nape. Has Fairly quick, shallow, stiff wingbeats; impressive when hunting, with long fast stoops. **Voice** Alarm loud, scolding keck-keck-keck.
HABITAT: Mountains, forests, cliffs; outside breeding season it also uses marshes, and wastelands.
FEEDING: Feeds on medium-sized birds that snatch preys in their flight. It can hunt birds larger than its own size.
STATUS in Lebanon: Perhaps formerly bred but no evidence and no recent evidence of oversummering. Scarce passage migrant.

David Maher





5- *Calidus: is a tundra race of Peregrine Falcon.*
6- *Brookei: Is a desert race of Peregrine Falcon.*

Osprey

English name: Osprey
Scientific name: *Pandion haliaetus*
French name: Balbuzard pêcheur
Arabic name: عقاب نساري (عقاب السمك)

Osprey *Pandion haliaetus*
L: 56–61. W: 145–165. Large; long, narrow wings, distinctly angled when gliding, white under-surface with black carpals and band through centre of underwing, white crown and dark eye-mask. It has variable dusky band across fore-neck (usually boldest in female). Juvenile has whitish scales and white line on greater coverts above. It flies with steady, shallow wingbeats, glides on smoothly curved wings; may look similar to large soaring gull at distance. Hovers over water for fish, and dives with splash feet-first, almost disappearing.
HABITAT: Ospreys are found in a variety of freshwater, brackish and marine environments. The most important habitat requirement is the presence of ample supplies of meduim-sized fish obtainable near the surface of clear unpolluted water.
FEEDING: They feed on fish.
STATUS in Lebanon: Passage migrant in spring and autumn.

Dave Govoni

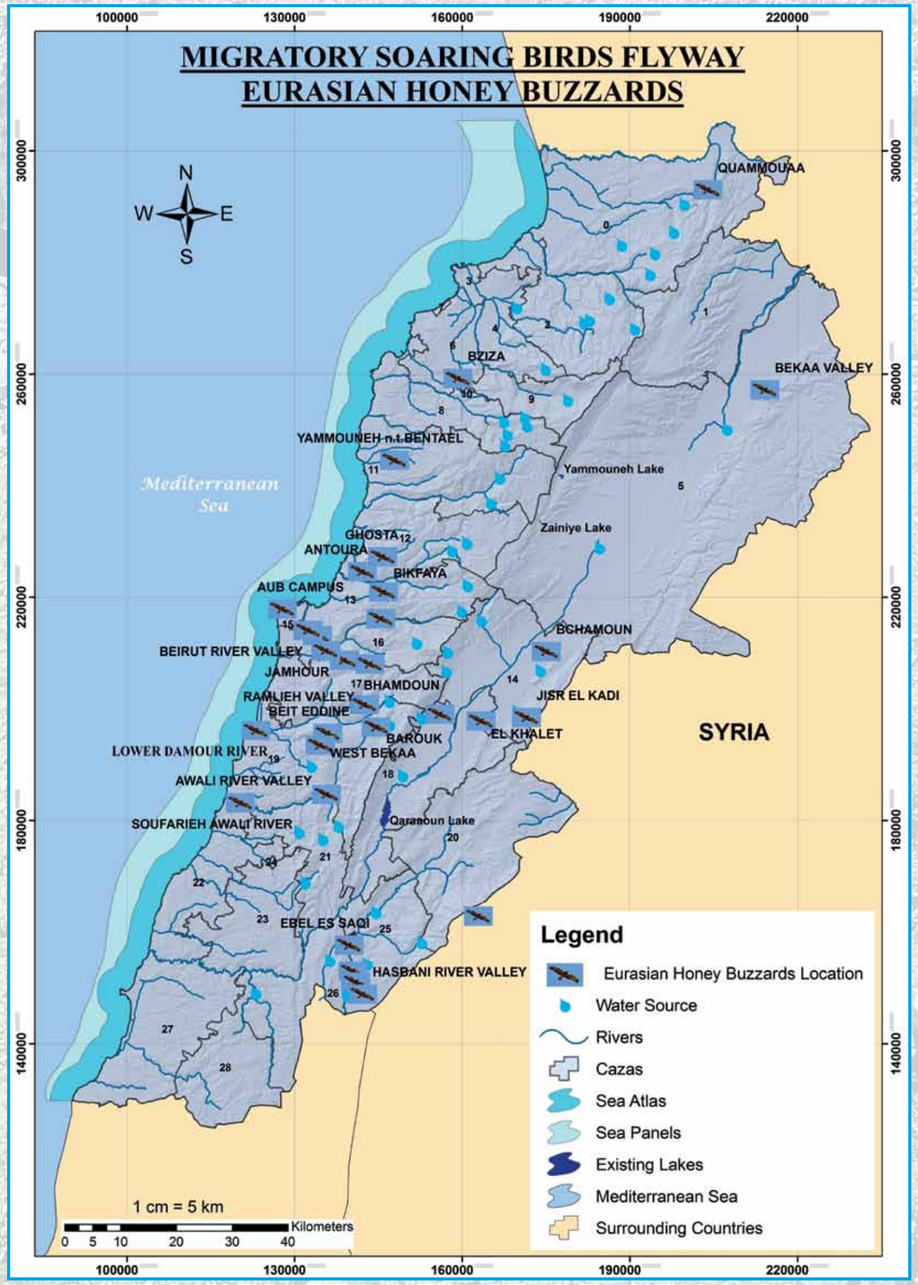
Buzzards

English name: European Honey-Buzzard
Scientific name: *Pernis apivorus*
French name: Bondrée apivore
Arabic name: حوام النحل

European Honey Buzzard *Pernis apivorus*
L: 55. W: 135–150. It is like Steppe Buzzard in shape but slimmer with longer, narrower tail with rounded corners; head and neck are narrower, protruding in cuckoo-like manner. Wingbeats more flexible and soars on flattish wings, and glides on slightly lowered wings. (Steppe Buzzard soars on raised wings). Plumage variable; typical male has greyish head and upperparts; female browner. Below, some are dark, others are largely white, but most are barred on body and coverts, and have black carpal-patches; flight feathers show prominent black trailing edge and characteristic bars at base (more bars in female). In all morphs, tail has a dark band at tip and two bars at base. Cere[7] grey, eyes yellow or orange-yellow (male). Juvenile is dark brown, rufous-brown or creamy-white with streaked breast; usually, but not always, with dark carpal-patches and narrow whitish crescent on uppertail-coverts; head often whitish with dark eye-mask; may show pale band on underwing-coverts, separating secondaries from dark forewing (unlike Steppe Buzzard) and three evenly-spaced bars on flight feathers (unlike adult). Juvenile with its more slender wings with curved rear-edge (bulging secondaries) and shorter tail has more of a Steppe Buzzard-like outline, but shape of tail and head, and soaring on flat wings are important features for identification. See Crested Honey Buzzard for differentiation from this species.
HABITAT: Woodland; widespread passage.
FEEDING: Mainly feeds on insects, wasps, reptiles and mammals.
STATUS in Lebanon: Widespread and common passage migrant over the whole country.

7- *Cere is a waxy, fleshy covering at the base of the upper beak in some birds.*

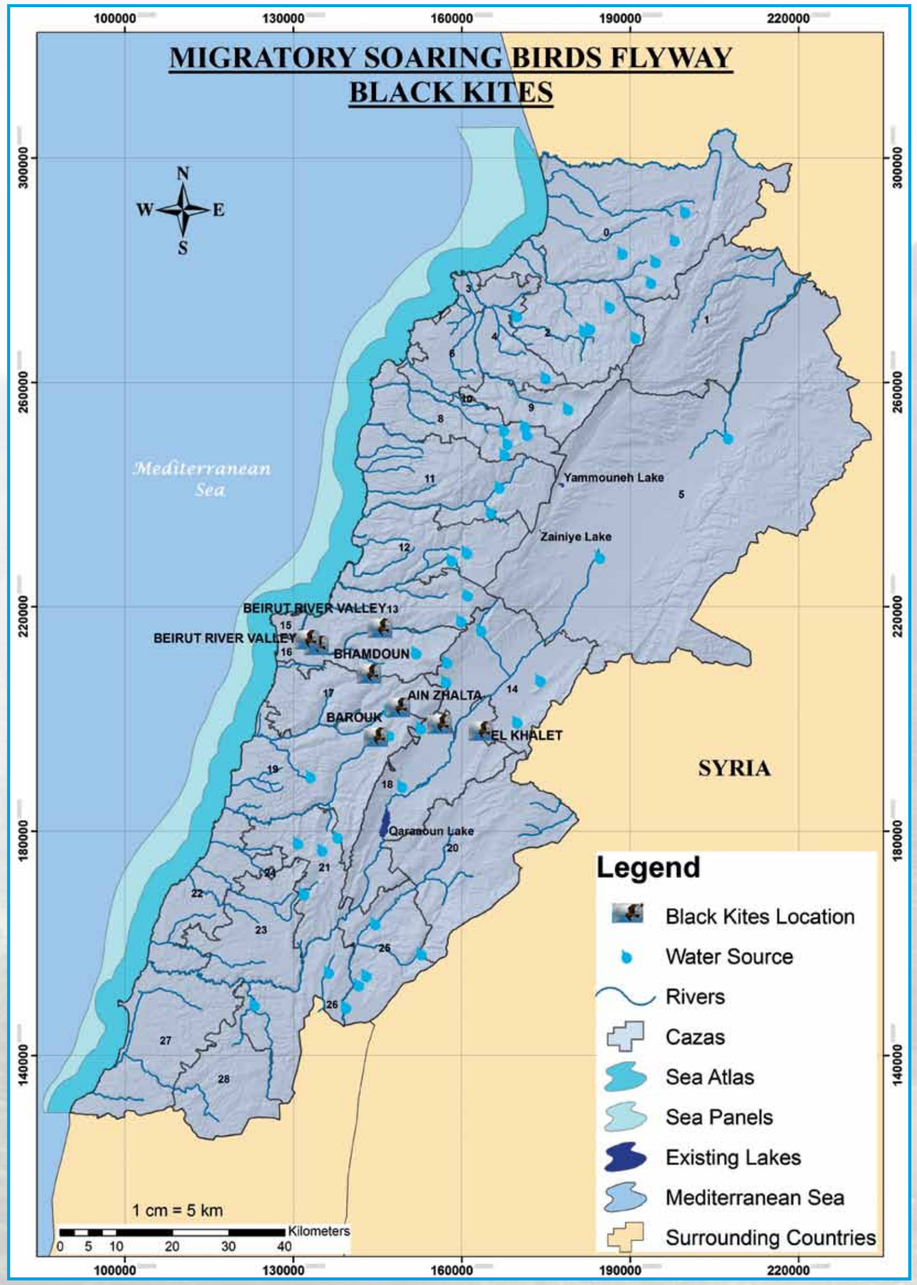
Philippe Macquet



English name: Black Kite
Scientific name: *Milvus migrans*
French name: Milan noir
Arabic name: الحدأة السوداء

Black Kite *Milvus migrans*
L: 50–65. W: 125–150. Resembles Red Kite in silhouette but the tail is less forked (and often square-ended when fully spread), has slightly broader wings and less buoyant flight. The adult is darker and browner than Red Kite, with hardly any white on primaries below and dark brown (not reddish) uppertail; head is darker and pale panel across upperwings-coverts is less conspicuous. Juvenile shows dark eye-mask, pale feather tips on mantle and shoulders, boldly dark-spotted breast but paler belly and diffuse dark band to tail; also whitish tips to greater upperwing-coverts. It flies with elastic wingbeats, soars and glides on slightly arched wings; maneuvers tail when scanning for food. Gregarious at rubbish dumps and at night-roosts outside breeding season. See also the very similar Yellow-billed and Black-eared Kites for differentiation.
HABITAT: It can be found anywhere on migration and often gathering at rubbish dumps.
FEEDING: They feed on small mammals, birds, reptiles, dead carcasses.
STATUS in Lebanon: Not uncommon spring passage and winter visitor throughout the country.


sébastien bertru



Kites

English name: Red Kite
Scientific name: *Milvus milvus*
French name: Milan royal
Arabic name: الحدأة الحمراء

Red Kite *Milvus milvus*
L: 60-70. W: 145–170. Larger and slimmer than Black Kite with longer, deeply forked, rusty-red tail, prominent white patch on primaries below and more buoyant flight. In adults, the underparts are largely dark rusty-red, contrasting with pale undertail; broad buffish-brown band across inner wing above. Juvenile has dark breast with bold pale streaks, rest of underparts and undertail are pale; duller red-brown uppertail has slight, dark subterminal-band, broader paler band on inner wing above and greater upperwing-coverts show thin white line. It has light and graceful soaring and gliding on arched wings and constantly maneuvered tail (looks only slightly forked when fully spread).
HABITAT: Open country with woodland.
FEEDING: They feed on small birds, mammals, reptiles and dead carcasses.
STATUS in Lebanon: Extremely rare passage migrant.
RED LIST: Near-threatened.

David Merrett

Tony Hisgett

Eagles

English name: White-tailed eagle
Scientific name: *Haliaeetus albicilla*
French name: Pygargue à queue blanche
Arabic name: عقاب بحر أبيض الذيل

White-tailed Eagle *Haliaeetus albicilla*
L: 80–90. W: 190–250. Large and bulky; adult with broad parallel-edged wings, short white wedge-shaped tail, long protruding neck and large yellow bill. Juvenile has curved trailing edge to wings, broader arm and narrower hand than adult; appears dark at distance, but at close range head and neck are blackish, contrasting with rusty-brown dark-streaked underparts; closed tail looks dark but when spread shows whitish feather centres; axillary-patch and lines along central underwing-coverts also whitish and has pale loral patch. Immature mottled whitish below and on mantle and shoulders but still dark-headed. Soars and glides on flattish or slightly arched wings; active flight with long series of heavy wingbeats.
HABITAT: Wetlands, rivers, lakes and coasts.
FEEDING: They eat fish, birds, carrion and small mammals.
STATUS in Lebanon: Vagrant.

Vultures

English name: Egyptian Vulture
Scientific name: *Neophron percnopterus*
French name: Vautour percnoptère
Arabic name: الشوحة المصرية أو الرخمة المصرية

Egyptian Vulture *Neophron percnopterus*
L: 62. W:155. A small vulture. The adult has white, wedge-shaped tail, white underparts with black flight feathers (secondaries are greyish-white above), small pointed head and thin color pattern of plumage that resembles pale morph booted eagle or western white stork below but the shape is quite different. Juvenile is mid-brown below with blackish ruff; dark brown above with creamy bars on wing-coverts, pale rump and whitish uppertail-coverts; wedge-shaped tail grey-brown, tipped paler. Soars on flat to slightly arched wings; active flight has many deep wingbeats between glides. Often seen in flocks.
HABITAT: The Egyptian vulture generally inhabits open, arid areas and can be found in pastures, but requires rocky sites for nesting.
FEEDING: They feed on carrion, tortoises, organic waste, insects, young vertebrates, eggs and even faeces.
STATUS in Lebanon: Formerly bred. Uncommon but regular passage migrant during both seasons.
Red List: Endangered

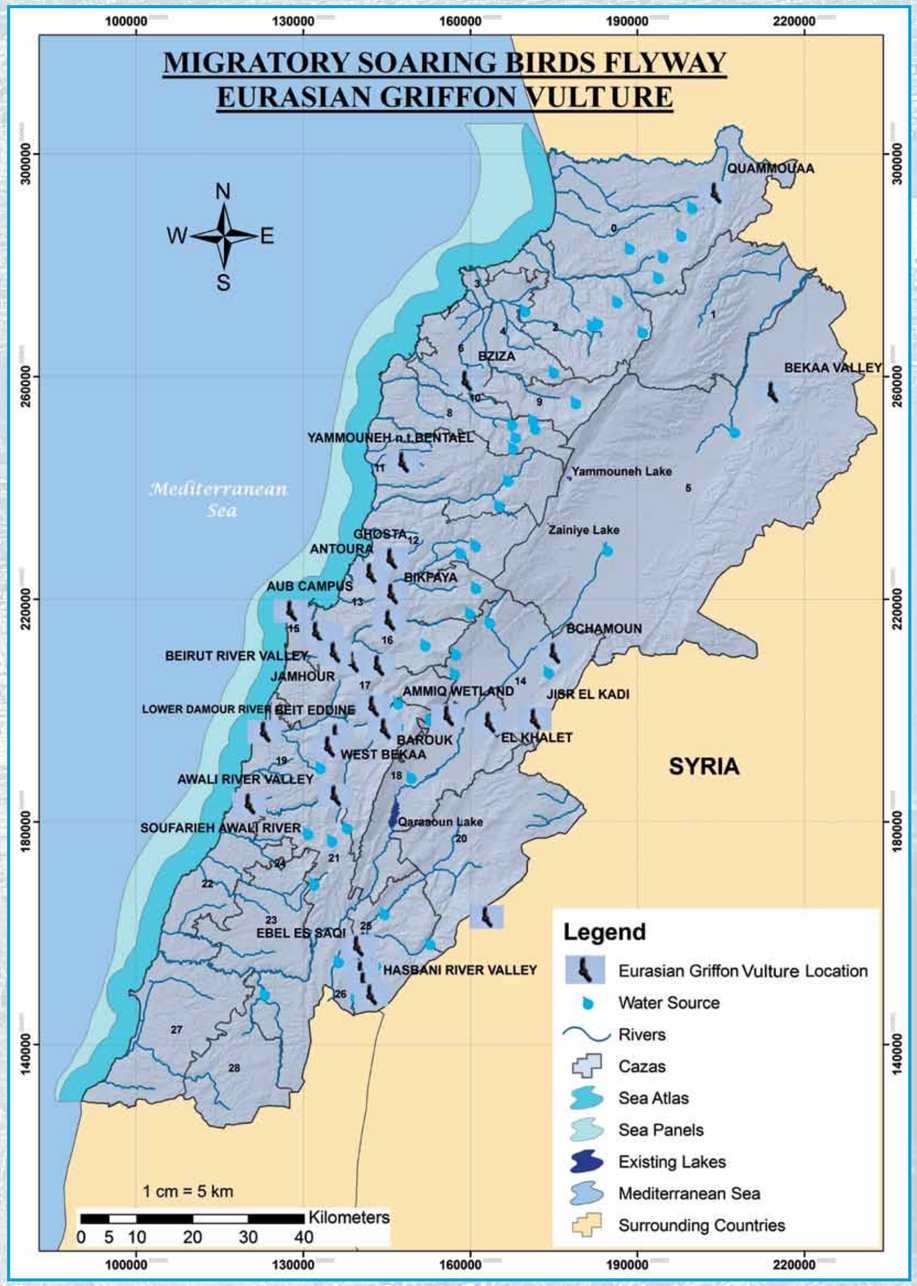
Doevos

Vultures

English name: Eurasian Griffon Vulture
Scientific name: *Gyps fulvus*
French name: Vautour fauve
Arabic name: نسر أسمر أو نسر جريفون

Eurasian Griffon Vulture *Gyps fulvus*
L: 95–105. W: 245–270. Large; heavy with long, broad, deeply-fingered wings with curved trailing-edge; short broad square-cut tail, and slightly protruding narrow head. Soars effortlessly for long periods on raised wings; active flight with very slow, deep wingbeats; glides on kinked wings. Adult gingery-buff above and below contrasting with dark flight-feathers. Juvenile is even paler brownish-yellow on rear underwing-coverts, thus has greater contrast with flight-feathers. Gregarious.
HABITAT: Mountains; occurs over all types of country in search for food; nests colonially in caves or on cliff-ledges.
FEEDING: They mainly feed on carcasses of dead animals and carrions[8].
STATUS in Lebanon: Formerly bred. Scarce passage migrant.

José María Escolano



8- Carrions are dead and decaying flesh.

Eagles

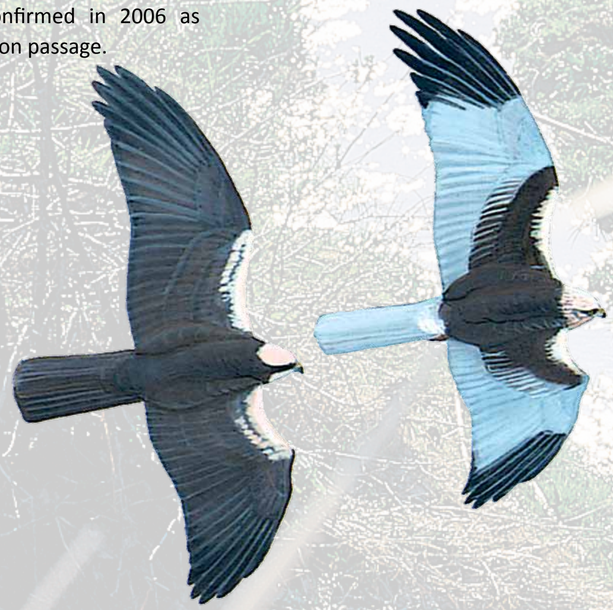
English name: Short- toed snake eagle
Scientific name: *Circaetus gallicus*
French name: Circaète Jean-le-Blanc
Arabic name: عقاب صرارة أو عقاب الحيات

Short-toed Snake Eagle *Circaetus gallicus*
L: 64–73. W: 165–180. Large, long-winged eagle with broad head, very pale underparts and square-cut tail with evenly-spaced dark bands. Whitish underparts variably spotted and barred; some are nearly all whitish, others with contrasting dark head and upperbreast; lacks dark carpal-patches. It flies with slow, flexible wingbeats, soars on flat or slightly lifted wings and hovers regularly. It is separated from Osprey by the broader wings, lack of dark carpal-patch and different flight action. Pale morph Steppe Buzzards and Western Honey Buzzards usually have dark carpals, blacker wing-tips, different spacing of tail-bands and are much smaller with quicker wingbeats.
Voice Whistling, disyllabic *kee-yo* with long ascending start and short descending finish.
HABITAT: Open wooded plains, stony foothills, semi-deserts; nests in tree or on cliff.
FEEDING: They mainly feed on reptiles (snakes, lizards); sometimes they eat small mammals like rabbits.
STATUS in Lebanon: Breeding summer visitor; passage migrant in spring and autumn.

Harriers

English name: Western Marsh-harrier
Scientific name: *Circus aeruginosus*
French name: Busard des roseaux
Arabic name: مرزة البطائح

Western Marsh Harrier *Circus aeruginosus*
L: 48–55. W: 115–130. Larger and broader-winged than other harriers; uses wavering low glides on raised wings when hunting. Male has tri-coloured wings; underwing is white but wing-tip is black and rear-body is red-brown. Female is dark brown with crown, throat and breast-spot is yellow-white. Juvenile is all blackish-brown, usually with rusty-yellow on head. Immature male has dirty-grey areas on upperwing and tail, rusty-brown body and underwing-coverts, and more extensive black wing-tips than adult. Rare dark morph is solidly blackish-brown, but adult male has distinct white base to flight feathers below. **Voice** High-pitched Lapwing-like vay-ee when displaying; also ki-ki-ki and feeble, high 'begging' whistles.
HABITAT: Marshes, reedbeds, farmland.
FEEDING: They feed on small mammals, birds, reptiles, insects as well as amphibians.
STATUS in Lebanon: Nesting confirmed in 2006 as summer breeding. Fairly common on passage.



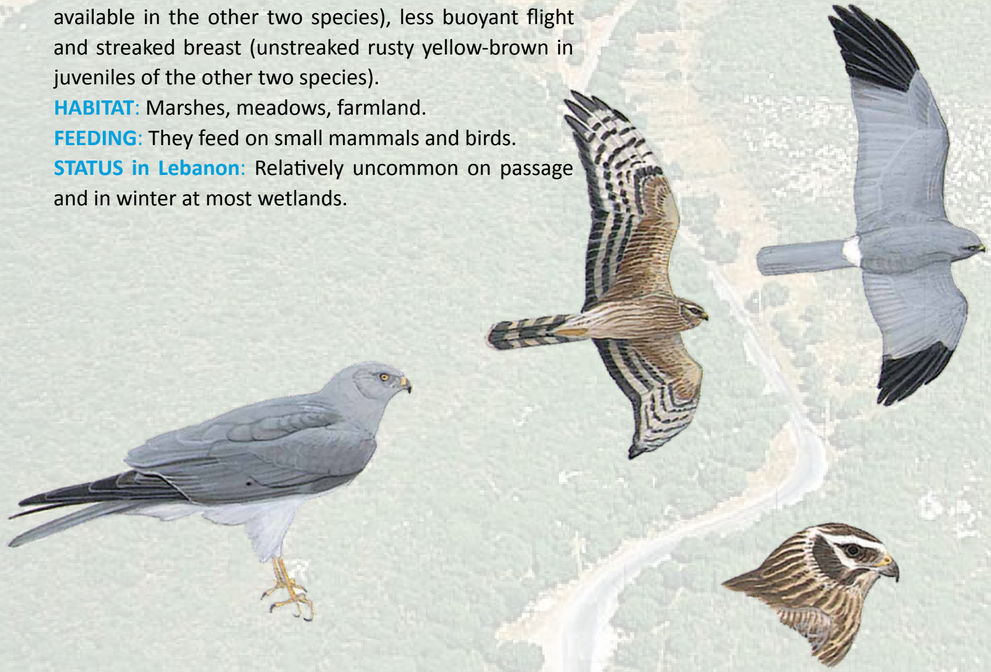
Dave Curtis

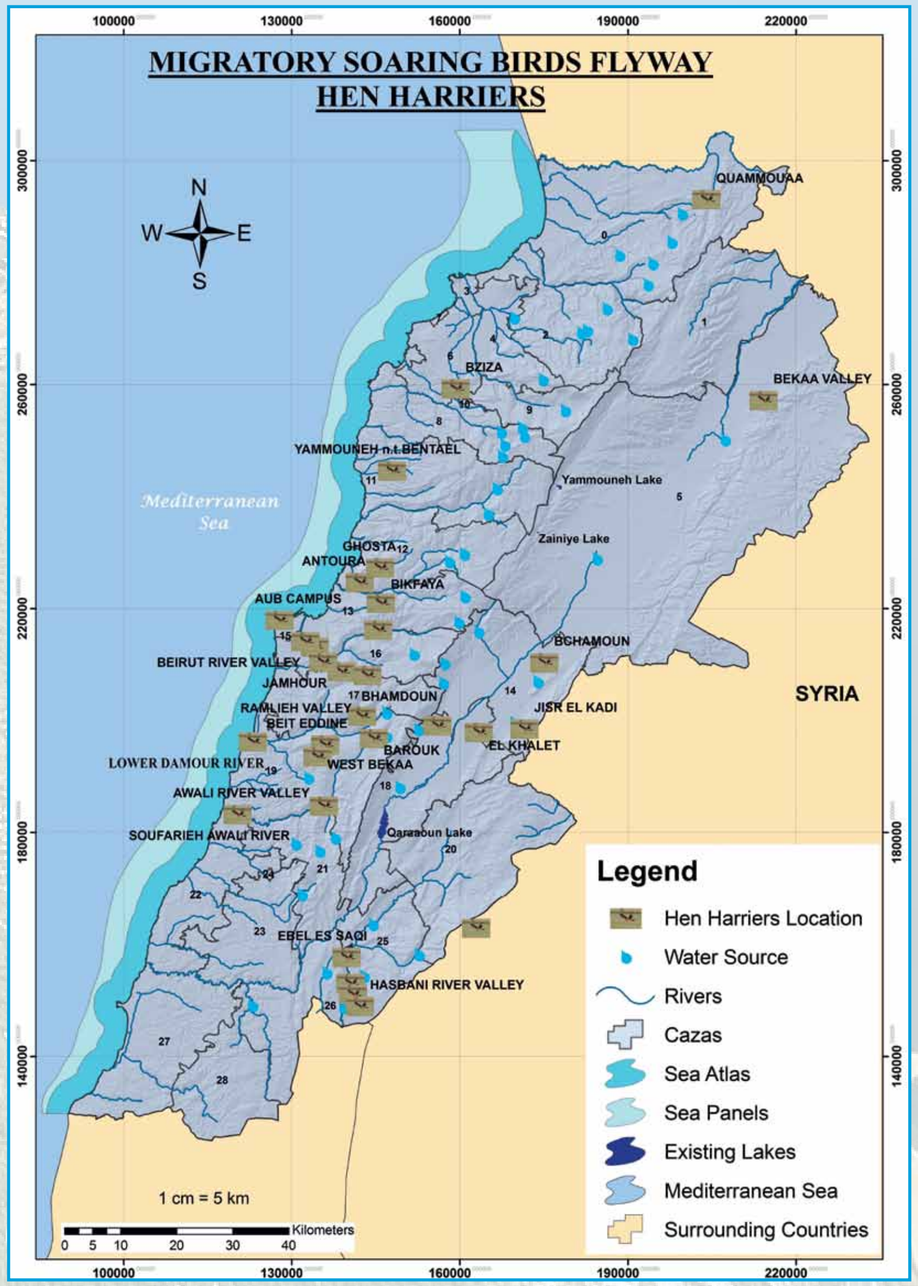
Harriers

English name: Hen Harrier
Scientific name: *Circus cyaneus*
French name: Busard Saint-Martin
Arabic name: مرزة الدجاج

Hen Harrier *Circus cyaneus*
L: 45-56. W: 100-120. Slimmer than western marsh harrier with more buoyant flight. Male has clear-cut white uppertails-coverts, uniform pale grey upperparts, head and upper breast and extensive black wing-tips. Second-autumn male can show black wedge on wing-tip like male pallid harrier (through primary moult). Female and juvenile are brownish with white uppertail-coverts; streaked underparts whitish or rusty–yellow (warmest in juvenile); banding on secondaries below are most distinct in female. Juvenile also has pale tips to greater upperwing-coverts and best separated from juvenile montagu's and pallid harriers by proportionally shorter, broader wings with more ample rounded wing-tip (formed by four outermost primaries, but three are available in the other two species), less buoyant flight and streaked breast (unstreaked rusty yellow-brown in juveniles of the other two species).
HABITAT: Marshes, meadows, farmland.
FEEDING: They feed on small mammals and birds.
STATUS in Lebanon: Relatively uncommon on passage and in winter at most wetlands.

Bob Devlin

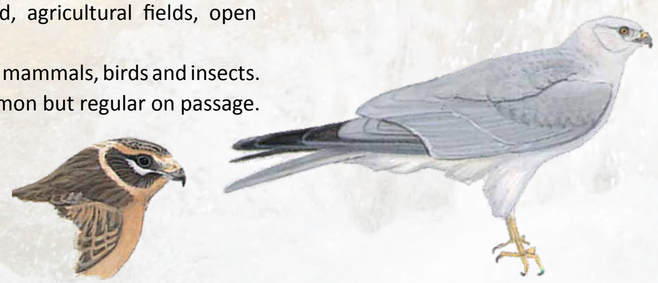




Harriers

English name: Pallid Harrier
Scientific name: *Circus macrourus*
French name: Busard pâle
Arabic name: مرزة بغثاء (باهتة)

Pallid Harrier *Circus macrourus*
L: 40–48. W: 95–117. Proportions and flight are similar to Montagu's Harrier. Male is pale grey above without clear-cut white rump; whitish head and underparts with black wedge on wing-tip. The female pallid harrier and juveniles is differentiated from the Montagu's by pale, dark-streaked, collar (like female Hen Harrier), less spacing between dark bands on secondaries below, with pale bands becoming darker towards body; primaries below often pale, contrasting with darker secondaries and lacking distinct dark trailing edge; heaviest barring is on central primaries with bases often unbarred, creating pale 'boomerang' surrounding darkish coverts; distal primaries with faint or no barring, except for narrow dark 'finger-tips' of longest primaries (unlike Montagu's). Except for pale leading arm, most underwing-coverts and axillaries are rather dark-streaked and lacking distinct pattern (not bold rufous-barred as Montagu's). Streaks on underparts are largely confined to upperbreast which contrasts more with paler rear-body in Montagu's. Juvenile has broad pale collar bordered by brown neck; primaries below rather evenly barred from base to tip though often with pale 'boomerang' at primary-bases, 'fingers' never all-dark as in most young Montagu's. Male (9–12 months old) has paler head and breast than Montagu's; new central tail-feathers show diffuse dark bands near tip (similar Montagu's has grey neck and breast, contrasting with paler belly and new central tail-feathers plain grey).
HABITAT: Steppes, grassland, agricultural fields, open country.
FEEDING: They feed on small mammals, birds and insects.
STATUS in Lebanon: Uncommon but regular on passage.
Red List: Near- threatened.

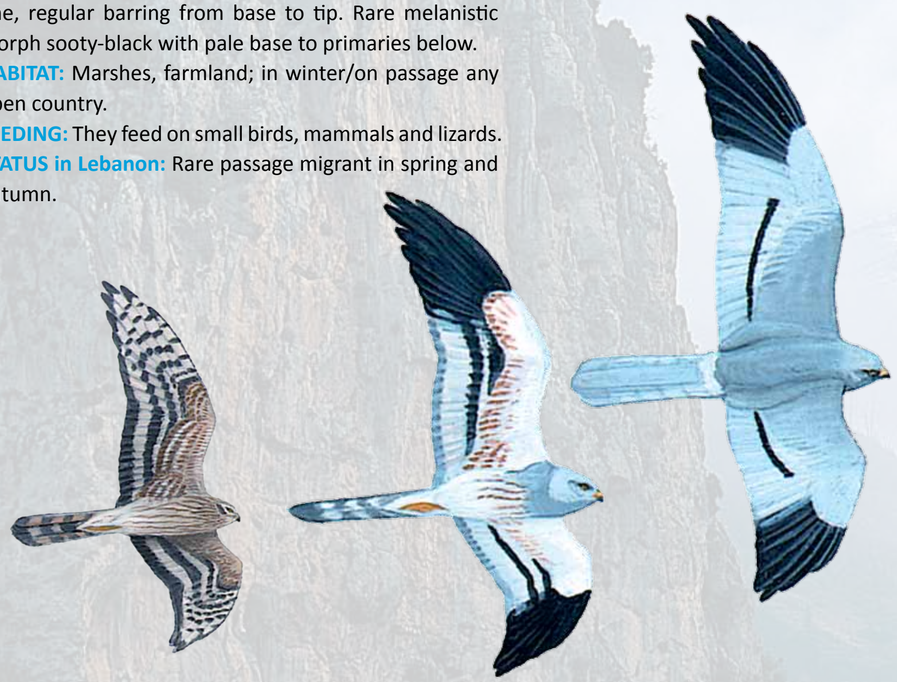


stonebird

Harriers

English name: Montagu's Harrier
Scientific name: *Circus pygargus*
French name: Busard cendré
Arabic name: مرزة مونتاجو

Montagu's Harrier *Circus pygargus*
L: 43–47. W: 97–115. Slender build, narrow wings and buoyant flight. Male has grey back and inner wing, silvery-grey outerwing with extensive black wing-tips; one black band on secondaries above and two below; red-brown streaks below dark grey upperbreast. Second-autumn male can show black wedge at wing-tip as result of primary-moult (thus recalling male Pallid Harrier). Female has rufous-streaked underparts, well-spaced dark bands across pale secondaries and evenly-barred primaries from base to tip with dark trailing edge to hand; and close to pale underwing-coverts and axillaries show uniform bold rufous bars. Juvenile has dark rufous to yellowish-ochre below, largely unstreaked; lacks distinct pale collar of young Pallid, 'fingers' and trailing edge of hand below are dark, but hand otherwise is pale with fine, regular barring from base to tip. Rare melanistic morph sooty-black with pale base to primaries below.
HABITAT: Marshes, farmland; in winter/on passage any open country.
FEEDING: They feed on small birds, mammals and lizards.
STATUS in Lebanon: Rare passage migrant in spring and autumn.



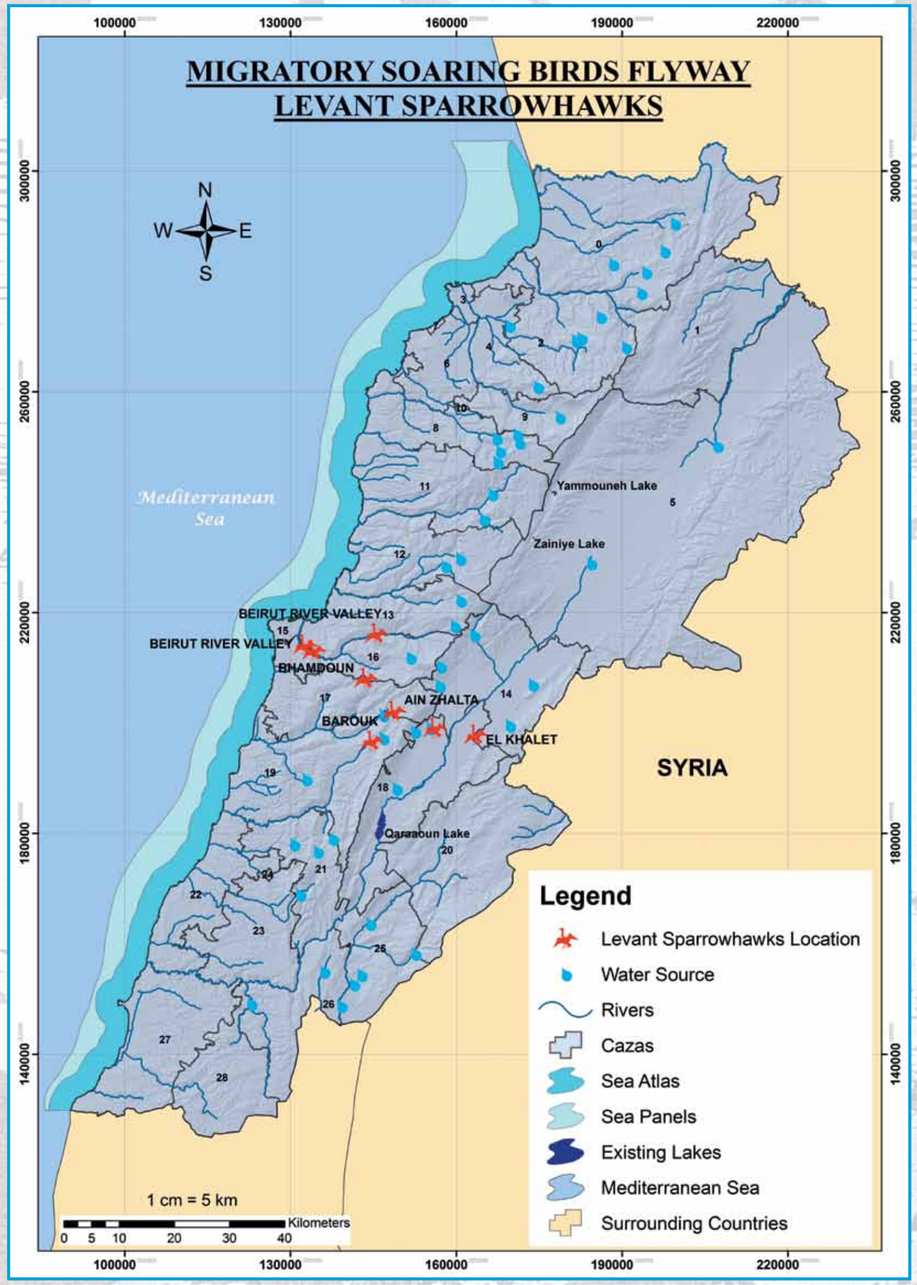
Dave Nye

Hawks

English name: Levant sparrowhawk
Scientific name: *Accipiter brevipes*
French name: Épervier à pieds courts
Arabic name: باشق شرقي

Levant Sparrowhawk *Accipiter brevipes*
L: 32–39. W: 65–75. Small raptor with short broad wings and a longish tail, both adaptations to manoeuvring through trees. It is similar to the Eurasian Sparrowhawk, but its shorter tail and more pointed wings give it a more falcon-type appearance.
Male blue-grey above with blackish wing-tip, barred reddish below and plain central tail feathers; while female is browner and closed uppertail has dark subterminal band. Below, male has white underwing with contrasting black tip, extending to inner primaries. Female, larger than male, with more distinctly barred underparts, has less contrasting dark wing-tip. Black throat-streak, greyish cheeks and absence of supercilium which differentiate it from Eurasian Sparrowhawk. It can be differentiated from Eurasian Sparrohawk by shape of wing-tip (four free outermost primaries, five in Eurasian Sparrowhawk), and often by more rounded tail-corners. Adult female has dark outermost primaries (absent in Eurasian Sparrowhawk) and lacks female Eurasian Sparrowhawk's fully banded central tail-feathers above. Juvenile Levant is dark grey-brown above with closed tail banded, though often indistinctly; underparts have dark longitudinal spots, almost forming lines on breast, and dark throat-streak. Forms flocks on migration. The flight of this hawk is a characteristic *flap – flap – glide*.
HABITAT: Open country with deciduous woods, more widely on passage.
FEEDING: Feeds on insects, reptiles, as well as small birds, and it captures them from the ground.
STATUS IN LEBANON: Formerly bred. A widespread and common passage migrant across Lebanon in large numbers, being one of the principal migrant raptor species.

Dave Curtis

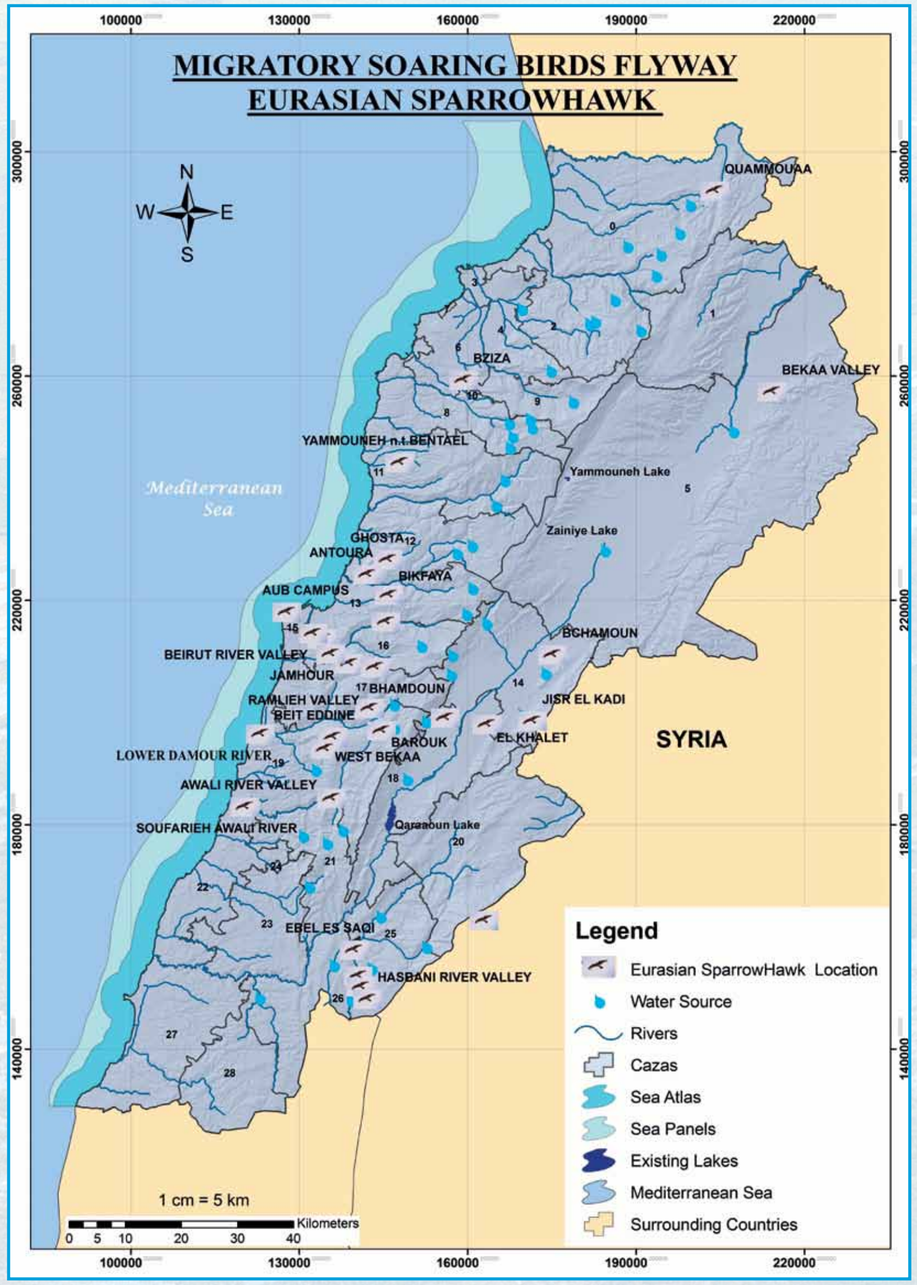


Hawks

English name: Eurasian sparrowhawk
Scientific name: *Accipitier nisus*
French name: Épervier d'Europe
Arabic name: الباشق (باشق العصافير)

Eurasian Sparrowhawk *Accipiter nisus*
L: 29–40. W: 60–80. The female is much larger than male, approaching male Northern Goshawk in size, but wingbeats are faster and lighter, body is slimmer, less protruding head, wing-tips blunter and tail is thinner, longer and more square-cut. Adult ash-grey above (female), bluer slate-grey (male), barred rufous or brown below; whitish supercilium in female (infrequent in male); pale underwing without dark tip. Juvenile browner above with clear white supercilium; streaked or blotched throat and upperbreast, otherwise barred below. Quick wingbeats interspersed with short descending glides (stronger, straighter glides in Northern Goshawk); but they display flight with slow harrier-like wingbeats occasionally when hunting.
HABITAT: Woodland; open country with trees.
FEEDING: It hunts smaller woodland birds
STATUS in Lebanon: Formerly bred. Presently a common passage migrant and rare winter visitor.

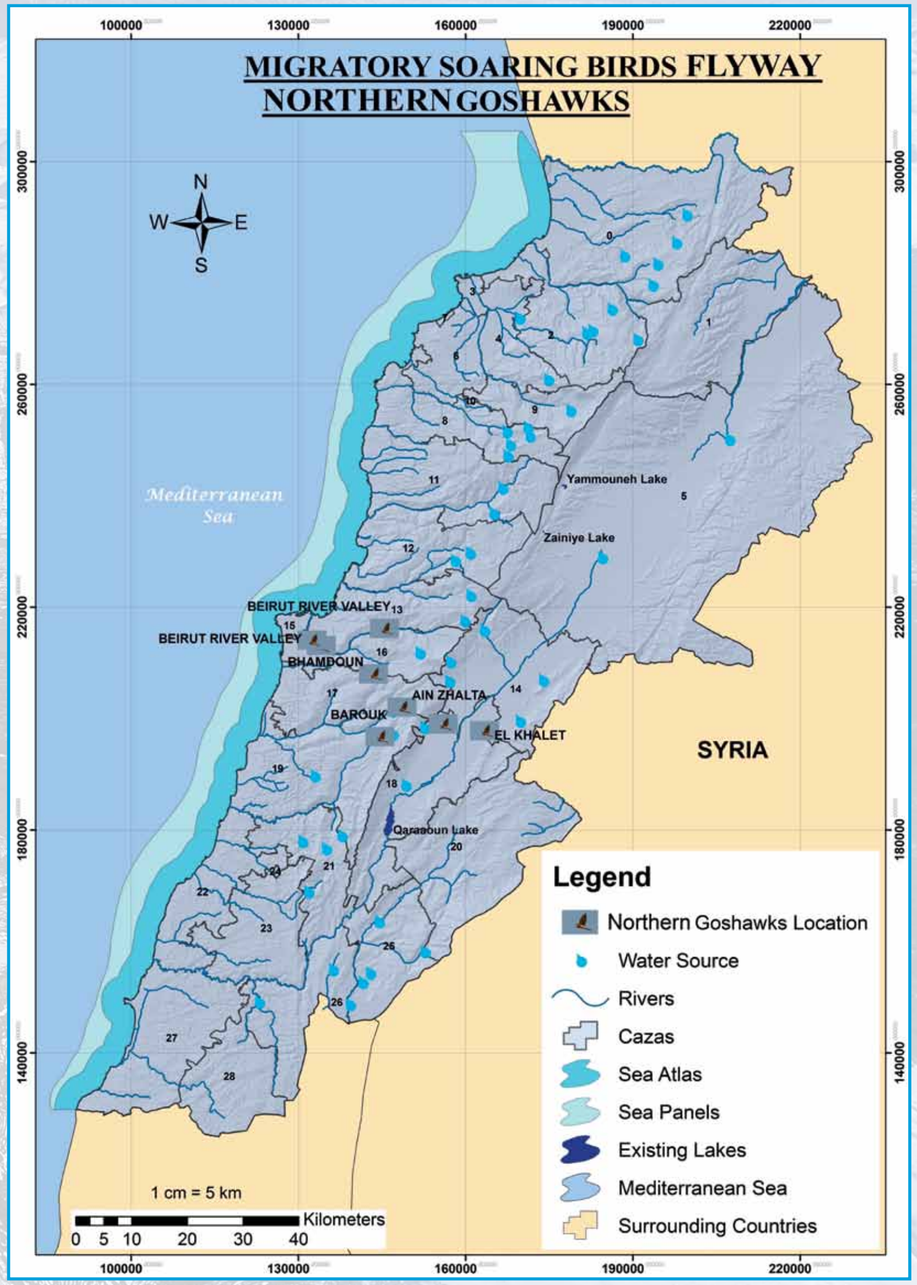
Dave Curtis



Hawks

English name: Northern Goshawk
Scientific name: *Accipiter gentilis*
French name: Autour des palombes
Arabic name: الباز

Northern Goshawk *Accipiter gentilis*
L: 48–60. W: 90–125. The Female is much larger than the male, with a wing-span of a Steppe Buzzard. Compared to a female Eurasian Sparrowhawk, the male has a deeper belly, slower, stronger, stiffer wingbeats and longer, broader-based, but more pointed wings. Note shorter, broader-based tail, usually with rounded tip (thinner tail more square-cut in sparrowhawks) and more protruding head and neck. They have stronger, straighter glides than sparrowhawks and often soar on upturned wings. The adult is dark grey above, darker head appears 'hooded' but supercilium white; underparts finely barred. The Juvenile is dark brown above with pale mottling on ear-coverts; rusty-yellow underparts boldly streaked darker; lacks 'hooded' appearance of adult. The female can be differentiated from large falcons by more rounded wings, bold tail-bands and flight. Hunts like Eurasian Sparrowhawk but also runs down prey on ground; display flight with soft harrier-like wingbeats in shallow waves. They are treated warily by crows.
HABITAT: Woods, particularly coniferous, often near open country.
FEEDING: Small and medium birds as well as mammals including wild rabbits. They catch food during their flight.
STATUS in Lebanon: Scarce passage migrant and rare winter visitor.

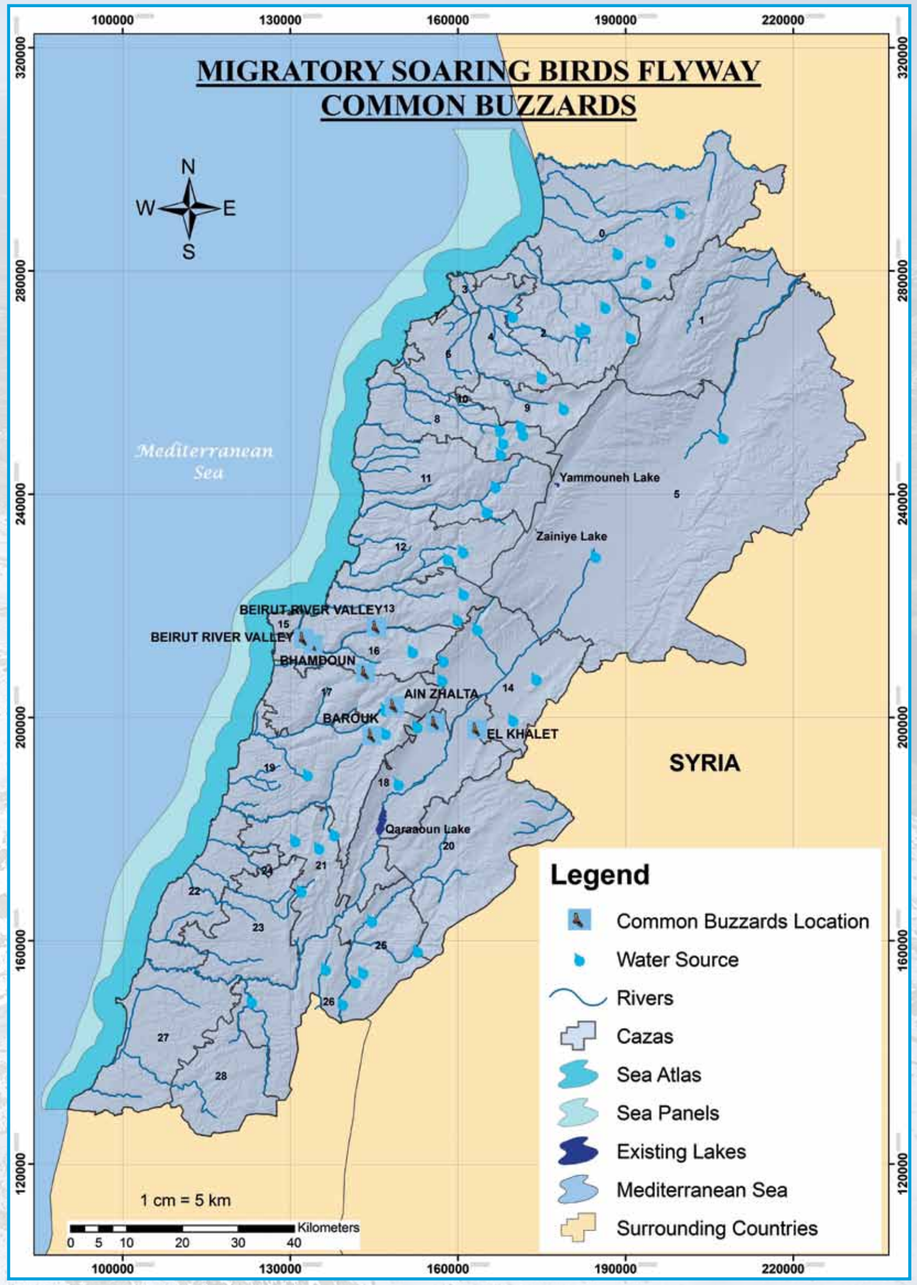


Buzzards

English name: Common Buzzard
Scientific name: *Buteo buteo*
French name: Buse variable
Arabic name: الصقر الحوام أو العقيب الإعتيادي

Common Buzzard *Buteo buteo buteo*
L: 50. W: 120. The well-known buzzard of Western Europe. This common buzzard is quite large with broad, rounded wings, and a short neck and tail and when gliding or soaring it will often hold its wings in a 'V' shape. Common buzzards are variable in colour from dark brown to tan, usually with shades of brown, with a pale 'necklace' of feathers; although all have dark wingtips and a finely barred tail. Very similar in plumage to the grey-brown morph of Steppe Buzzard, but thicker-set with broader, longer wings and slightly shorter tail.
HABITAT: Any habitat on passage.
FEEDING: Feeds on small mammals, small birds, insects, rodents and small snakes.
STATUS in Lebanon: Widespread and common passage migrant and winter visiror.

Ferran Pestaña

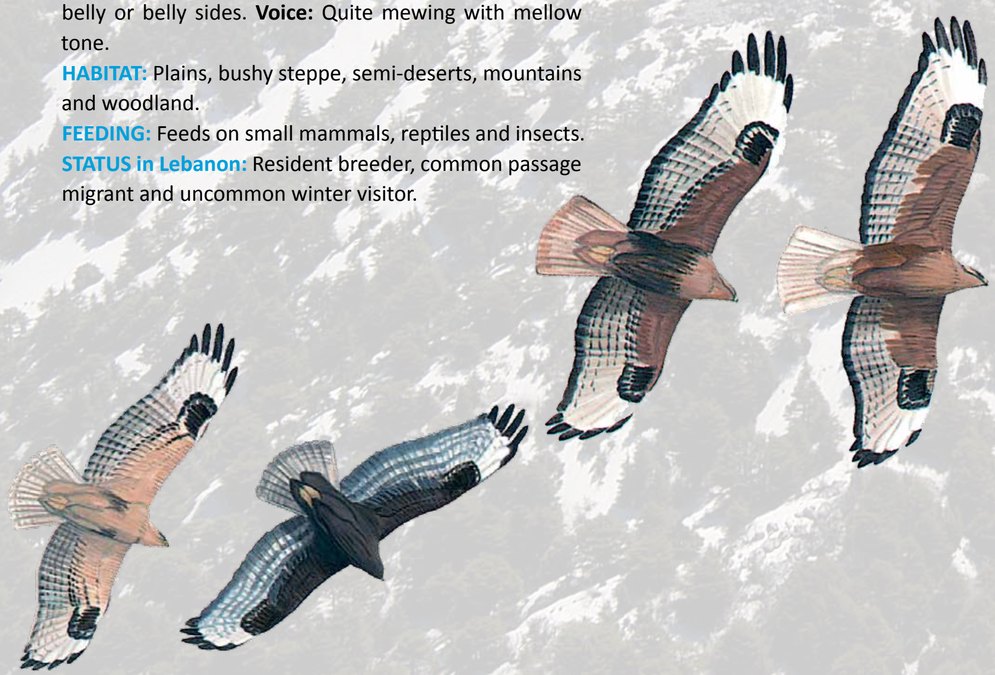


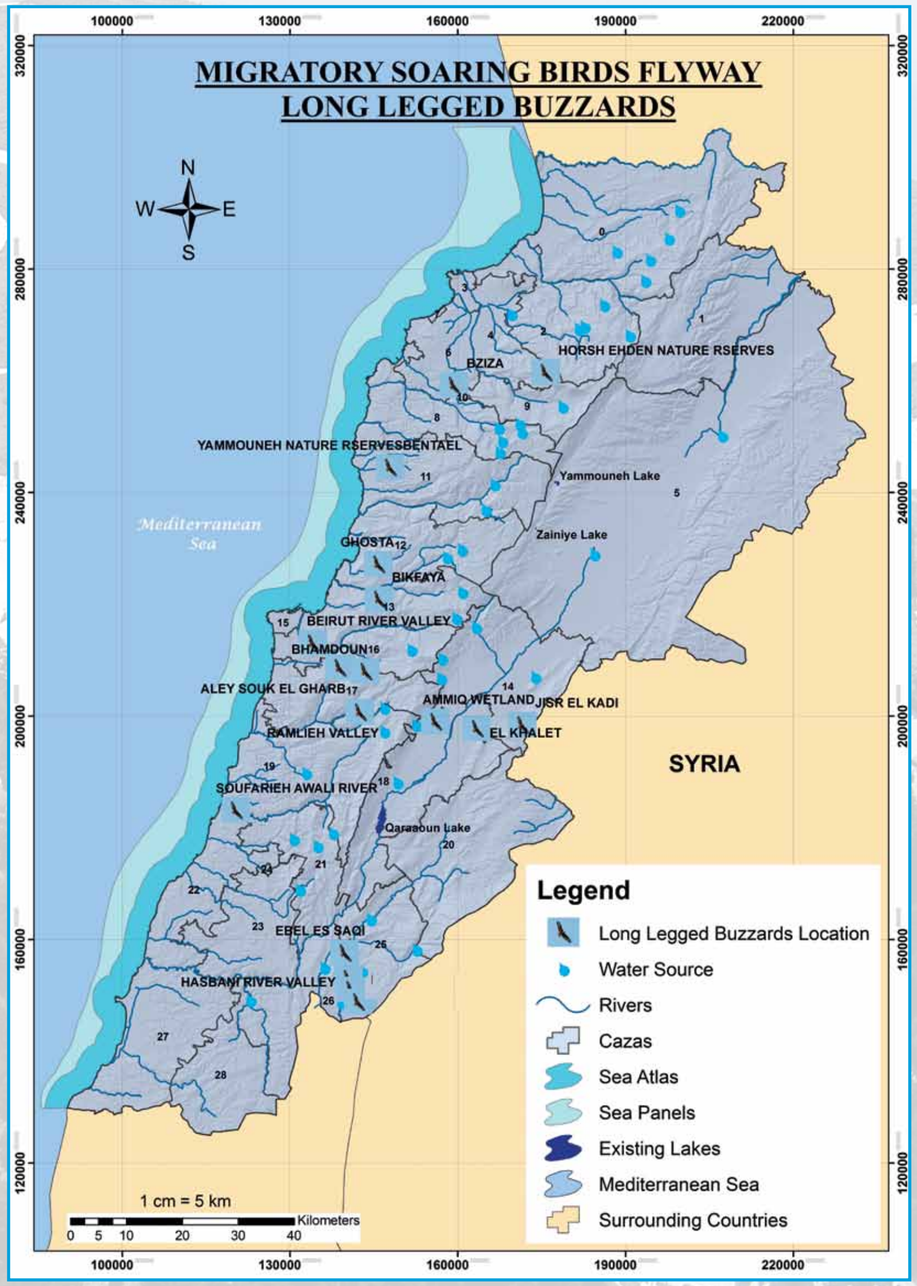
Buzzards

English name: Long-legged buzzard
Scientific name: *Buteo rufinus*
French name: Buse féroce
Arabic name: الحوام طويل الساق

Long-legged Buzzard *Buteo rufinus*
L: 60–66. W: 130–155. Larger than Steppe Buzzard with longer wings and tail, kinked wing position when gliding and flexible wingbeats; soars on raised wings. Wide plumage variation: creamy-white, rufous-brown and blackish forms on account of colour on body and underwing-coverts. The blackish form can show coarse dark bars on flight- and tail-feathers. Typical Long-legged Buzzards have pale head and breast, becoming dark towards belly, pale sandy or rufous-brown upperwing-coverts contrasting with flight-feathers, unbarred pale rusty-orange uppertail and large black carpal-patches. Juvenile has finely-barred outer tail and diffuse dark trailing edge to underwings; some are almost white below with bold carpal-patches and dark rusty-brown belly or belly sides. **Voice:** Quite mewing with mellow tone.
HABITAT: Plains, bushy steppe, semi-deserts, mountains and woodland.
FEEDING: Feeds on small mammals, reptiles and insects.
STATUS in Lebanon: Resident breeder, common passage migrant and uncommon winter visitor.

O.Fadhil

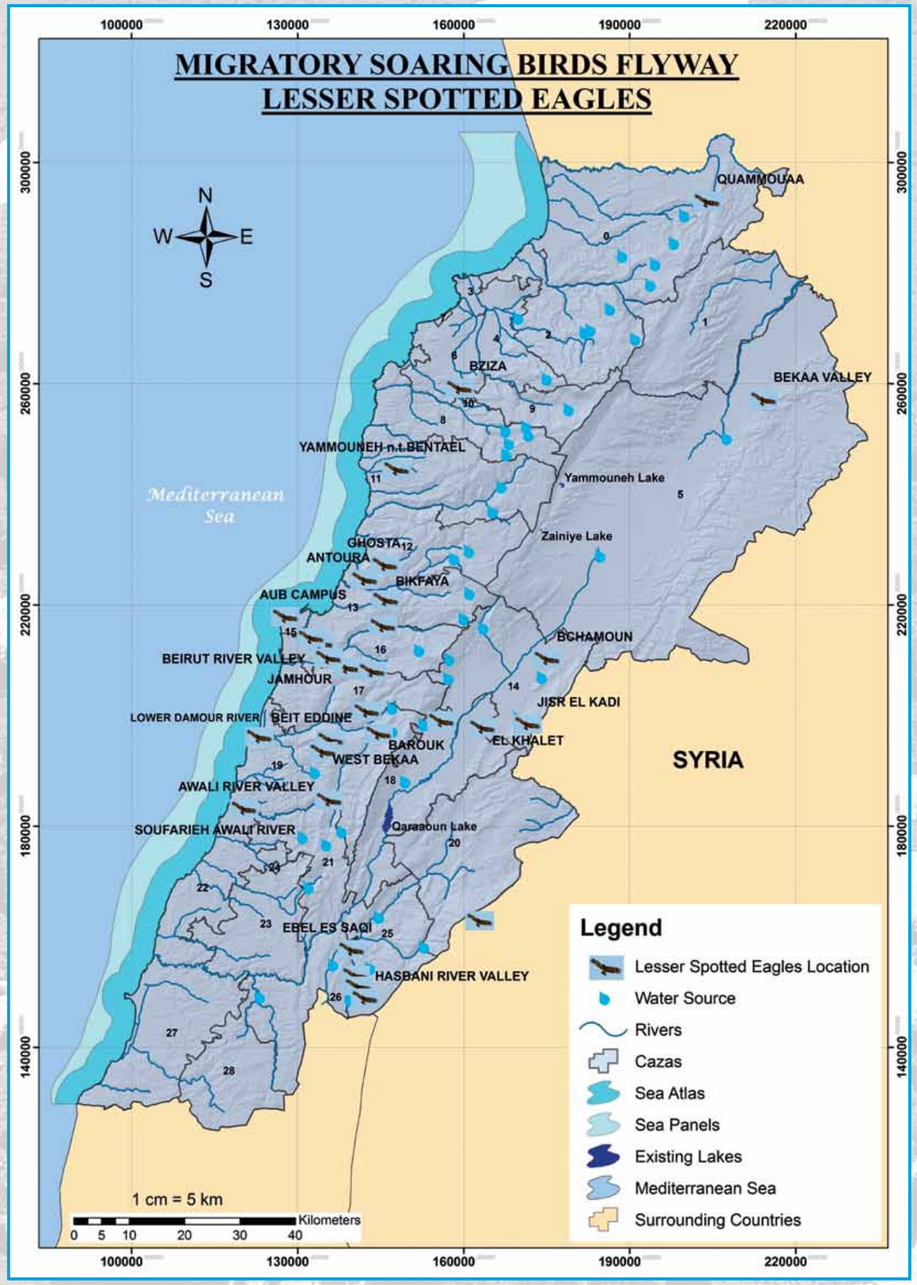




Eagles

English name: Lesser spotted eagle
Scientific name: *Aquila pomarina*
French name: Aigle pomarin
Arabic name: العقاب الأسفع (الأرقط) الأصغر

Lesser Spotted Eagle *Aquila pomarina*
L: 62. W: 145–165. Medium-brown adult shows contrast between pale upperwing coverts and darker brown mantle, underwing-coverts paler than flight feathers, a neat pale patch at base of primaries above and small creamy area on uppertail coverts. Juvenile darker, warm brown below with flight-feathers of same shade or slightly darker (coverts never darker than flight-feathers); unlike adult may show little contrast between mantle and wing coverts; darker head has rusty-yellow spot on nape (absent in Greater Spotted, present in some adult Steppe Eagles); narrow white bar on greater upperwing coverts and distinct whitish inner primary-patch. Short or minute seventh primary, less deeply-fingered wings and smaller hand separates it from Steppe Eagle at all ages; lacks dark band on trailing edge of underwing and tail of many adult Steppe. Wings are relatively narrow, tail medium-long; has active flight less heavy than larger Aquilas. Soars and glides on arched wings with primaries more or less lowered. On ground lacks heavy 'trousers'. Note that both spotted eagles have characteristic round nostrils (unlike Steppe).
HABITAT: Open country and forests or groves for roosting during migration.
FEEDING: Feeds on small mammals, reptiles and small birds, lizards and amphibians.
STATUS in Lebanon: Common passage migrant in spring and autumn.



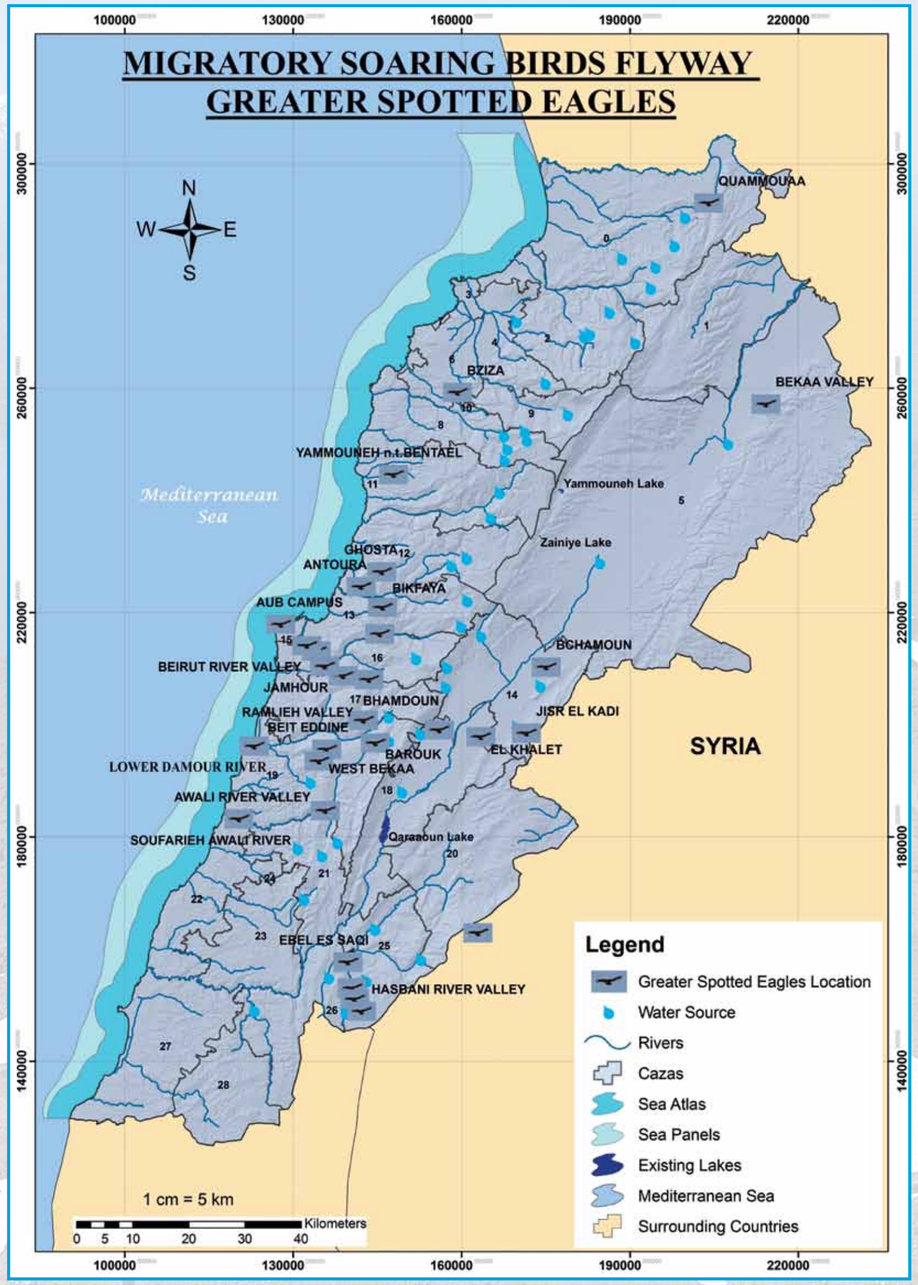
Eagles

English name: Greater spotted eagle
Scientific name: *Aquila clanga*
French name: Aigle criard
Arabic name: عقاب أسفع (أرقط) كبير

Greater Spotted Eagle *Aquila clanga*
L: 65. W: 155–180. Typically darker than Lesser Spotted Eagle. Adult dark brown below, flight-feathers similarly dark or a shade paler (reverse in Lesser Spotted); leading underwing-coverts sometimes blackish-brown (never so in Lesser). On upperwing, mid- to dark brown coverts sometimes contrast with darker mantle (like typical Lesser); no conspicuous pale primary-patch above (unlike Lesser and Steppe Eagle). Adult Greater Spotted usually lacks band on trailing edge of underwing, seen on many adult Steppe. It also lacks pale nape-spot of young Lesser and many adult Steppe. Juvenile is blackish-brown below with paler flight-feathers (in Lesser Spotted coverts are brown but flight-feathers never paler); blackish-brown upperwing has one to three white covert bars, often creating pale panel; large, diffuse primary-patch formed by whitish primary shafts and pale inner primaries (patch smaller, more conspicuous in Lesser).
Infrequently, young Greater Spotted is abnormally colored on body and wing-coverts: i.) - 'fulvescens'[9] type illustrated; ii.) Yellow-brown above and below; iii.) Yellow-brown above, normal below; iv.) Yellow-brown below, normal above; v.) Under-wing-coverts greyish, or dark, mottled paler, underbody darker; or normal upper-and underwing, but contrasting paler underbody. Irrespective of age, secondaries below may have thin dense bars (broader in Lesser Spotted, more well-spaced in Steppe). Adult has relatively broad and parallel wings with slightly broader hand and deeper fingers than Lesser. Juvenile has narrower hand than adult with trailing edge fairly strongly incurved at body (visible when tail closed). Hand slightly shorter, less ample than Steppe (Greater Spotted has shortish seventh primary) and bill generally smaller. Wing position in flight is similar to Lesser Spotted.
HABITAT: During the migration, they visit all types of habitats and may be found congregating around shallow water and perching on low bushes and small trees.
FEEDING: Feeds on small mammals, waterbirds, frogs and snakes.
STATUS in Lebanon: Irregular and scarce passage migrant over the country.
RED LIST: Vulnerable

9- Fulvescens: is a rare sandy form of greater spotted eagle.

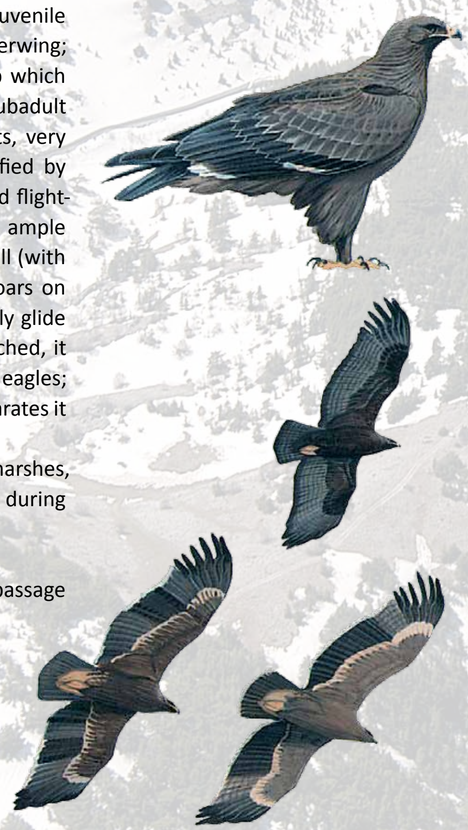
whifflepeg



Eagles

English name: Steppe eagle
Scientific name: *Aquila nipalensis*
French name: Aigle des steppes
Arabic name: عقاب السهوب (البادية)

Steppe Eagle *Aquila nipalensis*
L: 75. W: 175–210. Adult dark brown with uniform underwing and paler or darker flight-feathers with well-spaced dark bars and clear-cut band on trailing edge (pattern sometimes diffuse); large dark carpal-patch which is typical, except in darkest birds. Above, coverts often palest part of wing; usually has large, dark-barred, pale primary-patch (patch virtually absent in adult Eastern Imperial, Tawny and Greater Spotted Eagles); grey-brown tail often boldly barred and with broader band at tip (absent in spotted eagles). Juvenile pale brown with broad white band through underwing; above, note large primary-patch and dark rump which separates it from most young Imperial Eagles. Subadult usually has darker body than underwing-coverts, very like some immature Lesser Spotted, but identified by remains of white underwing-band or well spaced flight-feather barring, long deeply-fingered wings, ample hand (long fourth primary) and longer heavier bill (with nostril peanut-shaped). Flight is heavy; often soars on flexed, flattish wings but can soar and particularly glide on arched wings with lowered hand. When perched, it shows large heavy 'trousers' unlike the spotted eagles; long yellow gape flange to rear of eye, which separates it from other Aquilas.
HABITAT: Open steppe, semi-desert, foothills, marshes, but generally over a wide range of habitat during migrartion.
FEEDING: Feeds on small mammals and birds.
STATUS in Lebanon: Uncommon to scarce passage migrant over most of the country.



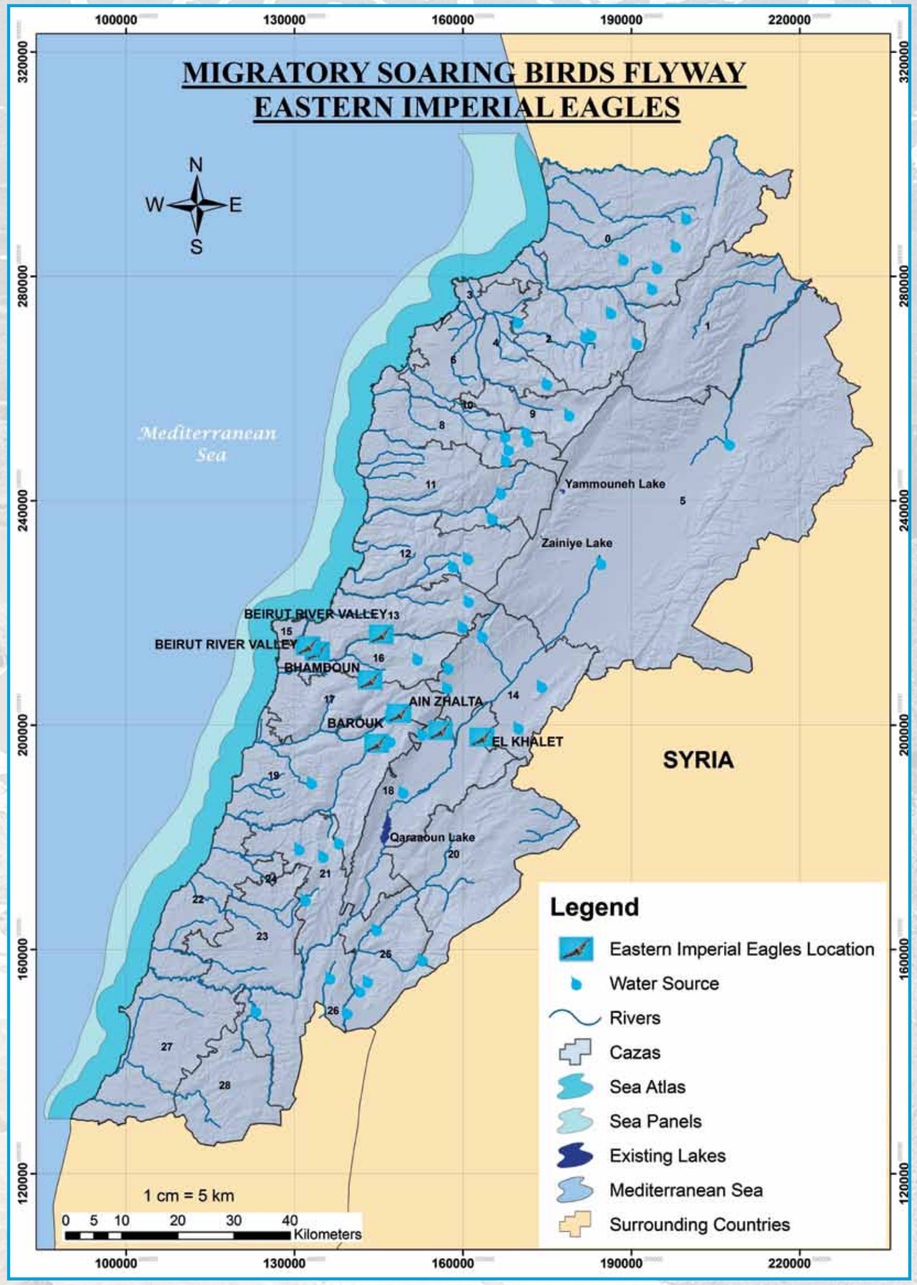
Marwan Owaygen

Eagles

English name: Eastern imperial eagle
Scientific name: *Aquila heliaca*
French name: Aigle impérial
Arabic name: ملك العقبان

Eastern Imperial Eagle *Aquila heliaca*
L: 72–83. W: 190–210. Adult identified from Golden Eagle by blackish-brown plumage, contrasting yellow-white hindneck, pale uppertail with broad black band and white 'braces' (can be hard to see). Also, in flight parallel-edged wings held flattish and, often, closed narrow tail when soaring. Juvenile has dark-streaked breast forming pectoral band which contrasts with unstreaked yellow-buff rear-body, and distinct pale wedge on inner primaries below; yellow-brown upperparts show one or two complete whitish bars on coverts and creamy lower back and rump; lacks white band through underwing of young Steppe. The immature below, still streaked (much as juvenile) or mottled blackish-brown and yellowish with rear-body clearly paler, possibly also retaining pale inner primaries; adult head- and tail-pattern start to show early. Rather long-winged with ample hand, deep-fingered wing-tip (long seventh primary), well-protruding head and relatively long tail. Juvenile has broader, more 'S'-curved rear edge to wings. In general, all the imperial eagles wings are sometimes slightly lifted when soaring, but arched during fast glides. On the other hand, perched juveniles/immatures show pale lower underparts and, like adult, rather long protruding head (compared to other Aquilas). Tawny Eagle lacks streaks below of young Imperial (but such streaks are seen in some African birds, which could occur in Arabia).
HABITAT: Open plains and foothills with woods; more open country outside the breeding season.
FEEDING: Feeds on mammals (small or medium sized) and reptiles.
STATUS in Lebanon: Uncommon passage migrant.
Red List: Vulnerable

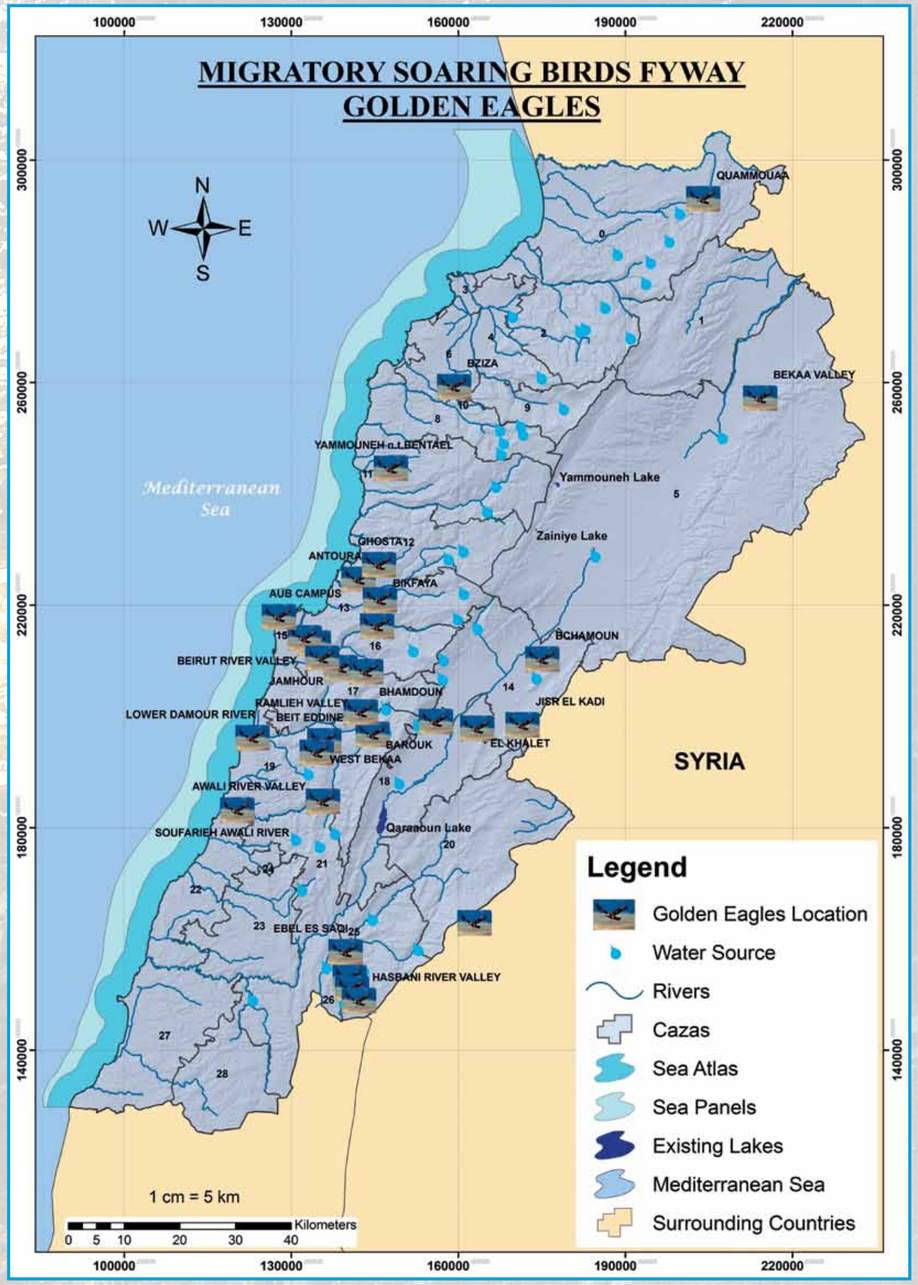
Fouad Itani



Eagles

English name: Golden Eagle
Scientific name: *Aquila chrysaetos*
French name: *Aigle royal*
Arabic name: العقاب الذهبية

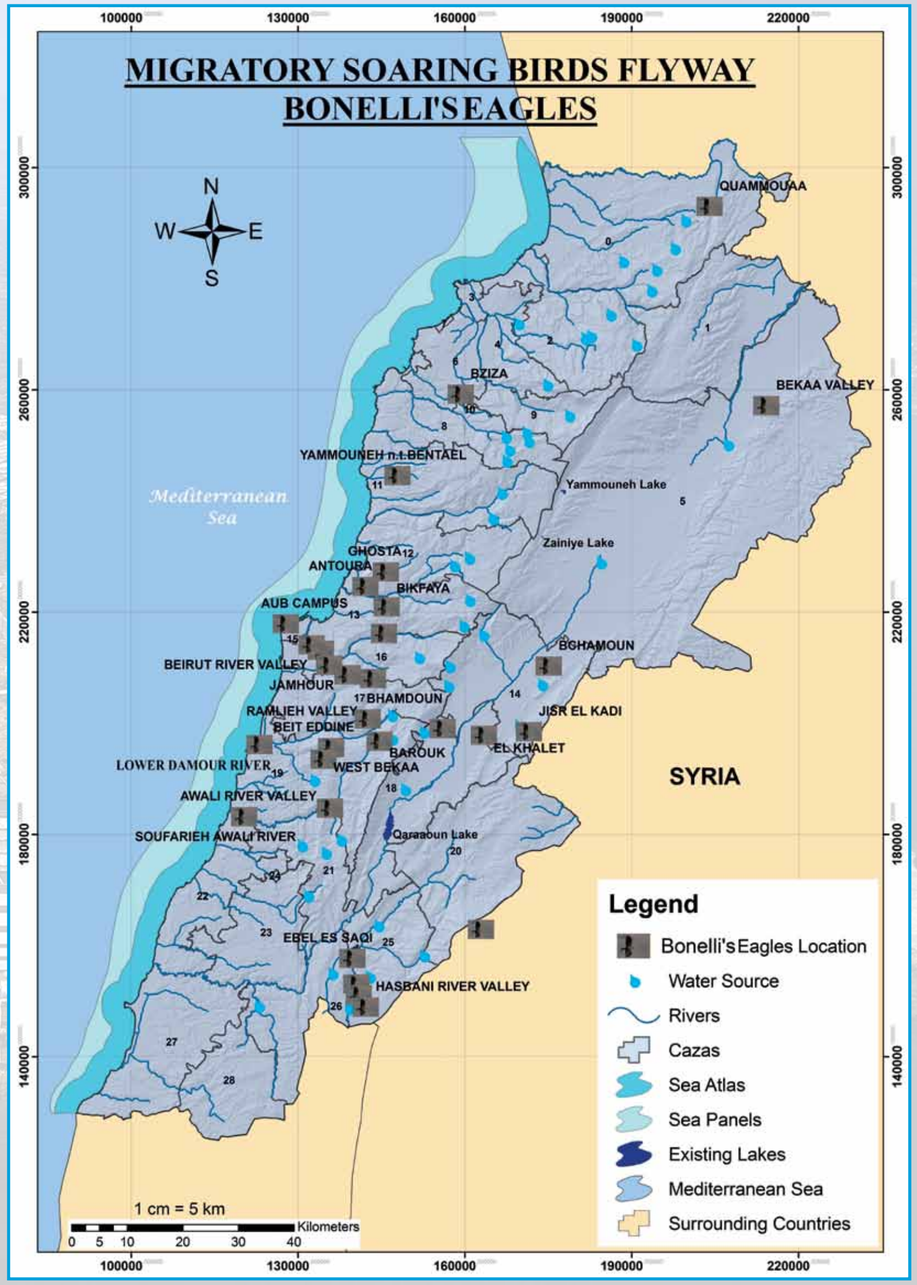
Golden Eagle *Aquila Chrysaetous*
L: 78. W: 190-230. Powerful flight with flexible wingbeats; soars and glides on markedly raised wings, has fairly long tail and slightly 'S' curved rear-edge of wings (more pronounced in juvenile). Dark brown adult has rusty-yellow hindneck, pale panel across upperwing-coverts, dark-barred, black-tipped greyish flight feathers which show as grayish area on outer wing above and greyish tail with blackish band at tip. (Adult Imperial Eagle is blacker, including outer wing above, has flatter, more parallel-edged wings when soaring and narrower tail). Juvenile and immature have patches in primaries and inner tail, the latter with broad black band at tip, unique in the Aquila eagles. Birds older than one year show pale panel across upperwing-coverts. Often hunts in tandem.
HABITAT: Barren or wooded mountains, plains and semi-deserts with trees; nests on rocky ledge, sometimes in tree.
FEEDING: They feed on rabbits, ground squirrels and small mammals.
STATUS in Lebanon: Formerly bred. Presently seen on post breeding dispersal and suspected breeding in the South East of Lebanon. It is on the list of last concern category.



Eagles

English name: Bonelli's eagle
Scientific name: *Aquila fasciatus*
French name: Aigle de Bonelli
Arabic name: عقاب بونللي

Bonelli's Eagle *Aquila fasciatus*
L: 60–70. W: 150–165. In flight recalls large, thick-set Honey Buzzard. Adult is identified by dark underwings contrasting with whitish underbody, pale tail with black band at tip and white patch on mantle; and at close range by white leading edge of wing. Pale rusty buff juvenile lacks black tail-band, and flight-feathers are pale with fine dark barring; paler translucent primaries contrast with blackish wing-tip; when present, narrow dark bar on rear underwing-coverts are diagnostic, but in others confined to dark 'comma' on primary-coverts; upperwing cinnamon-brown with large, pale primary-patch. Soars on flat or slightly arched wings, often with long, almost square-cut tail held closed (may be twisted independently); glides with carpals pressed forward, trailing edge of wings straight (recalling European Honey Buzzard). Often hunts in pairs; stoops at great speed.
HABITAT: Rocky Mountains, forested foothills; and in winter plains and semi-deserts, beside a variety of landscapes during migration.
FEEDING: They feed on mammals or birds.
STATUS in Lebanon: Scarce resident breeding and scarce passage migrant and winter visitor.

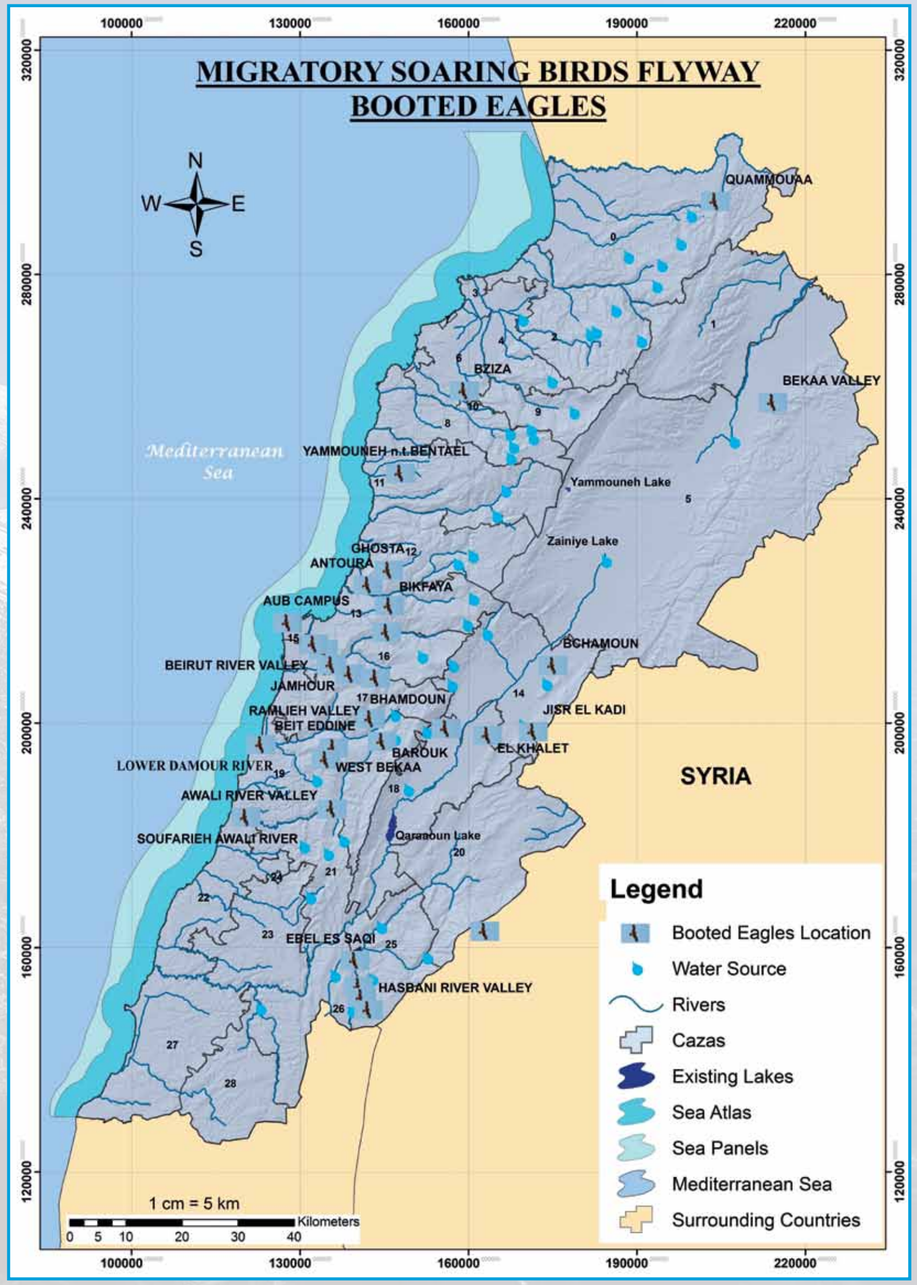


Eagles

English name: Booted eagle
Scientific name: *Hieraaetus pennatus*
French name: Aigle botté
Arabic name: العقاب المسيرة المنتعلة أو المسرولة

Booted Eagle *Hieraaetus pennatus*
L: 43–53. W: 110–130. Two distinct color morphs. Its Size is similar to Steppe Buzzard, but outline and wing-position is close to Black Kite; with tail square-cut. More-ample deeply-fingered wings than Steppe Buzzard. Pale morph has creamy-white underparts with contrasting blackish flight-feathers, kite-like panel on upperwing, pale scapulars (seen head on as 'landing lights') and uppertail-coverts and diagnostic white spots at base of neck. Lacks dark carpal-patch of most pale Steppe Buzzards and European Honey Buzzards; also has darker base to flight-feather and paler inner primaries. Dark morph is similar to pale morph above but underparts are dark brown, or rufous with black band through centre of underwing. When perched, feathered tarsi also separates it from the buzzards, except for rough-legged. It has deeper, more powerful wingbeats and steadier glides than Steppe Buzzard; soars on flat wings; does not hover.
HABITAT: Deciduous and pine forest; more open country outside the breeding season.
FEEDING: Feeds on small-medium sized birds and mammals.
STATUS in Lebanon: Scarce summer breeding and uncommon passage migrant .


Dave Nye

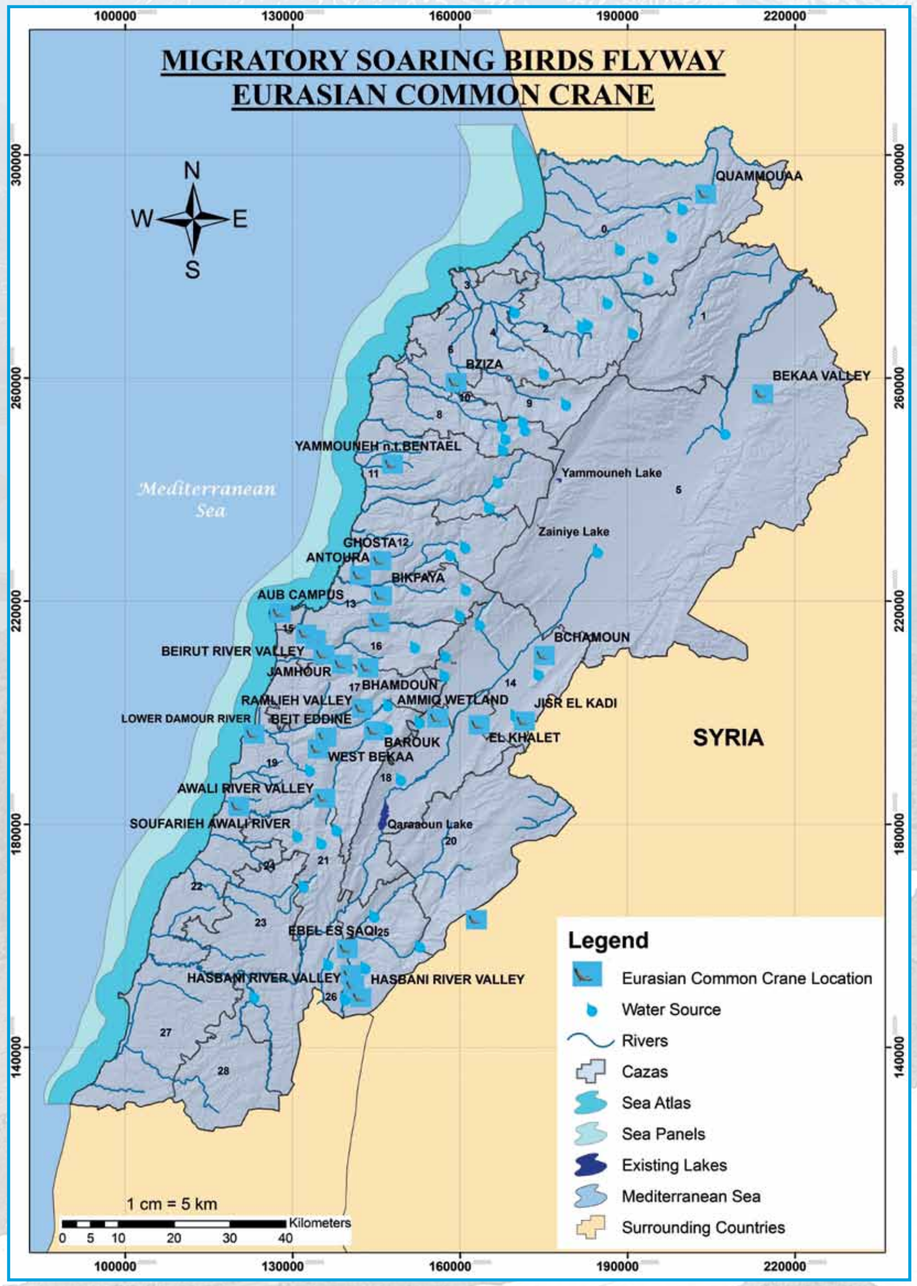


Crane

English name: Eurasian/Common Crane
Scientific name: *Grus grus*
French name: Grue cendrée
Arabic name: الكركي الرمادي

Eurasian Common Crane *Grus grus*
L: 115. W: 233. Large and majestic. Grey plumage with contrasting black flight-feathers, black head and upper neck, and white stripe from eye down side of neck. Looks 'bushy' at rear-end on ground. Juvenile has brownish head without contrasting head pattern. Adult is identified from Demoiselle by size and absence of black breast. Gregarious in winter and on migration. Neck is extended in flight, as in other cranes; powerful wingbeats interspersed with long glides, often soars; flies in 'V' formation. **Voice** Often detected by far-carrying, trumpeting krrllaa—krrllaa ... or krrlll—krrlll...
HABITAT: Wetlands, fields and steppe.
FEEDING: Plants such as fruits, seeds. Sometimes they eat worms, frogs, lizards and sometimes small fish. Also they feed on almost anything found in shallow wetlands.
STATUS in Lebanon: Common and abundant passage migrant during both migration periods and occasional in winter.

Gynti



REFERENCES

- *Bird Migration, The Lehigh Earth Observatory,* 2000-2006 Lehigh Earth Observatory <www.leo.lehigh.edu>
- Hanah Al-Samaraie, Robert Vagg, Stéphanie de Pury," *A bird's eye view on flyways".* United Nations Environment Programme (UNEP) and the Secretariat of the Convention on the Conservation of Migratory Species of Wild Animals (CMS.2009). <http://www.unep-aewa.org/publications/cms_birds_eye_view_on_flyways.pdf>
- Wikipedia. <http://en.wikipedia.org> .June, July 2011
- Bird flight, Soaring Flight in Birds. www.ornithopter.org
- *Mainstreaming Conservation of Migratory Soaring Birds into Key Productive Sectors along the Rift Valley/Red Sea flyway, Governments of Djibouti, Egypt, Eritrea, Ethiopia, Jordan, Lebanon, Palestinian Authority, Saudi Arabia, Sudan, Syria and Yemen. United Nations Development Program, Bird Life International, December 2006.* < www.undp.org.eg >
- Fiche créée le 12/01/2001 par *Didier Collin* avec la participation de *Daniel Le-Dantec* http://www.oiseaux.net/oiseaux/accenteur.alpin.html
- Ghassan Ramadan-Jaradi, T. Bara, and M. Ramadan-Jaradi (2008) Revised checklist of the birds of Lebanon 1999-2007. Sandgrouse 30 (1): 22-69.
- Richard Porter, S. Christensen, P. Schiermacker-Hansen (1996). Illustrated by A. Birch,F. Gale, M. Langman, B. Small. Helm Field Guides, *Birds of the Middle East.*

Soaring Birds Atlas

Lebanon