



# Bird

**Identification  
Manual**

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The information, results, interpretations and conclusions contained in this book are those of the authors, and do not necessarily represent the viewpoint of the Ministry of Environment or the United Nations Development Program

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## Acknowledgment

Lebanon is considered a major bottleneck for migratory soaring birds. This “Bird identification Manual” is an achievement for birds and biodiversity in Lebanon. It would be an important resource for trainings and capacity building on birds, migration, and skills for bird identification.

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

**Bassima Chafic Khatib**



SPNL Assistant  
Director General

**Assad Adel Serhal**



SPNL Director General  
Global Councillor - BirdLife International

## Executive Summary

Lebanon is considered a major bottleneck for migratory soaring birds by well-known ornithologists. This “Bird identification Manual” provides the guidelines needed for the differentiation between bird species!

The book is divided into 9 main chapters, as follows:

**Section One: Learn the Basic Bird Body Parts**

**Section Two: Arm Yourself with Bird Watching Tools**

**Section Three: Observe the Bird Identification Criteria**

**Section Four: Join Migratory Birds on their Journeys...**

**Section Five: Discover Bird Groupings and Families**

**Section Six: Game or Non-game Bird Species?**

**Section Seven: Threatened Birds Alert!**

**Section Eight: Importance of Bird Conservation**

**Section Nine: Get Ready, it's Field Time!**

The first three sections provide an overview of bird body parts, guidelines for bird identification criteria, and the tools used in bird watching. Section four explains the miracle of migration, strategies used, threats, and survival. Section five presents the bird families identified in Lebanon. Section six is dedicated for detailed information on game species, while section seven is for globally threatened species. Section eight concentrates on the importance of bird conservation through awareness, education, and direct action. Section nine provides guidelines for bird watching: before the trip, during bird watching in the field, and after coming from the field.

This “Bird identification Manual” is an important educational resource for trainings and capacity building on birds, migration, and skills for bird identification!

## List of Abbreviations

Anti-UV	Anti-Ultra Violet
MSBs	Migratory Soaring Birds
SBs	Soaring Birds
IBAs	Important Bird Areas
IUCN	International Union for Conservation of Nature
UN	United Nation



## Introduction

Plant pollinators, seed dispersers, agricultural pest controllers, environmental health indicators, amusers, art and technology inspirers... They are the birds, the ecological agents that perform valuable services!

Identifying birds is a fascinating, ever-changing activity that increases our awareness and appreciation of natural wildlife. Further, the birds represent an amazing group of species, and they act in different roles in different habitats, and are a delight to the senses with such variations in color, song, and incredible differences in flight pattern. Their sheer variety and elusive nature give the serious bird watcher an opportunity to pursue his passion with infinite challenge and high level of success. This growing awareness of bird identification, however, comes at an odd time; migratory soaring birds are in jeopardy. Their decline is attributed primarily to human short-sighted practices such as illegal shooting of birds, the destruction of

habitats needed by the resident and migratory soaring birds over use of agrochemicals, pollution, etc.... Although there is a certain irony in people becoming enthusiastic about migratory soaring birds as they disappear, it also presents an opportunity: bird watchers may be the economic and political force that can help save the birds. How much bird watchers spend on bird identification is no joke, and the economic values presented by bird identification can be used by resource managers and policy makers to demonstrate the economic might of bird watching, the value of bird identification and by extension, the value of birds.

Experiencing bird identification according to this manual can offer enormous benefits on an individual level as well as providing the opportunity to understand the pressures facing birds and bird habitats, and help contribute to conservation. Rest assured that there's a lot to learn!

## Target People and Objective

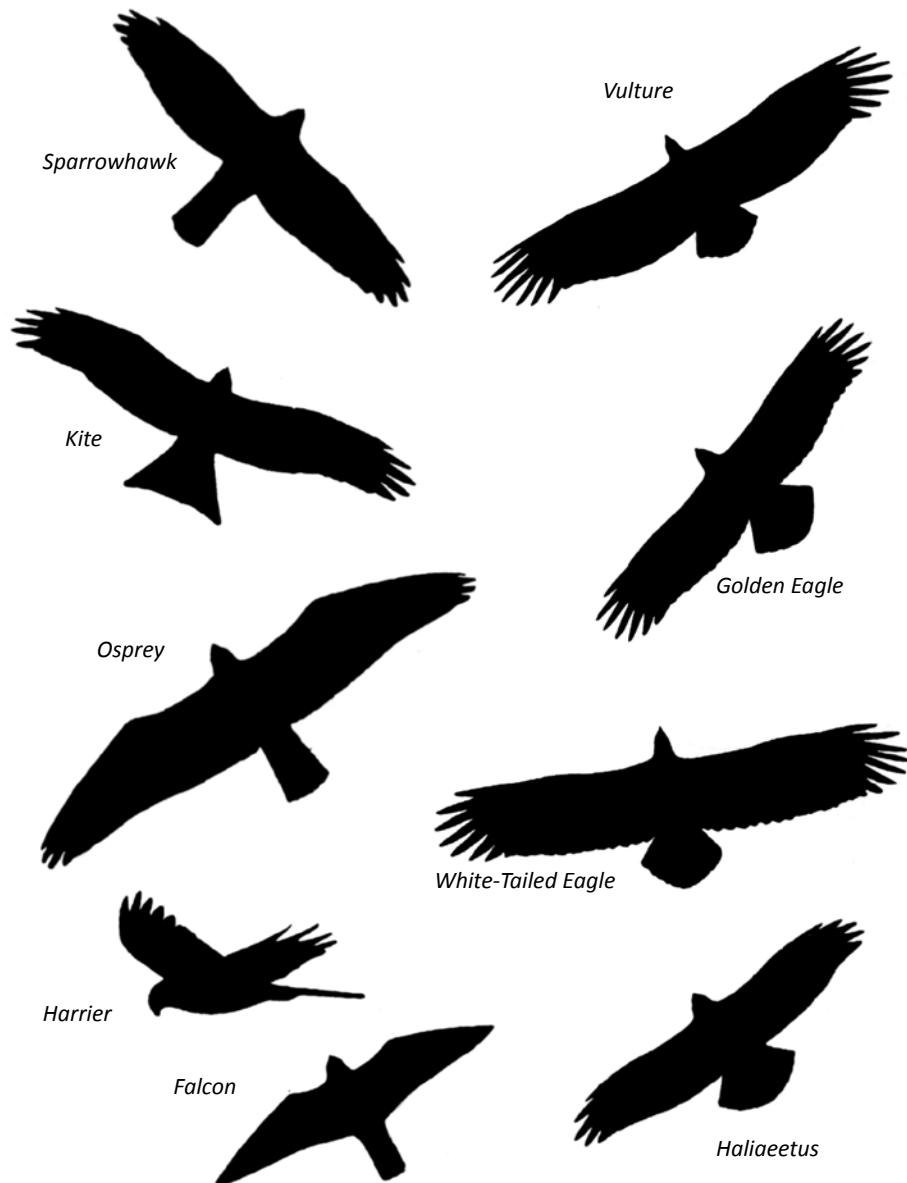
Guiding people to watch birds is a job of high demand especially that in other parts of the world it becomes an essential pre-requisite for eco-tourism certification programs. Thus, the present manual brings a contribution to upgrading the skills of the eco-guides among others, especially that birdwatching presents an enjoyable activity for groups to share. "Birdwatching for all" provides the "how, when and where" of beginning bird watching. This easy-to-read manual is full of helpful hints for everyone who enjoys learning about birds in nature and even backyards. From identifying different ways of recognizing bird species, eco-guides and other interested people will find interesting and useful information which will make bird watching a fun and memorable experience.

The manual is a useful guide for new birdwatchers, eco-guides, students as educational kit, and for the public as an awareness tool. Even young children will understand the basic concepts

and enjoy interacting with nature. Students and teachers will find the manual helpful for classroom bird watching projects and field trips. These various ways of interacting with nature meet the overall objective of this manual which is to promote conservation of bird species, reduce their decline and preserve their habitats.

Further, the manual is a useful guide in supporting the proper implementation of the hunting law. It addresses hunters through useful information about bird migration, identification tools, and game species. It will be also the basis for training the law enforcement officers and protected areas guards towards proper enforcement of the hunting law.

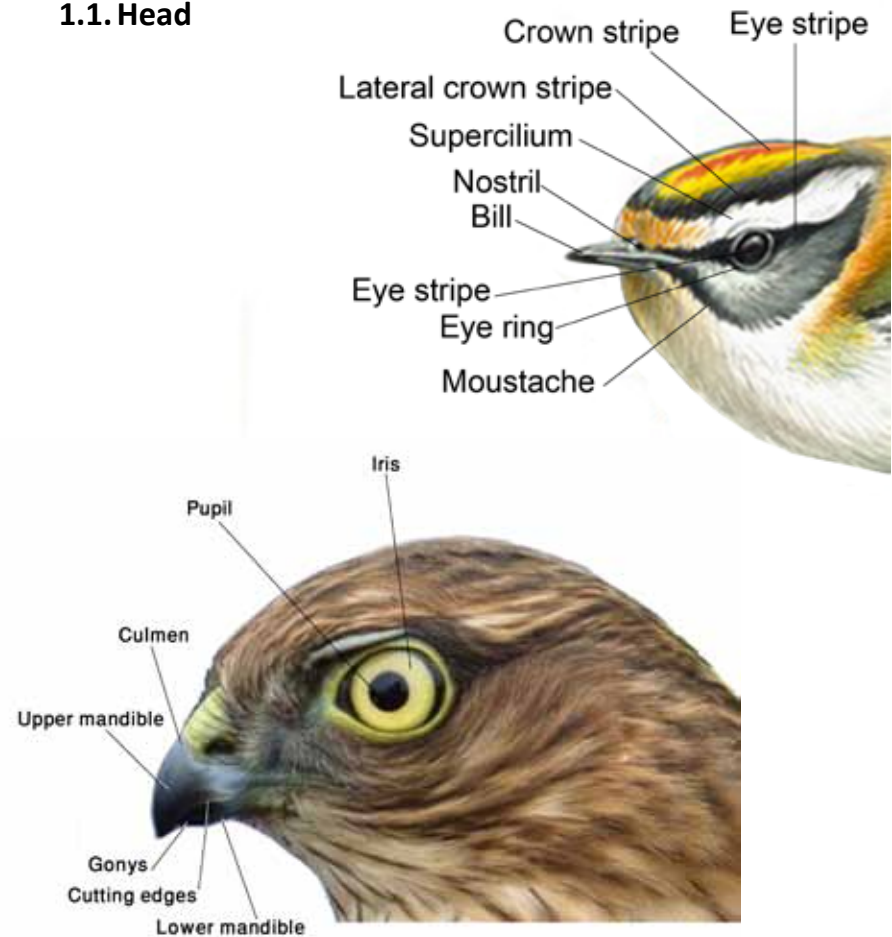
The present manual is not an end to teaching birdwatching to eco-guides, law enforcement officers, and other people (including families) but just the beginning.



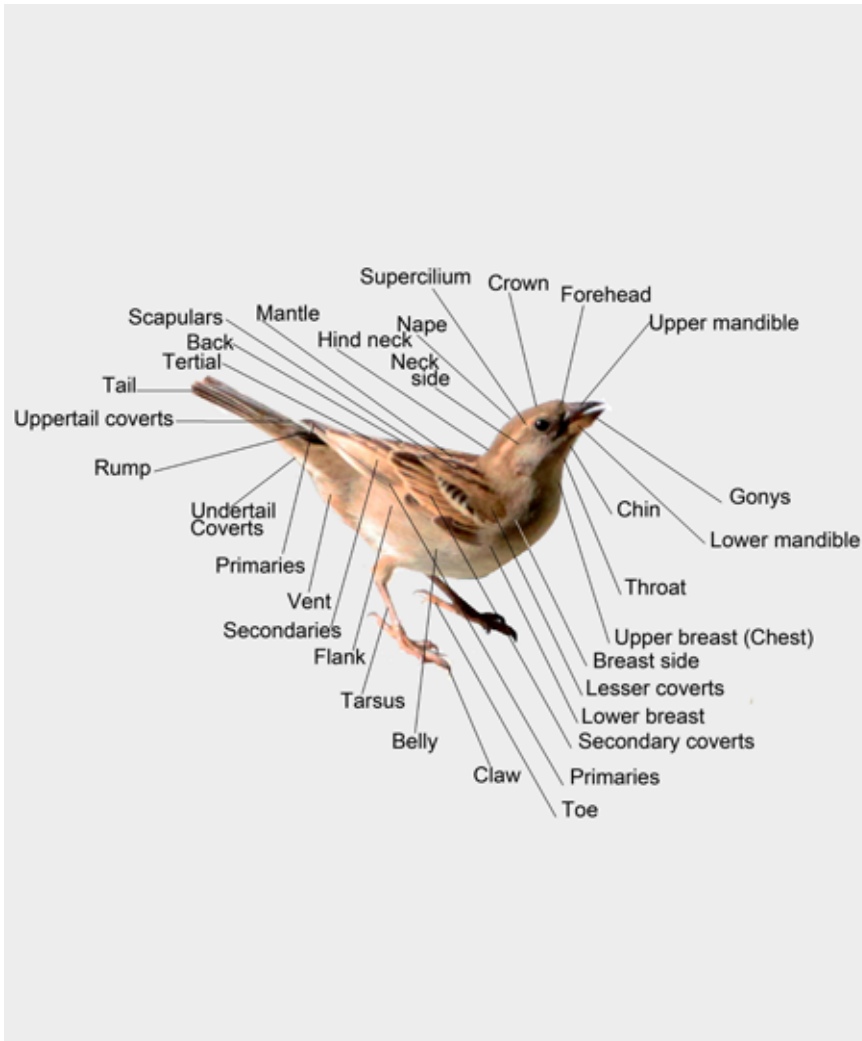
## I. Learn the Basic Bird Body Parts

Every inch of a bird's body has a name. In the diagrams below, the bird's body is divided into three labeled parts: the head, body and wings. The two diagrams of each part will assist you in learning how to identify the detailed parts of the bird's body.

### 1.1. Head

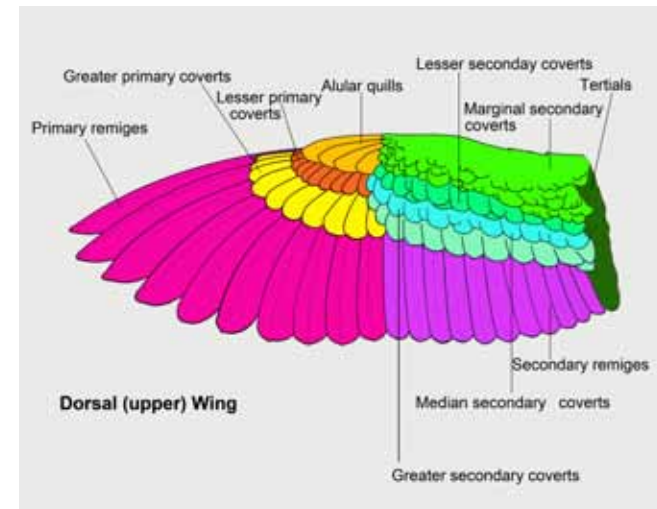


## 1.2. Body

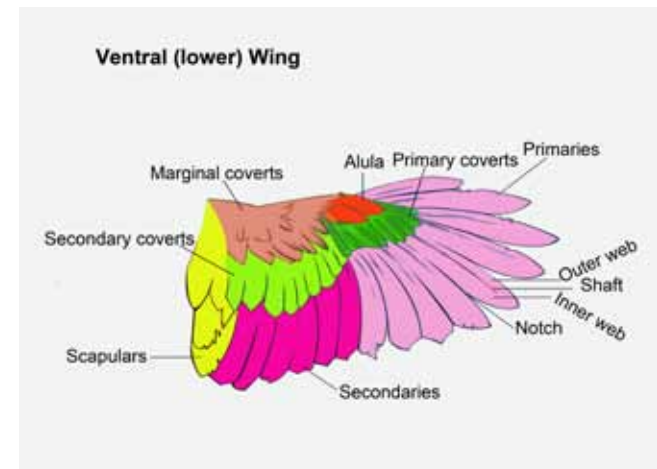


## 1.3. Wings

### 1.3.1. Wing Upper Division



### 1.3.2. Wing Lower Division



## II. Arm Yourself with Bird Watching Tools

People of all ages, from all walks of life, watch birds with interests that range from occasional pleasure viewing to an outright passion resulting in lengthy trips and major investments. But one thing all bird watchers share, is the excitement generated when learning to use the bird watching equipment, that are binoculars, telescopes and field guides, all of which satisfy our need to discover.



### 2.1. Binoculars

#### 2.1.1. Why Binoculars

Binoculars are precious bird identification instruments, for both beginner and professional bird watchers. Because of their large light-gathering capacity and the typical wider spacing of the lenses than the human eye, binocular images are brighter, more detailed and more three-dimensional than normal vision. The simple act of lifting them and looking through their lenses helps to provide better detailed views of the birds and make their identification easier by fetching them closer to the watcher's eyes from hundreds of feet away.

#### **Pay Attention!**

*Binoculars are very fragile. Be careful not to drop them, and make sure to carry them under rain gears to protect them from sand, grit and humidity, otherwise they will no longer focus properly! Water-proof nitrogen gas-filled binoculars are a good investment.*

*The best recommendation in caring for binoculars is to use them! Binoculars stored for long periods in closed areas are candidates for fungus growth on the lenses.*

*Your binoculars should be placed high on the chest. Having them in this position gives you a better chance of seeing fast-moving birds, and makes them less likely to be damaged, or to cause head, neck and back aches.*



### 2.1.2. Binocular Parts



#### **Do You Know?**

*Most objective lenses have an anti-UV infrared coating to protect your eyes.*

#### **Pay Attention!**

*Lenses should be cleaned regularly for best results, and binoculars should always be stored and carried in their cases with lens caps in place.*

*The best way to choose a pair of binoculars and telescopes is to test them at the field, which is an ideal opportunity to try many different makes, models and specifications.*

### 2.1.3. Which Binoculars to Buy: 8X30 or 8X42?

Binoculars come in a wide variety of makes and models, the most popular of which are in the 8X30 and 8X42 range. They are described with two numbers with an "X" between them, where the first number refers to the **magnification power** of the binocular and the second refers to the **diameter of the objective lens**.



**Magnification** is the ratio of the apparent size of an object in comparison with what a viewer sees with the naked eye. For instance, an object 700m away viewed through 7x binoculars looks about equal in size to an object 100m away viewed with the naked eye. The higher the magnification, the more unstable the image will be due to hand movements. Higher magnification also results in a narrower field of view and lower brightness. Binoculars with magnifications up to 12x are recommended for general use. Also, using a tripod to prevent hand movements is highly recommended. Binoculars incorporating a VR (vibration reduction) function reduce image shake even at a high magnification.

The effective diameter is the inside **diameter of the objective lens** frame. With the binoculars designated with a numerical formula 8x30, 30mm is the effective diameter of the objective lens. Given the same magnification, the larger the objective diameter, the greater the light-collecting power. This results in higher resolution and a brighter image. However, large-diameter objective lenses make binoculars bigger and heavier.

Binoculars are classified according to the effective objective lens diameter as follows.

Effective diameter:

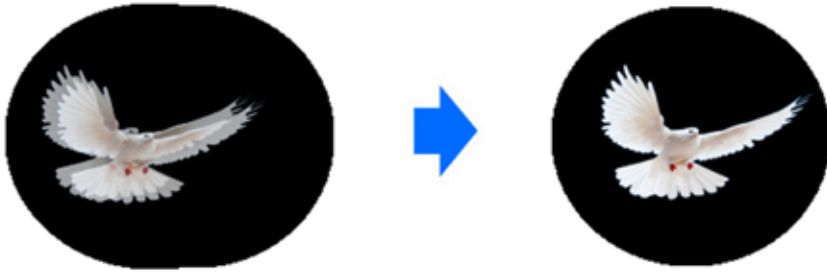
- Below 25mm: Compact-type binoculars
- 30 - 49mm: Standard binoculars
- Over 50mm: For astronomical observation and business use

#### 2.1.4. Using Your Binocular

The most important factor is the comfort you feel while using them. There are a number of steps to the comfortable use of your binoculars, here's how:

1. Place the strap into the neck strap eyelet and around your neck immediately before attempting to focus the binoculars or use them.
2. Adjust the width between the two eyepieces to the same distance across your eyes by pivoting the two halves of the binoculars closer together or further apart. This is important to ensure the full field of view is achieved.
3. Cover the right objective lens with the lens cap or a hand without touching the lens, and, with both eyes open, focus on a distant object with the diopter adjustment ring of the left until the image is sharp and clear.
4. Cover the left objective lens and use the diopter adjustment ring of the right one to bring the same object into sharp and clear focus.





This process is called the *individual eyepiece focus*. Another technique is the *center focus*, where the binoculars should be aimed at a distant object and the central focusing ring should be moved left and right until the observed object is clear and sharp with both eyes kept open.

Now, you are ready to use the binoculars! However, if, after you have completed the above, the image is not clearly in focus, then start again. Always ask for instructions from someone who understands the use of binoculars, and read the manufacturer's manual to acquaint yourself and achieve the best results with your optics.

### 2.1.5. How to Clean and Store Your Binocular?

To clean and store your binoculars:

1. Use a special brush to sweep the lenses before rubbing them in order to ensure that no hard particles scratch the lenses.
2. With a soft rag, or lens paper, rub the lenses clean using a special lens-cleaning fluid.

3. Store your binoculars in their case, with the objective lens covered by the lens cap, and with a sachet of nitrogen crystals, in a cool dry place. This will help prevent misting on the inside of the lenses.

### 2.1.6. Telescopes, Co-Binoculars!

A telescope is a wonderful asset. It is optional but can be a valuable addition to a migratory soaring bird walk, especially if you have children along. Telescopes are ideally suited for finding more details and extending the vision in long distance migratory soaring bird watching. Depending on the type and design of the telescope, the useful magnification will range up to 250X, using either fixed or zoom eyepieces. Here again the use of a tripod to prevent hand movements is highly recommended.





Gathering and focusing the light is the main function of a telescope and so the lens found in the telescope is of high importance. As the surface area of the lens gets wider, the amount of light gathered also is more. This will also produce a sharp image which might give you more details to watch. Accordingly, look for a telescope that has a wide-angle lens and a viewing piece that is attached from above. Use a sturdy, easy-to-use tripod to stabilize your telescope and allow for positions to be easily switched to different heights whenever necessary.

The use, cleaning and storing of telescopes is similar to that for binoculars. Plan to bring along an expert to set it up and focus it on birds of interest. It is also advisable and appropriate to join a club or society, where there will be lot of initial support and guidance in using the telescope and pointing it in the right direction. This may help the person to know more about telescopes, its uses, its parts and their function.

### ***Do you know?***

*As per RSPB experience, most telescopes come in either straight or angled form. On the straight type, the eyepiece follows the light path from the objective lens. On the angled type, the eyepiece is at 45° angle to the telescope body. Both designs have their advantages:*

#### ***Straight***

- *easier to find what you are looking for*
- *sometimes cheaper than the equivalent 45° model*
- *better to use when sitting down in hides*

### ***Angled***

- *easier to follow moving birds and often avoids straining the neck*
- *easier to watch birds in treetops*
- *easier for tall people to look through it on a tripod*
- *the tripod does not have to be erected so high and is therefore more stable.*

### ***Pay Attention!***

*It is highly commendable that you should go for an obvious choice of smaller telescopes which are easy to carry around, install and use.*

*Spending some time over adjusting and balancing the telescope on its mount will definitely avoid undue frustration, when it is actually on the use.*

## **General Tips before using binoculars and telescopes**

Right before starting upon using a binocular or telescope, one should know that going through the literature or the user manual that usually accompanies the instrument is mandatory.

Looking at the sun through a binocular or telescope should be strictly avoided; it is absolutely harmful with or without solar filters. The temperature outside should be considered well enough before a viewing. On a hot night, the binocular or telescope should be allowed to cool for about twenty minutes. The images then received will be clearer.

## 2.2. Field Guides

### 2.2.1. Why Field Guides?

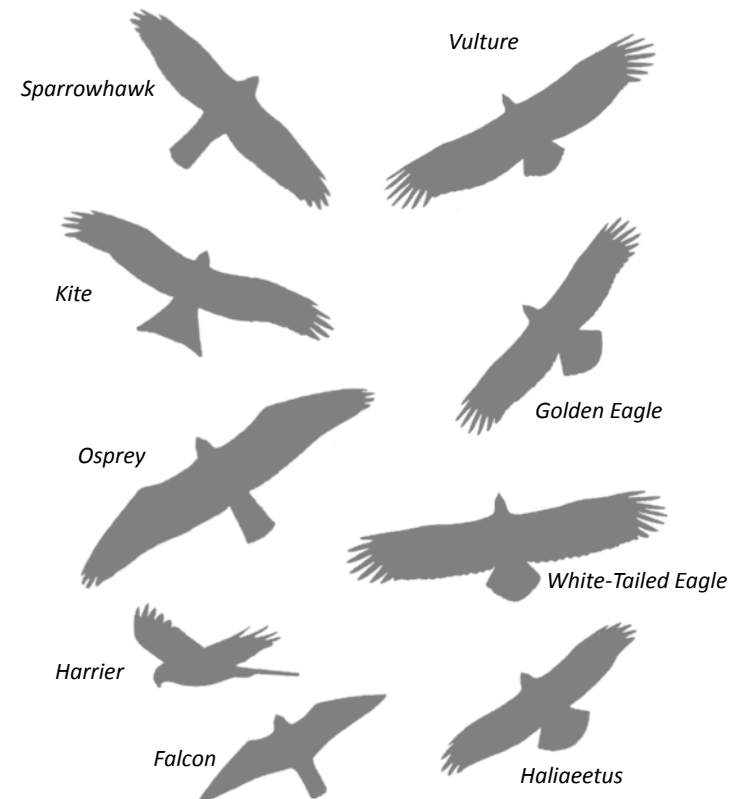
No matter how bulky and heavy, or compact and light, field guides are, they are essential to visually reinforce the brief look you will have in the field. It gives details which are important for the identification of the observed birds.

### 2.2.2. What is the Field Guide to the Migratory Soaring Birds (MSBs) of Lebanon About?

Learning to identify birds is fun and frustrating. The Field Guide to the Soaring Birds of Lebanon can help you attach a name to most of the birds you see. The Field Guide is a comprehensive book with species pictures and colored illustrations, descriptions, range maps, bird calls, habitat information, all of which help in emphasizing specific features needed for reliable identification.



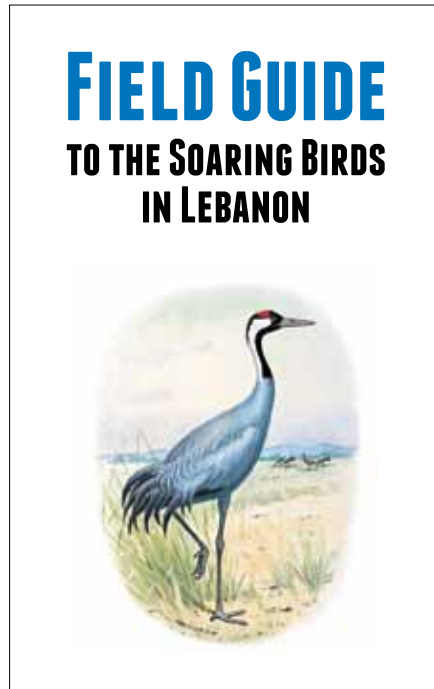
The Field Guide is pocket sized, compact and rugged enough for field use. It is organized according to the bird identification criteria, each chapter corresponding to one criterion and including the silhouette illustrations that show a representative criterion from each type. The chapters towards the end of the Field Guide include identification keys to assist with the bird identification down to its naming, description, abundance, habitat, etc...



### 2.2.3. Using the Field Guide to the MSBs of Lebanon

Using the field guide is simple, and with practice, you should at least be able to narrow your ID down to the correct family, according to the procedure below:

1. Browse through the field guide before you head out to the field. This practice helps you familiarize yourself with species you may encounter.
2. Use your binoculars or telescope to focus on each feature of one bird at a time.
3. Mark the observed criterion on the plates of each section. This quickly limits choices in working out identities of unknown birds.
4. After marking all the observed bird criteria, scan the illustrations and look for the bird of which the features match your entries.



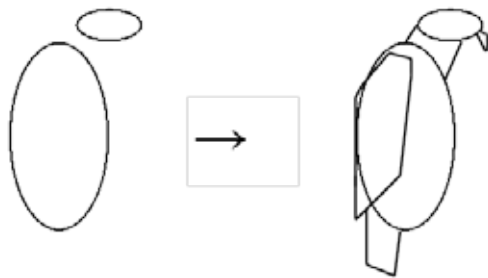
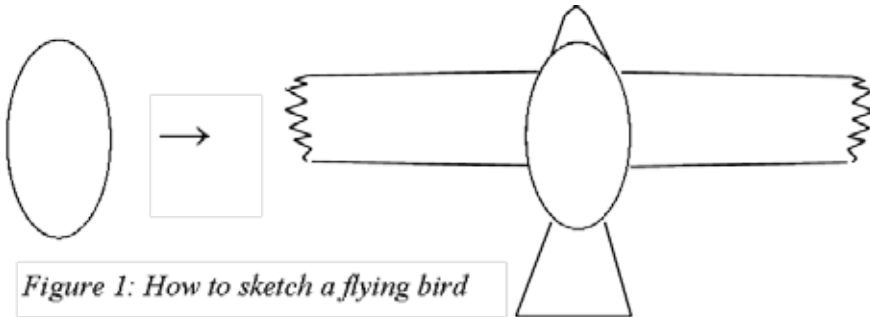
### 2.2.4. Notebooks, Co-Field Guides!

Always carry your Field Guide along with a notebook and pen/pencil. This is a method for capturing information in a way that can be easily used by yourself and others anytime. When you make a significant observation, you should record the following information:

1. Date
2. Start and finish time
3. Weather conditions
4. Site
5. Habitat type
6. Observed species
7. Number of individuals
8. Behavior



In addition to the above information, take down notes and details of all sightings and draw quick sketches according to the figures below:



Ref.: Bird Identification Manual, Chris Naylor, ARocha Lebanon, 2004.



### **Pay Attention!**

A pencil is preferred for drawings and recordings so that the chances of them smudging, if the notebook gets wet, become less.

Make a labeled sketch to illustrate what you describe. Do this at the time of sighting, and NOT later. Description of birds has always been difficult if not confusing. Birds come in all sorts of features of which some may not be as common.

During breeding, certain birds wear their breeding plumages and become brightly colored. In such cases, it becomes difficult to identify the birds.

Juveniles may at times appear different from adults and are in most cases mistaken to other species.

### III. Observe the Bird Identification Criteria

Whether you're watching small birds coming to your garden, or big birds of prey soaring hundreds of feet above your head, birds are everywhere - they are innately interesting to watch and they provide pleasure for many people. Yet, it's a natural progression to go from enjoying watching a bird going about its business to asking yourself what kind of bird is it? Although you do need equipment and expert knowledge, the most important tools are your eyes, ears and brain!

The simple guidelines and principles below provide useful tips to help get you started in identifying any bird you come across. If you want to, you can spend a lifetime learning about them, but the most important thing to remember is to enjoy watching and listening.

What to Look For?

#### 3.1. Size



First, you need to ask yourself a couple of questions. How big is the bird? Is the bird fat or skinny, long or short? Estimate the size of the bird.

It is sometimes difficult to judge size exactly, especially at a distance. It is usually better to compare the bird with common ones that are well known to you. Is it the size of a robin, pigeon or gull? But remember, birds often look bigger in poor light. It can be very difficult to estimate the size of a bird in flight, so only compare it with other birds you see in the air with it.

#### 3.2. Shape



The overall shape can be very important in placing the bird in a particular family. When describing the size of the bird that is seen for the first time, one can compare it with the size of other birds or objects. Does the bird remind you of any other species you are familiar with?

Apart, different parts of the body also come in various shapes and are an important part of the shape and you should pay special attention to the bill, legs and wings.



**Pay Attention!**

*Some patterns are only visible when the bird is in flight.*

**3.3. Color**

*The rare  
Penduline Tit*

*The Syrian Serin is the only globally threatened species that breeds in Lebanon. It deserves high protection effort.*



Plumage details are often important for correct identification, so you should try to note as much detail as possible. Check the basic color of the bird, then note the color of each major body part including the feather patterns, the upperparts (the back and wings), the under parts (the legs), the head and the tail. Sometimes just the color of a bird's legs can help you tell one species from another.













*Photo by Andree Veres*

Make a note of any prominent patches of bright color. Does the bird have any obvious markings, such as stripes above the eye, streaks on the chest or bars on the wing? Is the tail the same color as the back of the bird; is it all one color, or does it have paler feathers on the outside or at the tip?

**Pay Attention!**

*The colors of a bird can play tricks on you. A bird's colors look different when the bird is at the top of a tree at sunset than it does at noon. Yet again, there are pitfalls that can throw the unwary. Certain lighting conditions or wet feathers can make the bird look different. The juveniles of some birds have different color from the adults, and the plumage of many adults changes with seasons.*

Table 1: Beaks reflect habitat, food and bird group			
Beak shape	Habitat	Food	Group
	Trees Rocks	Meat	Raptors
	Wetlands	Herbs Roots	Geese
	Wetlands	Herbs Grains	Ducks
	Wetlands	Big worms in the mud	Waders (Curlew)
	Wetlands	Crustaceans in Water	Waders (Avocet)

Beak shape	Habitat	Food	Group
	Wetlands	Fish Frogs	Hérons
	Forests Woodlands	Worms Fruits	Thrushes
	Forests Woodlands	Grains Caterpillars	Finches
	Forests Woodlands	Grains Small insects	Tits
	Woodlands Reeds	Insects	Warblers

### 3.4. Beak

The type of beak can often give you a clue to the group of birds your bird belongs to. Its shape is a guide to what the bird eats, and therefore to what family it belongs to. Is its bill short or long, thick or thin, curved or straight? What is its color? Many birds have blackish bills but some beaks are highly colored.



*Illustration by Andree Veres*

### 3.5. Wings

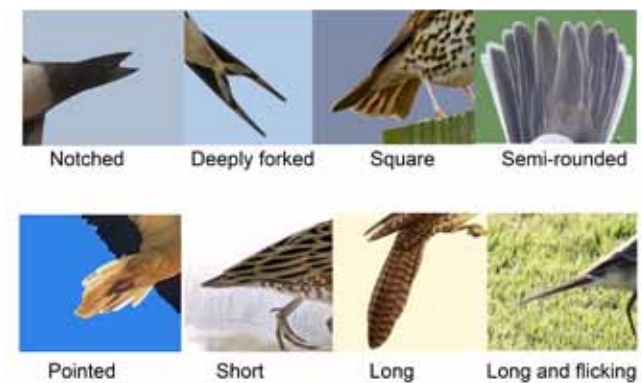


The wing structure and pattern also aid in identification including the birds' posture. This is especially seen with the raptors. For example, are the bird's wings pointed or curved, long or short?

### 3.6. Tail

Birds use their tails as rudder or to slow their flight and some use them in courting. Tail's forms and proportion help adhering birds to their groups.

How about the tail? What shape is it? Is it forked? The tail also will differ in terms of color pattern when closed or open.





### 3.7. Legs



Climbing  
Cuckoo-Woodpecker



Piercing, tearing & seizing  
Raptors - Owls



Perching  
Most passerines



Swimming/Walking  
Grebes



Walking  
Plover - Curlew



Swimming  
Duck - Goose - Gulls

The length and color of the legs, and if the feet have talons or are webbed are also important clues. Look at each part of the bird.

Ducks use their webbed feet to swim.

Eagles, falcons and owls have piercing and seizing beaks because they eat other animals. Long legged birds usually walk or wade more than they fly. Birds with small, thin legs perch in trees or bushes.

Birds that have two toes facing forward and two toes facing rearward usually hang onto the sides of trees.

### 3.8. Behavior

Is the bird swimming or wading? Can the bird climb trees? Does it wag its tail a lot? Try to detail behavior as carefully as possible. Birds are always mobile and sometimes may not give us an opportunity to observe them in details. Their behavior can also be used as indicator of the family that the bird might belong to!

Among other things that can help you identify a bird are tail actions such as flicking of the tail up and down (case of Wagtails to the right) or in just one direction (case of Redstarts to the left).



### 3.9. Habitat



Finally, look around you. What habitat are you in? Are you and the bird deep in a forest, on your lawn or 50 miles out at sea? Are you in the mountains or at the shore? Each bird likes a certain habitat, and understanding the types of habitat certain birds prefer is a crucial factor in their identification.

After observing the bird in the field and noting all possible features, the final but very important thing to consider is consulting the guide to check on its habitat and the range of occurrence. It could be a new record for an atlas or perhaps confusion may have been made for a commoner species. These thoughts must be put in place before coming to a conclusion of the birds' identity. Some species are restricted to certain habitats, and hence you should not find them in other habitats.

#### ***Did You Know?***

*Bear in mind that birds replace their feathers at regular intervals, and in cold weather, they can 'fluff out' their feathers and appear different. Birds with long necks can coil them up next to their bodies and look quite different, and a bird alerted to the presence of a predator might stretch its neck out in order to see it properly.*



### 3.10. Songs or Calls



Here is one final secret you need to know, use your ears! The noises that birds make are a great help to birdwatchers. Some species would be very hard to detect if they didn't call or sing. Really good birders can "see" more birds with their eyes closed than you and I can see with our eyes open! They know the songs a bird sings. This is probably true in forests where birds are difficult to see.

What you need to learn is... LISTEN! A bird's song can tell you to START LOOKING FOR IT. Calls are very useful in identification especially when a bird is hidden i.e. in the dark, in the forest or in the swamps.

The most important characteristics to listen for in bird vocalizations are pitch (high or low, rising or falling ), quality (harsh,clear,liquid,buzzy,etc.) and rhythm (fast,slow,choppy,sing song,etc.)

#### ***Pay Attention!***

*It is worth noting that birds may have more than one type of call at different circumstances like courtship, mate attraction, flight, alarm or contact calls.*

As a matter of fact, bird identification can be a very frustrating and difficult exercise especially for the beginner, but there's always a joy once a discovery is made. Always remember, practice makes you perfect! The more birds you look at, the better you will get at identifying them and recognizing them just by their silhouette. Also, the vast majority of birdwatchers enjoy sharing their sightings and their knowledge with others. You can learn a lot from talking to people you meet at reserves or other locations. Better still, find someone experienced who you can go bird watching with and learn from. It's better to view this as a learning experience than as a failure.

## IV. Join Migratory Birds on their Journeys...

### 4.1. Definitions of Migratory Birds, Migration and Flyways



Bird migration has always fascinated man. There are numerous historical stories describing the migration of birds, their appearance and disappearance, along the same routes to and from the same sites, which are still favored by migratory birds today although catching birds has become prevalent at these sites. According to the “The Flyway Approach to the Conservation and Wise Use of Water Birds and Wetlands: A Training Kit”, developed by the “wings over wetlands” project, the following

rather broader definitions are proposed for migratory birds, migration and flyways:

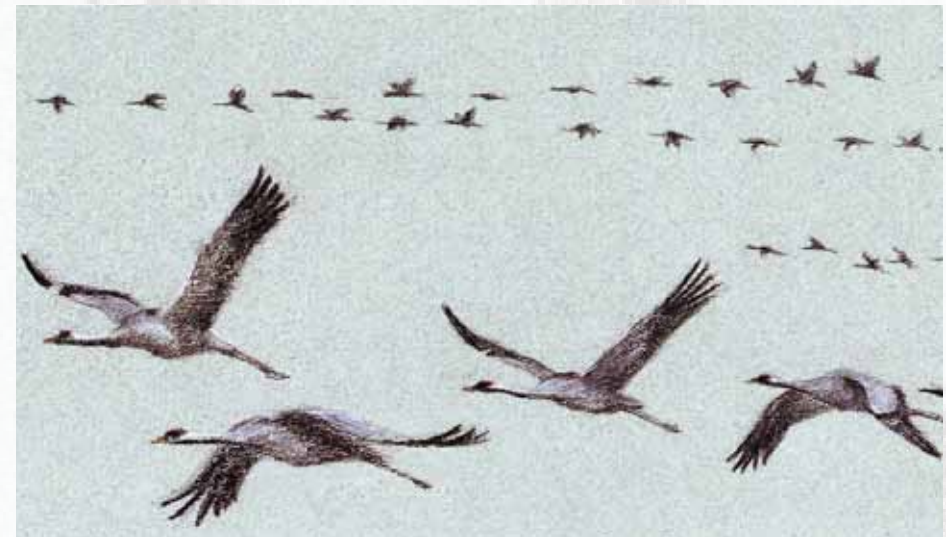
*“Migratory Birds: Birds that, during their lifecycles, perform regular movements between separate areas, usually linked to seasonal changes.”*

*Migration: The regular movement of birds between separate areas.*

*Flyway: A flyway is the entire range of a migratory bird species (or groups of related species or distinct populations of a single species) through which it moves on an annual basis from the breeding grounds to non-breeding areas, including intermediate resting and feeding places as well as the area within which the birds migrate.”*







## 4.2. Migration Strategies

Birds have adapted to the below different techniques for flying long distances:

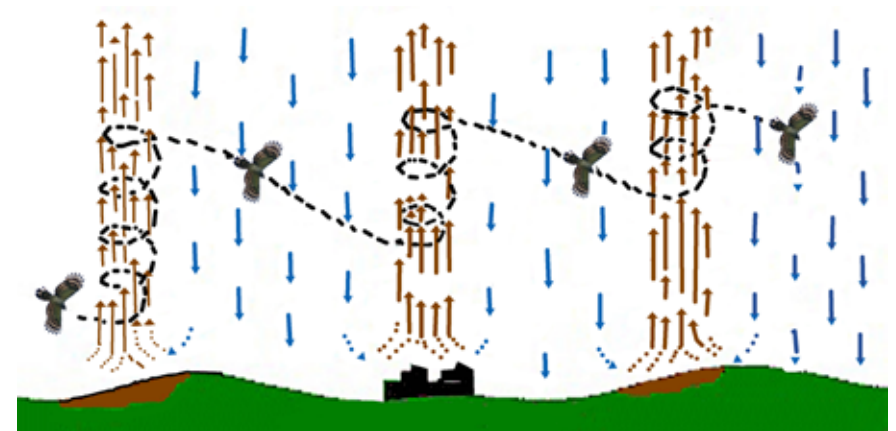
### Active flight



Many birds use active flight when covering a large distance during migration, either in large groups without a particular structure, or in characteristic V-formations, both of which enable birds to work together as a flock to conserve individual energy. Apart, there are different kinds of active flight, such as continuous flapping, flapping and gliding and bounding used mainly by smaller birds.

Active fliers need to be in good physical condition before and during their migration, especially those that adopt long non-stop flights. The V-formations described above help birds to save energy, as the birds at the front of the V have to work harder than those at the back.

### Soaring Flight



Soaring is the technique birds migrating through the rift valleys of the Middle East and Africa use to move forward by exploiting thermal currents to gain height and then glide over longer distances. Soaring is frequently used by migratory birds of prey and some larger birds.



In brief, soaring birds climb into the wind to gain height, then turn and glide with the wide on long thin outstretched wings.

Soaring tends to be a more efficient mechanism than active flight, so soaring birds do not need to feed so much while they are migrating. This means that they are generally less dependent on key fuelling sites during their migration than birds that are actively flying. They also do not need to build up such extensive energy stores, so their dependence on key staging areas is not so high. However, soaring birds are often forced by their flight needs into **bottlenecks**, where they may be exposed to specific threats, such as persecution, wind farms and hunting.

### Walking and swimming

Flightless birds like penguins migrate by swimming and walking. Auk babies migrate by swimming until they fledge and can fly. However, most birds have good flight capabilities, but some species

do migrate relatively short distances with their flightless young. Flightless moulting birds may also have to walk or swim some distance, for instance if their chosen moult site is disturbed.

Walking and swimming juvenile migrating birds may be rather vulnerable to predation and other threats along their journeys, similar to the threats facing moult migrants. For many migratory birds, their tendency to form large flocks is a good defense strategy, but it does make them vulnerable to hunting and such environmental incidents like oil spills.

### 4.3. Survival and Orientation during Migration

Migration, in all its forms, has important ecological advantages for individual birds and populations. It is a way, for instance, of making optimal use of the availability along the flyway of shelter for breeding and moulting, and of food supplies. It also affords protection against bad weather conditions, drought, predators, parasites and other constraints over a larger geographical area, and in some situations serves to reduce competition for resources such as food and breeding sites, particularly with non-migratory birds.

To one side, migration is a strategy to make use of the usually seasonal variations in climatic conditions and the resulting availability of natural resources. And it is a very successful strategy, which has enabled birds to develop and thrive and make the best use of seasonal periods of productivity. Yet, to be able to migrate birds must have a 'feeling and ability' for orientation



(where to go and when) and to be in a physical condition to actually fly sometimes long distances without being able to feed. To maintain their physical condition, this requires a system of energy storage by means of fat and an efficient way to meet the energy requirements in order to cover a long distance flight and reach their destinations.



Birds can also make use of external energy sources such as certain wind/air stream patterns, which will help them cover longer distances between refueling sites. The availability of suitable habitat and food resources along the migration route is vital, although the location and distance between refueling sites varies according to the different migratory strategies employed.

To another side, orientation refers to the direction taken. Birds use a range of techniques and clues, and are able to rapidly return to their original breeding place. This type of orientation is known

as compass orientation. Most birds find their way using one or more of three compasses:

### **Sun compass**

Whilst most of the soaring birds migrate at day time, many other bird species migrate either by day or by night or only at night. Those migrating by day may find their way based on the position of the sun in the sky, whilst sunset, sunrise and hours of sunshine (day length) also provide clues.

### **Magnetic compass**

Experiments have also shown that some birds use a magnetic compass to navigate, with an ability to detect lines of magnetic force. Navigation using the magnetic compass is less dependent on weather conditions, but it is only really useable for moving in north-south or south-north directions.

## **4.4. Sites of Bird Migration**

Within a migration system, a range of sites are used, each carrying out a distinctive function in the annual life cycle or daily pattern of birds. The most important functions of sites are as:

### **Pre-breeding staging sites**

Recent advances in bird tracking technologies are revealing that



migratory birds use temporal staging sites other than breeding and wintering areas, and these sites deserve conservation efforts. Before the move to their breeding sites, many bird species visit staging areas, so called pre-breeding areas, but, to date there are no detailed data concerning the connectivity between these sites and breeding areas. The duration of the pre-breeding period is constant for individual species and sex. The pre-breeding staging sites may function as a buffer between southern staging areas and the breeding sites.

The pre-breeding areas may also be used by migrating birds to waste time until their breeding areas are ready to serve nesting, breeding, feeding and rearing.

### Breeding areas

These areas are used by migrating birds for breeding strategies that differ greatly among birds. Some species breed in colonies of sometimes substantial size, other species breed in large mixed colonies, and many other species breed in smaller colonies.

### Post-breeding areas

Most birds breed at sites where they remain directly after breeding to raise and feed their young. However, several bird species move with their young (by foot, swimming or active flight) outside their original breeding areas into optimal feeding areas, or post-breeding areas, which are usually nearby, so movements to them are not really considered as migration patterns.

## 4.5. Threats to Migratory Birds

All birds are subject to a number of factors that may limit their populations, such as food availability, disease, storms and temperature. Of the hazards confronting birds in migration, storms are one of the most dangerous. Birds that cross broad stretches of water can confront headwinds associated with a storm, become exhausted, and fall into the waves. A sudden drop in temperature accompanied by a snowfall can also cause a similar effect.

However, the most serious threats to migratory bird species originate from anthropogenic activities. Some of these threats on migratory populations are provided below:

### Habitat Loss



When communities of birds change this is usually the result of an ecological change. Because many species of birds have become specialized to occupy certain niches and together they inhabit almost every conceivable habitat, they are responsive to a wide variety of environmental changes and can reflect diversity and trends in other animals and plants with which they coexist. Habitat fragmentation exacerbates the problem of habitat loss for birds. Remaining patches of grasslands or forests or wetlands may be too small, too isolated, and too influenced by edge effects to maintain viable populations of some breeding birds. Knowledge of the effects of fragmentation on bird populations is critically important for decisions about reserve design, grassland, forest and wetland management. Habitat changes threaten not only the breeding sites but also the feeding, drinking and roosting places of migrant birds.

### Poor Waste Management

The threat generally arise from the poorly managed open land-fill sites and waste water treatment plants in the migration flyway that attracts soaring birds mainly storks and raptors. Where birds can ingest toxic substances and frequently become entangled in plastic, wire, and other debris, or are injured by metal scrap or fire. Large numbers of migratory birds often also die at poorly managed waste water treatment facilities (domestic and industrial) due to drowning, entrapment in sludge (due to inappropriate pond designs) or die or become sick from drinking contaminated water.

### Agriculture Intensification

Increasing agricultural intensification is occurring in response to rising populations, causing habitat destruction and degradation although this is not seen as a direct threat to migrating birds. With increasing intensification has come increasing use of agro-chemicals, particularly pesticides. These are now used widely to control pests such as insects and rodents. While some countries have banned the most toxic pesticides, such bans are often ignored or the regulation and enforcement mechanisms for their control are lacking. The problems are exacerbated by misuse and overuse due to lack of awareness and information as well as widespread illiteracy.





## Hunting and Lead Shots



*Hunting directly results in bird mortalities, reducing the overall population.*

Low hunting levels usually have little impact on the overall population size, but care needs to be taken in determining 'low levels' for migratory birds, as hunting across the whole flyway is cumulative. Lead shots are widely used by hunters, but lead

is a poisonous substance and its presence in sites poses a threat to birds, especially water birds, as well as to the health of the sites themselves and other wildlife and people that use these sites.



A hunter fires an average of three to six shells for every bird that is hit, but only a few pellets actually hit the bird; the rest fall to the ground or into the water, thus thousands of tons of lead are deposited in sites each year. Birds that ingest even a few lead pellets can die of acute lead poisoning within a few days, depending on the size of the bird. Some birds that ingest small numbers of pellets may survive, but others will gradually start to show signs of chronic lead poisoning, such as drooping wings, green and watery feces, weight loss and atypical behavior which in turn will enhance susceptibility to predation and other causes of mortality. Even low levels of lead impede energy storage, which is particularly problematic in migratory birds.



## Energy Development

Wind turbine related bird (and bat) deaths have been reported at each wind facility studied to date. Wind developments tend to be placed in upland areas with strong wind currents that have a lot of potential to generate energy. Birds - particularly raptors like eagles or vultures - use wind currents as highways - and so are likely to come into contact with the turbines. It's not just the turbine blades that pose a risk to birds; research indicates that wind developments can disrupt migration routes. What's more, foraging and nesting habitat can also be lost when turbines are put up.

Erected electric power lines and the related power equipment, especially transformers, are known to kill worldwide tens of thousands of birds each year.

Avian collisions with both moving objects, such as vehicles, and stationary objects, such as Lighthouses, tall buildings, television towers, and other aerial obstructions, have long been witnessed by humans. They have been responsible for destruction of a number of migratory birds.

Bright beams of lights on buildings and airports have a powerful attraction for nocturnal air travelers. The attraction is most noticeable on foggy nights when the rays have a dazzling effect that not only lures the birds but confuses them and causes their death by collision against high structures.

The potential impacts are likely to be related to risks resulting in death or injury, barrier and disturbance effects for migrating species and soaring birds which can affect both their condition and behavior and result in disturbance along the migratory route.

Habitat can also be impacted by the development of the renewable infrastructure, which can affect resident species but also migratory soaring birds. Greater risks are associated with migratory bottlenecks which have high concentrations of vulnerable species at specific times of the year. These risks can be minimized if appropriate actions and mitigation procedures are integrated into the energy sector.



## Climate Change

Many bird species all over the world are highly sensitive to the effects of climate change. Scientists have found declines of up to 90 percent in some bird populations, as well as total and unprecedented reproductive failure in others, although the role of any change in climate is typically not determined. Population declines generally have several associative causal factors including habitat loss, habitat fragmentation and pollution.

Specific groups that are at high risk from climate change include migratory birds. Bird species that can move easily to new habitat are expected to continue to do well; however, bird species that thrive only in a narrow environmental range can be expected to decline, and to be outcompeted by invasive species.

## V. Discover Bird Groupings and Families (BirdLife Sequence)

### 1-Phasianidae

Quails and Partridges السمان والحجل 6 species

### 2-Anatidae

Geese and Ducks طير الازو و البط 20 species

### 3-Procellariidae

Shearwaters طائر النوء 4 species

### 4-Hydrobatidae

Petrels جلم الماء 2 species

### 5-Podicipedidae

Grebes الغطاس 5 species

### 6-Phoenicopteridae

Flamingos طير النحام 1 species

### 7-Ciconiidae

Storks اللقالق 2 species

### 8-Threskiornithidae

Ibis and spoonbills طيور ابو منجل وأبو ملعقة 2 species

### 9-Ardeidae

Hérons طيور البلشون 9 species

### 10-Pelecanidae

Pelicans طيور البجع 3 species

### 11-Sulidae

Gannet طيور الأطيش 1 species

### 12-Phalacrocoracidae

Cormorants غريان الماء 2 species

### 13-Falconidae

Falcons الصقور 10 species

### 14-Accipitridae

Birds of Prey other than Falcons الطيور الجارحة غير الصقور 31 species

### 15-Otididae

Bustards حباري 3 species

### 16-Rallidae

Rails and Coots طيور مرعة الماء والغرة 8 species

### 17-Gruidae

Cranes الكركي والرهو 2 species

### 18-Burhinidae

Curlews الكروان 1 species

### 19-Haematipodidae

Oystercatcher آكل المحار 1 species

### 20-Recurvirostridae

Stilts and Avocets طيور أبو المغازل والنكات 2 species

### 21-Charadriidae

Lapwings and Plovers طيور القطقاط وأبو حليط أو الزقزاق 12 species

### 22-Scolopacidae

Sandpipers and Snipes طيور الطيطوي والشنقب 29 species

### 23-Glareolidae

Courser and Pratincole الكروان العسلي وأبو اليسر 3 species

### 24-Laridae

Gulls نوارس 15 species

### 25-Sternidae

Terns خطاف البحر 8 species

### 26-Stercorariidae

Skua طيور الكركر 2 species

### 27-Pteroclididae

Sandgrouse طيور القطا 2 species

### 28-Columbidae

Doves الحمام 8 species

### 29-Loridae

Parakeets بيغاوات 1 species

### 30-Cuculidae

Cuckoos طيور الوقواق 2 species

### 31-Tytonidae & Strigidae

Owls البوم 7 species

## 32-Caprimulgidae

Nightjar طير السبد 1 species

## 33-Apodidae

Swifts السمامات 4 species

## 34-Coraciidae

Rollers طير الشقراق 1 species

## 35-Alcedinidae

Kingfishers طيور صياد السمك 3 species

## 36-Meropidae

Bee-eaters طير الوروار 2 species

## 37-Upupidae

Hoopoes الهدد 1 species

## 38-Picidae

Wrynecks and Woodpeckers طيور اللواء وناقر الخشب 2 species

## 39-Laniidae

Shrikes طيور الصرد 7 species

## 40-Oriolidae

Orioles طيور عصفور التوت أو الصفراية 1 species

## 41-Corvidae

Jays, Crows and Ravens طيور أبو زريق، الغرباب، والغراب الأسحم 9 species

## 42-Paridae &amp; Remizidae

Tits عصافير القرقف 5 species

## 43-Hirundinidae

Swallows and Martins طيور السنونو والخطاف 5 species

## 44-Alaudidae

Larks القبرة أو المطوق 14 species

## 45-Cisticolidae

Warblers & cisticola هوازج طوبلة الذنب 3 species

## 46-Pycnonotidae

Bulbuls طيور البلب 1 species

## 47-Sylviidae

Warblers طير الشادي والهازجة والخنشع 34 species

## 48-Timaliidae

Reedling زمير 1 species

## 49-Regulidae

Firecrest and Goldcrest ناري وذهبي التاج 2 species

## 50-Troglodytidae

Wrens طيور الصعو 1 species

## 51-Sittidae

Nuthatches and Wallcreepers قابض البندق و متسلق الحيطان 3 species

## 52-Sturnidae

Myna and Starlings مينا وزراير 3 species

## 53-Turdidae

Thrushes سمامن 7 species

## 54-Muscicapidae

Flycatchers, Redstarts, Wheatears... خاطف الذباب، حميراء، أبو بليق 27 species

## 55-Cinclidae

Dippers شحورر الماء 1 species

## 56-Nectariniidae

Sunbird أبو الزهور 1 species

## 57-Passeridae

Sparrows طيور الدوري 7 species

## 58-Estrildidae

Silverbill فضي المنقار 1 species

## 59-Prunellidae

Accentors طيور عصفور الشوك 4 species

## 60-Motacillidae

Pipits and Wagtails طيور الجشنة والذعرة 17 species

## 61-Fringillidae

Finches طيور الشرشور 13 species

## 62-Emberizidae

Buntings طيور المدرسة 11 species



## VI. Game Bird Species



According to the Lebanese hunting law issued on 4 March 2004, "All birds of Lebanon whether local or migratory, are protected, except game birds".

**Game species** are bird species, of which hunting is allowed according to the hunting law.

Game birds as understood by international, regional and local parties are to include the species listed in the current section. These species are subject to changes in response to monitoring activities. The following species are the game birds of Lebanon:

**English Name:** Common Quail

**Scientific Name:** *Coturnix coturnix*

**Arabic Name:** السمان

**Family:** Phasianidae

**Location:** Europe, Asia and Africa

**Description:**

1. Small round bird
2. Streaked brown
3. White eye stripe
4. Long wings
5. Short tail

**Male Distinction:**

1. White chin
2. «Wet my lips» song

**Significant Habits:** More heard than seen, hides more than flies

**Feeding:** Seeds and insects

**Breeding:**

1. Breeds on open arable farmlands or grasslands, at an age of 6 to 8 weeks, across Europe and Asia
2. Lays 5 to 56 eggs in a ground nest, and these eggs take from 16 to 18 days to hatch

**Utilization:** Bred and kept as poultry in some parts of the world both for eggs and meat.

**Status in Lebanon:** uncommon summer breeding, common passage and rare winterer.



**English Name:** European Turtle Dove

**Scientific Name:** *Streptopelia turtur*

**Arabic Name:** القمرى أو الترغل

**Family:** Columbidae

**Location:**

1. Open woodlands
2. South Africa and Lebanon in winter

**Description:**

1. Small fast flying brown dove
2. Black and white striped patch on the side of the neck
3. Wedge shaped tail, with a dark center and white borders and tips.
4. Head, neck, flanks and rump blue grey
5. Wings cinnamon, mottled with black
6. Vinaceous breast
7. White abdomen and under tail coverts
8. Black bill
9. Red legs and eye rims

**Significant Habits:** «Turr, turr» song, from which the name was derived

**Feeding:** Weed seeds and shoots

**Breeding:** Large gardens and woods

**Utilization:** Have become emblems of devoted love.

**Status in Lebanon:** The European Turtle Dove is a common migrant passage and scarce summer breeding species in Lebanon.





**English Name:** Eurasian Woodcock

**Scientific Name:** *Scolopax rusticola*

**Arabic Name:** ديك الغاب أو دجاج الأرض

**Family:** Scolopacidae

**Location:** Temperate and subarctic Eurasia

**Description:**

1. Medium-small wading bird
2. Reddish-brown upperparts and buff-coloured underparts
3. Eyes are set far back on its head to give it 360-degree vision
4. Long, straight sensitive bill, flesh colored with a dark tip
5. The head is barred with black
6. Rounded wings
7. Short grey to pinkish legs

**Male Distinction:**

1. Performs a courtship flight known as “roding” at dusk in spring
2. Much larger in size than females

**Female Distinction:** When threatened, the female can carry chicks between her legs, in her claws or on her back while flying

**Significant Habits:**

1. Has cryptic camouflage to suit its woodland habitat
2. Most active at dawn and dusk and rarely active during the day unless flushed
3. Fly off with a whirring wing noise
4. Fly fast and direct while migrating or crossing open country, but fly erratically with twisting and fluttering once in woodland
5. Migrate singly



6. Vulnerable to cold winter weather because they rely on probing into the ground to find food, even when the ground remains frozen

**Feeding:** Earthworms, insects and their larvae, freshwater molluscs and some plant seeds

**Breeding:**

1. Breeding range stretches from Europe to the Mediterranean Sea (Lebanon excluded) and the Canary Islands
2. The required breeding habitat is large, unfragmented areas of broadleaved deciduous or mixed broadleaved and coniferous forest
3. Breeding territories must include a mix of dry, warm resting places, damp areas for feeding, and clearings for flight
4. Nest on the ground in low cover in woodland or tall heather. The nest is a lined cup or a slight hollow lined with dead leaves and other plant material
5. A single brood of four white or creamy eggs with light brown and grey blotches is laid; once the clutch is complete, incubation is performed by the female for between 21–24 days.
6. The downy, precocial young leave the nest immediately and fledge after 15–20 days, although they can fly short distances after 10 days

**Utilization:** Hunted for meat.

**Status in Lebanon:** common passage migrant and winterer.



**English Name:** Chukar

**Scientific Name:** *Alectoris chukar*

**Arabic Name:** الحجل

**Family:** Phasianidae

**Location:** Native range in Asia, in rocky open hillsides with grass or scattered scrub or cultivation

**Description:**

1. Well marked black and white bars on the flanks and a black band running from the forehead across the eye and running down the head to form a necklace that encloses a white throat
2. Long partridge, with a light brown back, grey breast, and buff belly
3. The face is white with a black gorget
4. Rufous-streaked flanks
5. Red legs and coral red bill

**Female Distinction:** Slightly smaller in size than males and lacking the spur

**Significant Habits:**

1. Noisy «chuck-chuck-chukar-chukar» song, from which the name is derived
2. In summer, Chukars form pairs to breed. During this time, the cocks are very pugnacious calling and fighting. During winter they descend into the valleys and feed in fields

**Feeding:** Seeds, some insects and grit

**Breeding:**

1. The breeding season is summer



2. Males perform tidbitting displays, a form of courtship feeding where the male pecks at food and a female may visit to peck in response
3. The male may also performs a high step stiff walk while making a special call. The female may then crouch in acceptance and the male mounts to copulate, while grasping the nape of the female
4. About 7 to 14 eggs are laid, then hatch in about 23–25 days
5. Chicks join their parents in foraging and will soon join the chicks of other members of the covey

**Utilization:** Considered as a symbol of intense, and often unrequited love

**Status in Lebanon:** Resident.



**English Name:** Song Thrush

**Scientific Name:** *Turdus philomelos*

**Arabic Name:** السمن المغرد

**Family:** Turdidae

**Description:**

1. Plain brown backs and neatly black-spotted cream or yellow-buff underparts
2. Warm yellow underwing
3. Yellowish bill
4. Pink legs and feet



**Male Distinction:** The male's song, given from trees, rooftops or other elevated perches, is a loud clear run of musical phrases, repeated two to four times, filip filip filip codidio codidio quitquiquit tittit tittit tereret tereret tereret, and interspersed with grating notes and mimicry

**Significant Habits:**

1. Short, sharp «tsip» call, replaced on migration by a thin high seep
2. The alarm call is a «chook-chook» becoming shorter and more strident with increasing danger
3. During migration, the Song Thrush travels mainly at night with a strong and direct flight action. It flies in loose flocks which cross the sea on a broad front rather than concentrating at short crossings (as occurs in the migration of large soaring birds), and calls frequently to maintain contact
4. Finds animal prey by sight, has a run-and-stop hunting

technique on open ground, and will rummage through leaf-litter seeking potential food items

**Feeding:** The Song Thrush is omnivorous, eating a wide range of invertebrates, especially earthworms and snails, as well as soft fruit and berries

**Breeding:**

1. Breeds in Eurasia but not in Lebanon
2. Nests in forest with good undergrowth and nearby more open areas
3. In intensively farmed areas where agricultural practices appear to have made cropped land unsuitable, gardens are an important breeding habitat
4. The female Song Thrush builds a neat cup-shaped nest lined with mud and dry grass in a bush, tree or creeper
5. She lays four or five bright glossy blue eggs which are lightly spotted with black or purple



6. The female incubates the eggs alone for 10–17 days, and after hatching a similar time elapses until the young fledge

**Utilization:** Thrushes have been trapped for food, and kept as a cage bird because of its melodious voice.

**Status in Lebanon:**

Common Passage migrant and uncommon winterer.

**English Name:** Mistle Thrush

**Scientific Name:** *Turdus viscivorus*

**Arabic Name:** سمينة الدبق

**Family:** Turdidae

**Location:** Open woods and cultivated land over all of Europe and much of Asia

**Description:**

1. Plain greyish brown backs and neatly round-spotted underparts
2. Larger than the Song Thrush, but the breast has much less buff

**Male Distinction:** The male sings its loud melodious song from a tree, rooftop or other elevated perch, often during bad weather or at night, and starting relatively early in the spring



**Significant Habits:**

1. Migrating birds sometimes forming small flocks
2. The alarm call is said to sound like a football rattle (a form of musical ratchet) or machine gun

**Feeding:** It is omnivorous, eating insects, worms and berries

**Breeding:** Nest in trees, laying several eggs in a neat cup-shaped nest lined with grass



**Status in Lebanon:** rare summer breeding, uncommon passage migrant and common winterer.



**English Name:** Fieldfare

**Scientific Name:** *Turdus pilaris*

**Arabic Name:** الكيخن

**Family:** Turdidae

**Location:** woodland and scrub in northern Europe and Asia.

**Description:**

Easily recognizable with its slate-grey head, nape and rump, dark brown back, blackish tail and boldly speckled breast. In flight, its white under wing-coverts and axillaries are conspicuous.

Almost same size of Mistle Thrush but with downward head of arrows on breast and belly instead of spots.

**Male Distinction:** The forehead and crown of the male are bluish-grey and each feather has a central brownish-black band. The lores and under-eye regions are black and there are faint, pale streaks above the eyes.

The ear coverts, nape, hind neck and rump are bluish-grey, usually with a white streak near the shaft of each rump feather. The scapulars and mantle feathers are dark chestnut-brown with dark central streaks and pale tips.

**Female Distinction:** The female is very similar to the male but the upper parts are somewhat more brownish and the feathers on the crown have narrower black central stripes.

The throat and breast are paler with fewer, smaller markings.

**Significant Habits:**

The flight of the fieldfare is slow and direct. It takes several strong beats then closes its wings briefly before flapping on.

It is highly gregarious, quite shy and easily scared in the winter



and bold and noisy in the breeding season.

When a group is in a tree they all tend to face in the same direction, keeping up a constant chatter.

**Feeding:** It is omnivorous, eating insects, worms and berries

**Breeding:** The female fieldfare builds a cup-shaped nest. The location is often in woodland but may be in a hedgerow, garden, among rocks, in a pile of logs, in a hut or on the ground. Fieldfares usually nest in close proximity to others of the same species.



**Status in Lebanon:** Uncommon passage migrant and winterer.



**English Name:** Mallard

**Scientific Name:** *Anas platyrhynchos*

**Arabic Name:** البطة الخضارية

**Family:** Anatidae

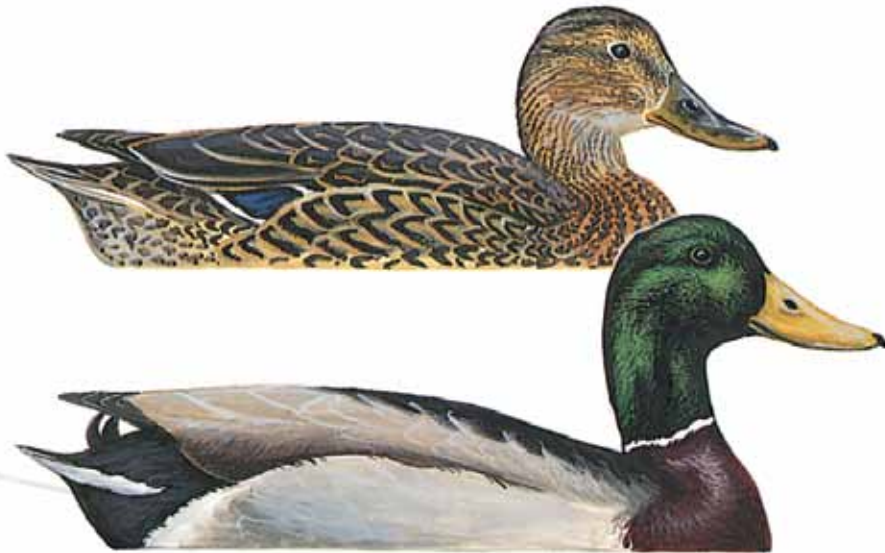
**Location:** Fresh and salt-water wetlands, including parks, small ponds, rivers, lakes and estuaries, as well as shallow inlets and open sea within sight of the coastline

**Description:**

1. Distinct purple speculum edged with white

**Male Distinction:**

1. Bright bottle-green head
2. Black rear end and a yellowish orange (can also contain some red) bill tipped with black
3. White collar which demarcates the head from the purple-tinged brown breast, grey brown wings, and a pale grey



belly

4. The dark tail has white borders
5. A noisy species, the male has a nasal call, and a high-pitched whistle

**Female Distinction:**

1. Light brown
2. Buff cheeks, eyebrow, throat and neck with a darker crown and eye-stripe
3. Black/orange bill
4. The female has a deeper «quack» stereotypically associated with ducks

**Significant Habits:** Form large flocks, which are known as a sord

**Feeding:** The Mallard is omnivorous and very flexible in its food choice. The majority of the Mallard's diet seems to be made up of water plants, gastropods, invertebrates (including beetles, flies, lepidopterans, dragonflies, and caddisflies), crustaceans, worms, many varieties of seeds and plant matter, roots and tubers

**Breeding:**

1. Breeds throughout the temperate and subtropical Americas, Europe, Asia, and North Africa
2. Nests on a river bank, and the female's preferences are areas that are well concealed, inaccessible to ground predators, or have few predators nearby
3. Form pairs (in October and November) only until the female lays eggs at the start of nesting season which is around the beginning of spring (early March to late May), at which time she is left by the male who will join up with

other males to await the molting period which begins in June, or to mate with other unattached females

4. The nesting period can be very stressful for the female; since she lays more than half her body weight in eggs and requires a lot of rest and a feeding/loafing area that is safe from predators
5. The clutch is 8–13 eggs, which are incubated for 27–28 days to hatching with 50–60 days to fledgling. The ducklings are precocial and fully capable of swimming as soon as they hatch
6. When ducklings mature into flight-capable juveniles, they will learn about and remember their traditional migratory routes (unless they are born and raised in captivity). After this, the juveniles and the mother may either part or continue staying together until the breeding season arrives



**Utilization:** Kept as pets, and used in decoration and children novels.

**Status in Lebanon:** common passage migrant, common winter visitor and scarce summer breeding.

**English Name:** Garganey

**Scientific Name:** *Anas querquedula*

**Arabic Name:** الحذف الصيفي

**Family:** Anatidae

**Location:** Grassland adjacent to shallow marshes and steppe lakes. It favors shallow wetlands, with flooded meadows and ditches, and plenty of aquatic vegetation.



**Male Distinction:**

1. The adult male is unmistakable, with its brown head and breast with a broad white crescent over the eye. The rest of the plumage is grey, with loose grey scapular feathers
2. It has a grey bill and legs.
3. In flight it shows a pale blue speculum with a white border. When swimming, it will show prominent white edges on its tertials.

**Female Distinction:** Some care is needed in separating the brown female from the similar common teal, but the stronger face markings and more frequent head-shaking when dabbling are good indicators.

**Significant Habits:**

1. The garganey bird is diurnal as well as nocturnal in its feeding habits.
2. It is able to forage in the dark because of the enhanced night vision.
3. This bird has a specially adapted bill which helps it hunt for

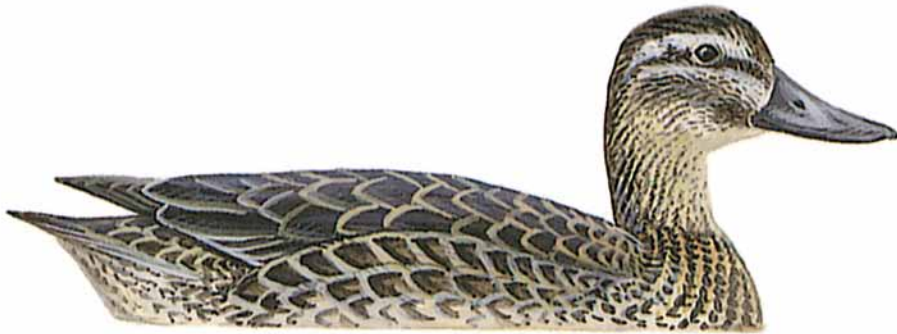
fish, crabs, shrimp and other aquatic animals in the water, and it can forage for food on the ground.

4. The Garganey is normally seen in flocks or pairs.

**Feeding:** These birds feed mainly by skimming rather than upending. It eats plant material and insects.

**Breeding:** Nests are usually within 25 meters of shoreline and placed under the cover of tall grasses in a depression.

**Status in Lebanon:** common passage migrant and rare summer breeding.



**English Name:** Common Teal

**Scientific Name:** *Anas crecca*

**Arabic Name:** الحذف الشتوي

Family: Anatidae

**Location:** It is commonly found in sheltered wetlands.

**Male Distinction:** The male common teal is more colorful than the female, with a brown head and metallic green eye stripe.

**Female Distinction:** Some care is needed in separating the brown female from the similar Garganey, but the weaker face markings and less frequent head-shaking when dabbling are good indicators.

**Significant Habits:**

1. It is a highly gregarious duck outside the breeding season and can form large flocks.
2. In flight, the fast, twisting flocks resemble waders; despite its short legs, it is also rather nimble on the ground by ducks' standards.
3. Diurnal throughout the breeding season, in winter they are often crepuscular or even nocturnal feeders.

**Feeding:**

1. The Eurasian teal usually feeds by dabbling, upending or grazing;
2. It may submerge its head and on occasion even dive to reach food.
3. In the breeding season it eats mainly aquatic invertebrates,

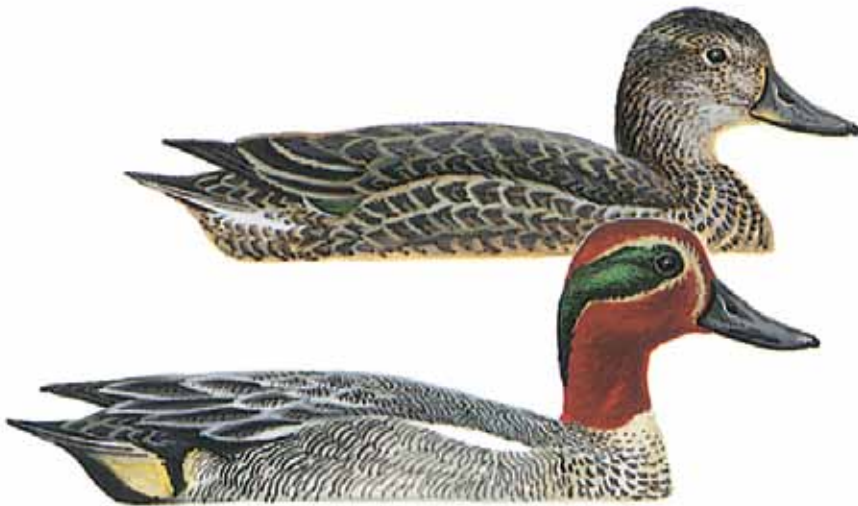


such as crustaceans, insects and their larvae, mollusks and worms.

4. In winter, it shifts to a largely granivorous diet, feeding on seeds of aquatic plants and grasses, including sedges and grains.

**Breeding:** It nests on the ground, near water and under cover. The nest is a deep hollow lined with dry leaves and down feathers, built in dense vegetation near water.

**Status in Lebanon:** The Common Teal is a former breeder. Currently, it is a common passage migrant and winter visitor.



**English Name:** Stock Dove (Pigeon)

**Latin Name:** *Columba oenas*

**Arabic Name:** الحمام البري

**Family:** Columbidae

**Location:** The habitat of the stock dove is generally open country. Even though it nests in trees and it does not prefer densely wooded areas. It is also common on coasts where the cliffs provide holes.

**Description:**

The Stock Dove and Rock Pigeon (feral pigeon) are more alike in size and plumage, but wild specimens of the former have a white rump and two well-marked dark bars on the wing, while the rump of the Stock Dove is grey and its wing bars incomplete. Male Distinction: Male Stock Dove is largely blue-grey with an attractive iridescent bottle green band on the back of the neck. In flight it shows black edges to the wing and two partial black bands near their back.

**Female Distinction:** The female is very similar to the male.

**Significant Habits:**

The stock dove is sociable as well as gregarious, often consorting with wood pigeons, though doubtless it is the presence of food which brings them together.

**Feeding:** Stock Doves eat seed, leaves, buds, berries and grain.

**Breeding:**

The nest is usually in a hole in an old tree or buildings and sometimes in rabbit burrows.





Before deforestation, the stock dove was the most frequent pigeon, nesting mostly in oak or pine wood, but as it usually nests in cavities in trees it was normally only found in old forests. In plantations there are not as many holes to nest in, so it is scarcer.

The nest is made of twigs and dead leaves. Both parents share the duty of incubating the eggs and feeding the nestlings.

**Status in Lebanon:** Uncommon passage and uncommon wintering.



**English Name:** Calandra Lark

**Latin Name:** *Melanocorypha calandra*

**Arabic Name:** المطوق

**Family:** Alaudidae

**Location:** A bird of open cultivation and steppe.

**Description:**

1. Small to medium-sized birds.
2. Long hind claws, which are thought to provide stability while standing.
3. Heavy bills for cracking seeds open, or long, down-curved





bills, which are especially suitable for digging.

4. The calandra lark is a large, robust, heavy-billed lark, with large wing area but no crest. 5. Upperparts essentially brown and well streaked, underparts off-white and little streaked with large black patches on sides of upper breast.
5. Face dominated by heavy, rather conical bill and quite prominent buff-white supercilium and eye-ring.

**Significant Habits:** It is gregarious outside the breeding season. Feeding: Food is seeds supplemented with insects in the breeding season.

**Breeding:** The Calandra Lark breeds in warm temperate countries around the Mediterranean and eastwards through Turkey into northern Iran and southern Russia.

**Utilization:** Larks are consumed with their bones intact.

**Status in Lebanon:** Resident, common passage migrant and scarce winter visitor.

**English Name:** Chaffinch

**Scientific Name:** *Fringilla coelebs*

**Arabic Name:** الصلنج

**Family:** Fringillidae

**Location:**

1. Europe, western Asia and northwestern Africa
2. Open woodland is favoured, although it is common in gardens and on farmland

**Description:**

1. Large double white wing bars
2. White tail edges
3. Greenish rump

**Male Distinction:** Reddish underparts and a blue-grey cap

**Female Distinction:** Drabber and greener

**Significant Habits:** The powerful song is very well known, and its fink or vink sounding call gives the finch family its English name

**Feeding:** Seeds and insects

**Breeding:**

1. Builds its nest in a tree fork, and decorates the exterior with moss or lichen to make it less conspicuous
2. Lays about six eggs, which are greenish-blue with purple speckling

**Utilization:** Depicted in decoration

**Status in Lebanon:** Resident, common passage migrant and winter visitor.



## VII. Threatened Birds Alert!

The IUCN Red List of threatened species is widely considered to be the most objective and authoritative system for classifying species in terms of the risk of extinction, according to standard quantitative: Extinct (EX), Extinct in the Wild (EW), Critically Endangered (CR), Endangered (EN), Vulnerable (VU), Near Threatened (NT) or Least Concern (LC).

BirdLife International is the official Red List Authority for birds for the IUCN Red List, supplying the categories and associated detailed documentation for all the world's birds to the IUCN Red List each year.

Eight species are considered threatened in Lebanon. One of them is critically endangered, two are Endangered, and five are Vulnerable. In addition two were extirpated from Lebanon (Locally extinct) and 12 are Near- Threatened.

Definition of threatened birds: bird species that are facing a very high risk of extinction in the wild.

Definition of near- threatened birds: bird species that may be considered threatened with extinction in the near future.

CR: Critically Endangered

EN: Endangered

VU: Vulnerable

NT: Near Threatened

EX: Locally Extinct (Extirpated).



**English Name:** Sociable Lapwing

**Scientific Name:** *Vanellus gregarius*

**Arabic Name:** القطقاط الاجتماعي

**Family:** Charadriidae

**Description:**

1. Medium-sized lapwing
2. Longish black legs and a short black bill
3. The head has a striking pattern, with a black crown and eyestripe, the latter being bordered above and below with white
4. The upper neck is ochre. Its longish black legs, white tail with a black terminal band and distinctive brown
5. The white and grey wings make it almost unmistakable in flight

**Significant Habits:** The call is a harsh kereck

**Feeding:** Insects and other small prey mainly from grassland or arable

**Breeding:**

1. Breeds on open grassland
2. Three to five eggs are laid in a ground nest

**Status:** CR

**Threats:** Habitat destruction

The Sociable Lapwing is a vagrant species in Lebanon.



**English Name:** Saker Falcon

**Scientific Name:** *Falco cherrug*

**Arabic Name:** صقر الغزال (حر)

**Family:** Falconidae

**Location:** The saker falcon is a raptor of open grasslands preferably with some trees or cliffs.

**Description:**

The saker falcon is a large falcon.

Saker falcons have brown upperbellies and contrasting grey flight feathers.

The head and underparts are paler brown, with streaking from the breast down.

Males (called sakrets in falconry) and females are similar, as are young birds, although these tend to be a duller brown.



**Male Distinction:** The male is smaller than the female.

**Female Distinction:** Females are larger than males.

**Significant Habits:** It often hunts by horizontal pursuit, rather than the peregrine's stoop from a height.

**Feeding:**

Feeds mainly on rodents and birds.

Ground squirrels and feral pigeons are the most common prey items.

**Breeding:**

This species usually builds no nest of its own, but lays its 36-eggs in an old stick nest in a tree which was previously used by other birds such as storks, ravens or buzzards.

It also often nests on cliffs.

**Status:** EN. The species also faces pressure from habitat loss and destruction.

The Saker Falcon is a scarce passage migrant and scarce winter visitor in Lebanon.



**English Name:** Egyptian Vulture

**Scientific Name:** *Neophron percnopterus*

**Arabic Name:** الرخمة المصرية

**Family:** Accipitridae

**Location:** It occurs mainly on the dry plains and lower hills.

**Description:**

The contrasting underwing pattern and wedge-shaped tail make it distinctive in flight as it soars in thermals during the warmer parts of the day.

**Male Distinction:** The sexes are indistinguishable in plumage but breeding males have a deeper orange facial skin colour than females.

**Female Distinction:** Females average slightly larger and are about 10–15% heavier than males.



**Significant Habits:** They also feed on the eggs of other birds, breaking larger ones by tossing a large pebble onto them. The use of tools is rare in birds and apart from the use of a pebble as a hammer, Egyptian vultures also use twigs to roll up wool for use in their nest.

**Feeding:** Egyptian vultures feed mainly on carrion but are opportunistic and will prey on small mammals, birds, and reptiles.

**Breeding:**

The birds are monogamous and pair bonds may be maintained for more than one breeding season and the same nest sites may be reused each year.

The nest is an untidy platform of twigs lined with rags and placed on a cliff ledge or the fork of a large tree. Old nest platforms of eagles may also be taken over

**Status:** EN. Populations of this species have declined in the 20th century and some populations are endangered by hunting, accidental poisoning, and collision with power lines.

The Egyptian Vulture is a former breeder in Lebanon. Presently it is a rare passage migrant.



**English Name:** Dalmatian Pelican

**Scientific Name:** *Pelecanus crispus*

**Arabic Name:** بجمع دماشيا (أشعث)

**Family:** Pelecanidae

**Description:**

1. On average, it is the world's heaviest flying species
2. Curly nape feathers
3. Grey legs and greyish-white (rather than pure white) plumage
4. It has a red lower mandible in the breeding season.

**Significant Habits:** This pelican migrates short distances. In flight, it is an elegant soaring bird, with the flock moving in synchrony. The neck is then held back

**Feeding:** Fish and small birds



**Breeding:**

1. It breeds from southeastern Europe to India and China in swamps and shallow lakes
2. The nest is a crude heap of vegetation

**Status:** VU

**Threats:** Habitat loss and persecution

The Dalmatian Pelican is a rare passage migrant in Lebanon.



**English Name:** Marbled Teal

**Scientific Name:** *Marmaronetta angustirostris*

**Arabic Name:** شرشير مخطط

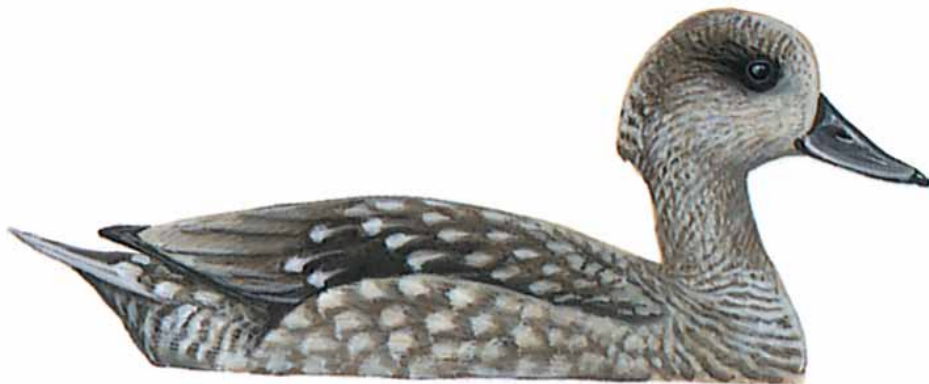
**Family:** Anatidae

**Description:**

1. Medium-sized
2. Pale sandy-brown colour, diffusely blotched off-white, with a dark eye-patch and shaggy head

**Significant Habits:** Common in private collections but are a nervous and flighty bird

**Feeding:** Feed mainly in shallow water by dabbling or up-ending, occasionally diving

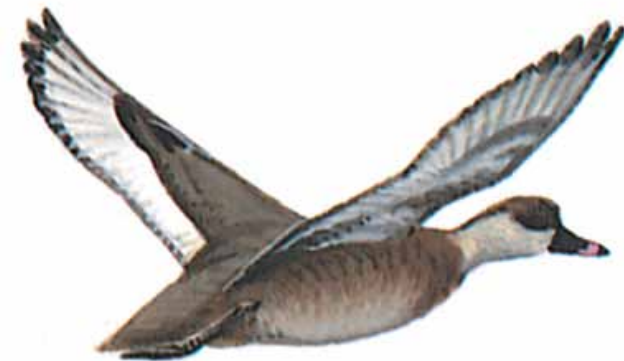


**Breeding:**

1. Formerly bred in large numbers in the Mediterranean region, but is now restricted to a few sites in southern Spain, northwest Africa
2. Lays 7 to 10 cream eggs

**Status:** VU

**Threats:** Habitat destruction and hunting  
The Marbled Teal is a vagrant species in Lebanon.



**English Name:** Greater Spotted Eagle

**Scientific Name:** *Aquila clanga*

**Arabic Name:** عقاب أسفع (أرقط) كبير

**Family:** Accipitridae

**Description:**

1. Large bird of prey
2. Head and wing coverts are very dark brown and contrast with the generally medium brown plumage
3. The head is small for an eagle



**Significant Habits:**

1. The call is a dog-like yip
2. Small flocks of up to ten birds or so, of varying age, can be seen to patrol the land together

**Feeding:** Hunts small mammals and similar, mainly terrestrial prey

**Breeding:**

1. Breeds from northern Europe across Asia, and winters in southeastern Europe, the Middle East and South Asia
2. Juveniles spend some time with their parents after fledging, until they reach sexual maturity and seek out a territory and a mate of their own

**Status:** VU

**Threats:** Habitat degradation and loss, as well as human disturbance during the mating season

The Greater Spotted Eagle is a scarce passage migrant in Lebanon.

**English Name:** Eastern Imperial Eagle

**Scientific Name:** *Aquila heliaca*

**Arabic Name:** ملك العقاب

**Family:** Accipitridae

**Description:**

1. Large species of bird of prey



**Breeding:**

1. Breeds from southeastern Europe to central Asia
2. Construct a nest in a tree which is not surrounded by other trees, so that the nest is visible from a considerable distance, and so that the occupants may observe the surroundings unobstructed
3. In March or April the female lays two to three eggs
4. The chicks hatch after about 43 days and leave the nest after 60–77 days

**Status:** VU

The Eastern Imperial Eagle is a scarce passage migrant in Lebanon





**English Name:** Syrian Serin

**Scientific Name:** *Serinus syriacus*

**Arabic Name:** نعار سوري

**Family:** Fringillidae

**Description:**

1. Prettyly coloured with bright yellow and pale grey feathers
2. The eyes are large and are surrounded by a bright yellow ring
3. The beak is grey and the legs are pale pinkish-grey. It has a long trilling call, and may also chirp and twitter



**Feeding:** Seeds of annuals and grasses

**Breeding:**

1. Breeds in the Middle East
2. Builds a nest in a tree once the snow has begun to melt in April or May
3. Four pale blue, glossy eggs are laid in April and May and the female incubates these for 12 – 14 days
4. The young fledge after just 14 – 16 days and the parents then move up to around 1,750 metres in July and August to produce a second clutch



**Status:** VU

The Syrian Serin is a Summer Breeding species in Lebanon.



**English Name:** Ferruginous Duck

**Scientific Name:** *Aythya nyroca*

**Arabic Name:** حمراوي أبيض العين (الزرق الأحمر)

**Family:** Anatidae

**Description:**

1. Medium-sized
2. Chestnut colour with a darker back and a yellow eye
3. Pure white undertail



**Female Distinction:** Duller, and with a dark eye

**Feeding:** Feed mainly by diving or dabbling. They eat aquatic plants with some molluscs, aquatic insects and small fish. They often feed at night, and will upend (dabble) for food as well as the more characteristic diving

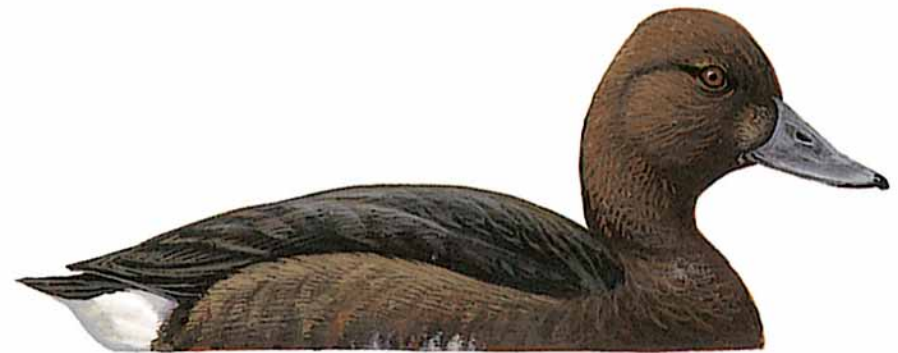


**Breeding:**

1. Their breeding habitat is marshes and lakes with a metre or more water depth
2. Breed in southern and eastern Europe and southern and western Asia

**Status:** NT

The Ferruginous Duck is an uncommon passage migrant and winter visitor.



**English Name:** Pallid Harrier

**Scientific Name:** *Circus macrourus*

**Arabic Name:** مرزة بغشاء (باهتة)

**Family:** Accipitridae

**Description:**

1. Medium-sized
2. Long wings held in a shallow V in its low flight

**Male Distinction:** Whitish grey above and white below, with narrow black wingtips

**Female Distinction:** Brown above with white upper tail coverts, and underparts are buff streaked with brown



**Feeding:** Hunt small mammals, lizards and birds, surprising them as they drift low over fields and moors

**Breeding:**

1. The nest of this species is on the ground, bogs and heathland
2. Four to six whitish eggs are laid

**Status:** NT

The Pallid Harrier is an uncommon passage migrant and winterer in Lebanon.



**English Name:** Great Snipe

**Scientific Name:** *Gallinago media*

**Arabic Name:** الشنقب (الجهلول) الكبير

**Family:** Scolopacidae

**Description:**

1. Small stocky wader
2. The body is mottled brown on top and barred underneath
3. Dark stripe through the eye
4. The wings are broad, and a pale wingbar is visible in flight



**Male Distinction:** The males display at a dusk lek during the breeding season, standing erect with chest puffed and tail fanned. They may jump into the air. They produce a variety of rattles, clicks, buzzes and whistles while displaying

**Significant Habits:**

1. Fast, non-stop flying capabilities over huge distances
2. They typically do not stop to feed despite having opportunities. The birds instead rely on stores of fat
3. They are difficult to see, being well camouflaged in their habitat

**Feeding:** Insects and earthworms, and occasional plant material

**Breeding:**

1. Breeding habitat is marshes and wet meadows with short vegetation
2. 3-4 eggs are laid in a nest in a well-hidden location on the ground

**Status:** NT

The Great Snipe is a rare passage migrant in Lebanon.

**English Name:** Audouin's Gull

**Scientific Name:** *Larus audouinii*

**Arabic Name:** نورس أدون

**Family:** Laridae

**Description:**

1. Large gull
2. Strictly coastal and pelagic
3. short stubby red bill and «string of pearls» white wing primary tips
4. The legs are grey-green

**Significant Habits:**

This bird will feed at night, often well out to sea, but also slowly patrols close into beaches, occasionally dangling its legs to increase drag



**Feeding:** Fish

**Breeding:** Breeds on small islands colonially or alone, laying 2-3 eggs on a ground nest

**Status:** NT

The Audouin's Gull is a former breeder and presently a scarce passage migrant.



**English Name:** Cinereous Bunting

**Scientific Name:** *Emberiza cineracea*

**Arabic Name:** درسة رمادية

**Family:** Emberizidae

**Description:**

1. Slim bunting with a long, white-cornered tail
2. Less streaked than many buntings and has a thick pale bill
3. Greyish back with only subdued dark markings, and a browner tint to the wings

**Male Distinction:** The adult male's head is dull yellow, with a brighter moustachial line and throat

**Female Distinction:** Females are brownish grey above with a whitish throat and yellow only in the moustachial stripe

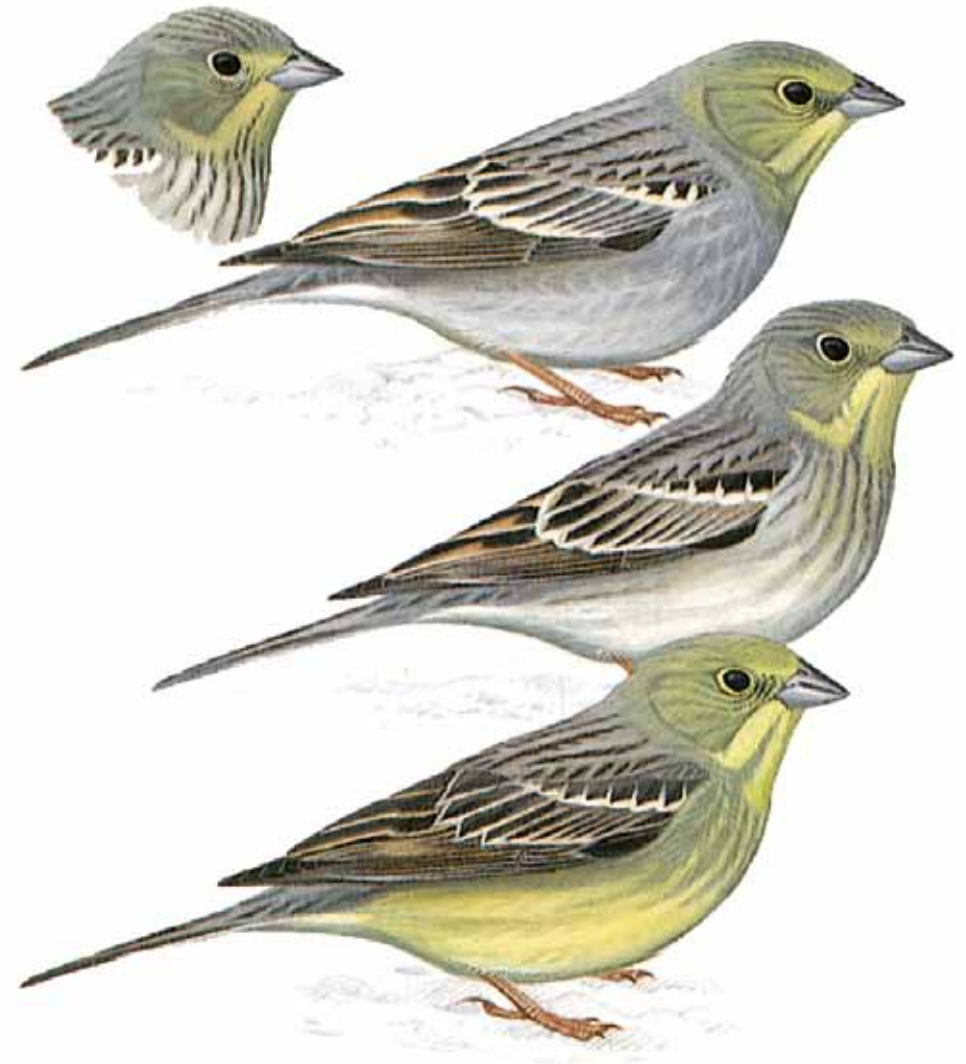
**Significant Habits:** The call is a harsh tschrip, and the song is a hoarse zru- zru-zru-zru

**Feeding:** Seeds and insects

**Breeding:** Breeds on dry stony mountain slopes

**Status:** NT

The Cinereous Bunting is an uncommon passage migrant in Lebanon.





**English Name:** Sooty Shearwater

**Scientific Name:** *Puffinus griseus*

**Arabic Name:** جلم ماء فاحم

**Family:** Procellariidae

**Description:** Dark plumage

**Significant Habits:**

1. It has the typically «shearing» flight of the genus, dipping from side to side on stiff wings with few wing beats, the wingtips almost touching the water. Its flight is powerful and direct, with wings held stiff and straight
2. Usually loud, Sooty Shearwaters coo and croak while on the breeding grounds
3. Often follow whales to catch fish disturbed by them
4. They do not migrate as a flock, but rather as single individuals

**Feeding:** Fish and squid

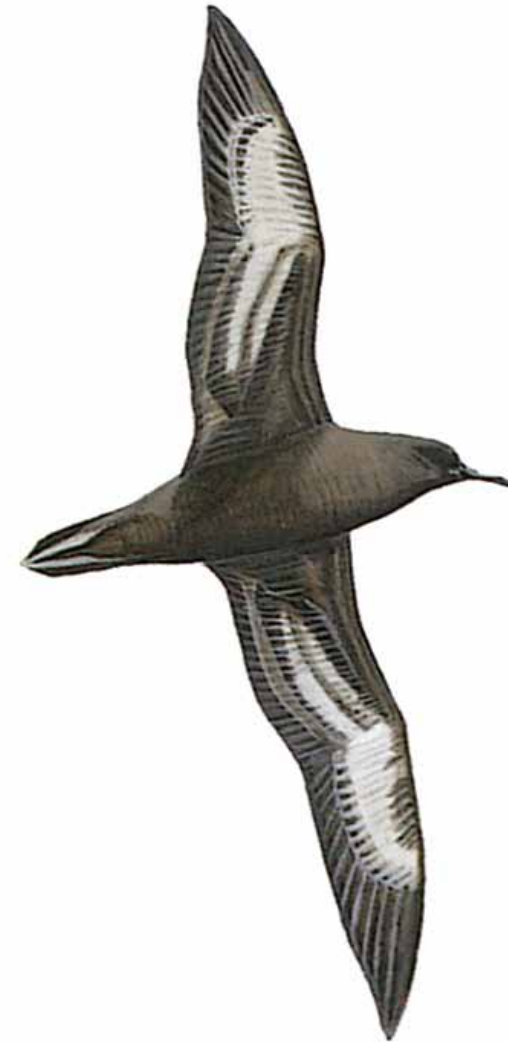
**Breeding:**

1. Breeds in huge colonies and the female lays one white egg
2. Nests in burrows lined with plant material which are visited only at night to avoid predation by large gulls
3. They start breeding in October, and incubate their young for about 54 days
4. Once the chick hatches, the parents raise their chicks for 86 to 109 days

**Status:** NT

**Threats:** Hunting

The Sooty Shearwater is a vagrant in Lebanon.



**English Name:** Black-tailed Godwit

**Scientific Name:** *Limosa limosa*

**Arabic Name:** بقويقة سوداء الذيل

**Family:** Scolopacidae

**Location:** Its habitat is river valley fens, floods at the edges of large lakes, damp steppes, raised bogs and moorlands, lowland wet grasslands, coastal grazing marshes, pastures, wet areas near fishponds or sewage works, and saline lagoons.

**Description:**

The black-tailed godwit is a large wader with long bill (7.5 to 12 cm long), neck and legs.

During the breeding season, the bill has a yellowish or orange-pink base and dark tip; the base is pink in winter.

In winter, adult black-tailed godwits have a uniform brown-grey breast and upperparts (in contrast to the bar-tailed godwit's streaked back).

Juveniles have a pale orange wash to the neck and breast.

**Male Distinction:** The sexes are similar, but in breeding plumage, they can be separated by the male's brighter, more extensive orange breast, neck and head.

**Significant Habits:**

Young birds from the European populations stay on in Africa after their first winter and return to Europe at two years old.

A study of the Icelandic population showed that despite spending winter apart, pairs are reunited on their breeding grounds within an average of three days of each other. If one partner does not arrive on time, 'divorce' occurs.

**Feeding:**

They mainly eat invertebrates, but also aquatic plants in winter and on migration.

In the breeding season, preys include beetles, flies, grasshoppers, dragonflies, caterpillars, worms and mollusks.

**Breeding:**

They nest in loose colonies.

Unpaired males defend a temporary territory and perform display flights to attract a mate.

Several nest scrapes are made away from the courtship territory, and are defended from other godwits.

Once eggs are laid, an area of 30–50 metres around the nest is defended.

The nest is a shallow scrape on the ground, usually in short vegetation.

**Status:** NT. It declined in numbers of around 25% in the previous 15 years.

The Black-Tailed Godwit is a scarce passage migrant in Lebanon.



**English Name:** Black-winged pratincole

**Scientific Name:** *Glareola nordmanni*

**Arabic Name:** أبو اليسر أسود الجناح

**Family:** Glareolidae

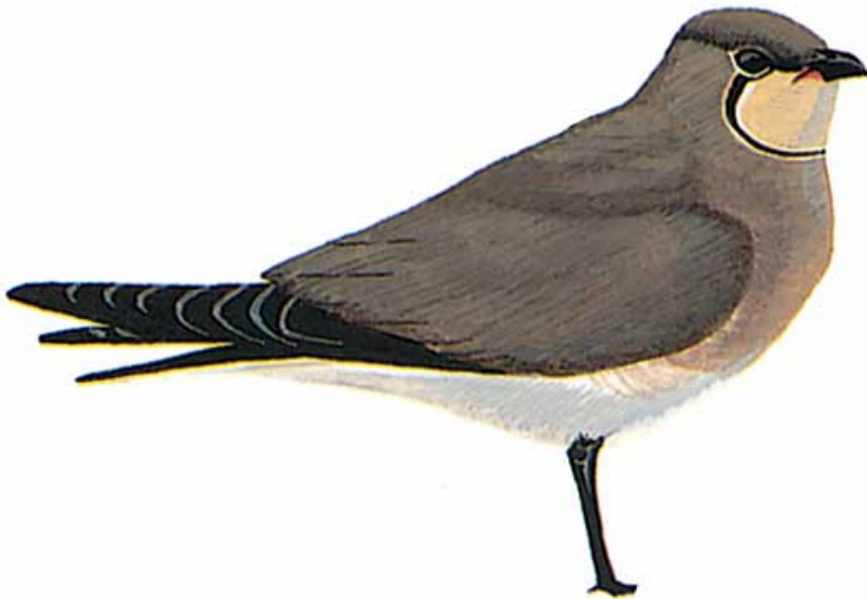
**Location:**

Black-winged pratincole is a bird of open country, and is often seen near water in the evening, hawking for insects.

In its breeding range, the black-winged pratincole inhabits dry, salted soils, with sparse vegetation and batches of bare ground, overgrazed pastures and occasionally ploughed fields

**Description:**

Black-winged pratincole is with short legs, long pointed wings and a forked tail. It has a short bill, which is an adaptation to



aerial feeding. The back and head are brown, and the wings are brown with black flight feathers. The belly is white and the underwings are black.

The pale yellow throat is bordered by a narrow black band, and the black bill has a small patch of red at the base.

Juvenile black-winged pratincoles differ from adults by their mottled blackish plumage and their dull white throat lacks the black border.

**Significant Habits:**

The most unusual feature of the pratincoles is that although classed as waders they typically hunt their insect prey on the wing like swallows, although they can also feed on the ground. This pratincole is found in warmer parts of south east Europe and south west Asia.

**Feeding:** Adapted to aerial insect feeding.

**Breeding:**

They nest on the ground.

**Status:** NT. They declined due to the extensive ploughing of their breeding habitat for the development of arable agriculture and increasing numbers of corvids, their nestlings predators. The Black-winged pratincole is a scarce passage migrant in Lebanon.

**English Name:** Red-footed Falcon

**Scientific Name:** *Falco vespertinus*

**Arabic Name:** صقر أحمر القدم

**Family:** Falconidae

**Location:**

The red-footed falcon tends to reside in typical steppe type habitats.

It inhabit open habitats with some tree cover.



**Description:**

The red-footed falcon (*Falco vespertinus*) is a small, slender bird of prey in which the male and female vary considerably in appearance

**Male Distinction:** The adult male is all blue-grey, except for his red undertail and legs; its underwings are uniformly grey.

**Female Distinction:** The female has a grey back and wings, orange head and underparts, and a white face with black eye stripe and moustaches.

**Significant Habits:**

This bird's distinctive method of hunting is shared by the Common Kestrel. It regularly hovers, searching the ground below, and then making a short steep dive towards the target.

When feeding their nestlings, the youngest nestlings receive the most food more frequently and more regularly.

**Feeding:**

The Red-Footed Falcon is a bird of prey with a diet consisting of a variety of insects, amphibians, reptiles, mammals and birds, such as crickets, toads, lizards, the common vole and bird nestlings, respectively.

The falcon's flight can become erratic and jerky when in pursuit of a meal.

**Breeding:**

This falcon is a colonial breeder, reusing the old nests of corvids.

**Status:** NT. The species faces pressure from habitat loss and destruction and from the widespread use of pesticides which affects the falcon's food supply.

The Red-footed Falcon is an uncommon passage migrant in Lebanon.

**English Name:** Cinereous Vulture

**Scientific Name:** *Aegypius monachus*

**Arabic Name:** النسرا الأسود

**Family:** Accipitridae

**Location:** This vulture is a bird of hilly, mountainous areas, especially favoring dry semi-open habitats such as meadows at high altitudes over much of the range.

**Description:**

The cinereous vulture is distinctly dark, with the whole body being brown excepting the pale head in adults, which is covered in fine blackish down.

The skin of the head and neck is bluish-gray and a paler whitish color above the eye.

The combination of huge size and dark coloration renders the cinereous vulture relatively distinct.

**Female Distinction:** Females are slightly larger than males.



**Significant Habits:**

Vultures of this species are always associated with undisturbed, remote areas with limited human disturbance.

One cinereous vulture was observed at an elevation of 6,970 m (22,870 ft) on Mount Everest. It has a specialized haemoglobin alphaD subunit of high oxygen affinity which makes it possible to take up oxygen efficiently despite the low partial pressure in the upper troposphere.

The cinereous vulture is a largely solitary bird, being found alone or in pairs much more frequently than most other Old World vultures.

**Feeding:**

They forage for carcasses over various kinds of terrain, including steppe, grasslands, open woodlands, along riparian habitats or any kind of mountainous habitat.

**Breeding:**

Nesting usually occurs near the tree line in the mountains.

They breed in loose colonies, with nests rarely being found in the same tree or rock formation, unlike other Old World vultures which often nest in tight-knit colonies.

The cinereous vulture breeds in high mountains and large forests, nesting in trees or occasionally on cliff ledges.

**Status:** NT. The cinereous vulture has declined over most of its range in the last 200 years in part due to poisoning by eating poisoned bait put out to kill dogs and other predators, and to higher hygiene standards reducing the amount of available carrion.

The Cinereous Vulture is a rare passage migrant in Lebanon.



**English Name:** European Roller

**Scientific Name:** *Coracias garrulus*

**Arabic Name:** شقرق أوروبي

**Family:** Coraciidae

**Location:**

It is a bird of warm, dry, open country with scattered trees, preferring lowland open countryside with patches of oak *Quercus* forest, mature pine *Pinus* woodland with heathery clearings, orchards, mixed farmland, river valleys, and plains with scattered thorny or leafy trees.

**Description:**

The European roller is a stocky bird, the size of a jackdaw in length;

It is mainly blue with an orange-brown back.

Rollers often perch prominently on trees, posts or overhead wires, like giant shrikes, whilst watching for preys.

This species is striking in its strong direct flight, with the brilliant blue contrasting with black flight feathers. Sexes are similar.

The juvenile is a drabber version of the adult.

**Significant Habits:**

It spends long periods sitting on an elevated perch, such as a bare branch or a power line, watching the ground intently for potential prey.

The European roller will also follow ploughs on farmland, where disturbance of the soil unearths a feast.

**Feeding:** They eat large insects, invertebrates, small reptiles, rodents and frogs.



**Breeding:**

It nests in an unlined tree or cliff hole, and lays up to six eggs. Oak and pine woodlands with open areas are prime breeding habitat, but farms, orchards and similar areas with mixed vegetation are also used.

**Status:** NT. Threats include hunting while on migration in around the Mediterranean, and large numbers, possibly in the thousands, are killed for food in Oman. Agricultural practices have led to the loss of trees and hedges which provide potential nest sites and perches for hunting, and pesticides have reduced the availability of insect food.

The European Roller is an uncommon passage migrant species in Lebanon.



**English Name:** Semi-collared Flycatcher

**Scientific Name:** *Ficedula semitorquata*

**Arabic Name:** آكل الذباب نصف المطوق

**Family:** Muscicapidae

**Location:**

Semicollared flycatchers are birds of belts of deciduous woodlands, especially oak and hornbeam, in mountainous areas.

**Description:**

The semi-collared flycatcher is a small, pied bird, with a glossy black head, back, tail and upperwing, a grey rump, and a white forehead, throat and underparts.

**Male distinction:**

The breeding male is mainly black above and white below, with a white half-collar, extending further back than in pied, large white wing patch, extensively white tail sides and a large white forehead patch.



It has a pale grey rump. The bill is black and has the broad but pointed shape typical of aerial insectivores.

**Female distinction:**

Non-breeding male, females and juvenile semi-collared flycatchers have the black replaced by a pale brown, and may be very difficult to distinguish from other *Ficedula* flycatchers, particularly the collared flycatcher.

Precisely, the female semi-collared flycatcher is a much more drab bird, with greyish-brown upperparts, a paler rump, a dark brown tail and flight.

**Significant Habits:**

The male may sometimes abandon a female and instead spend all his time helping another rear the chicks.

**Feeding:** It mainly takes insects in flight, rarely hunting caterpillars amongst the tree foliage like pied flycatcher.

**Breeding:** The nest is built in a tree hollow, often a woodpecker hole, and is cup-shaped, built from dry leaves, dead plant stems, moss and lichens, and lined with grass, fine roots, bark fibres, and sometimes hair or feathers.

**Status:** NT. The species suffers from habitat destruction in some areas, which is likely to be responsible for recent declines. The Semi-collared Flycatcher is a scarce passage migrant in Lebanon.

**English Name:** Great Bustard

**Scientific Name:** *Otis tarda*

**Arabic Name:** الحبارى الكبرى

**Family:** Otidae

**Description:**

1. Possibly the heaviest living flying animal
2. Brown above and white below
3. Long grey neck and head
4. The breast and lower neck sides are chestnut

**Female Distinction:** Females are smaller and lighter

**Significant Habits:** Adult males seem to have a higher mortality rate than females due mainly to fierce intraspecies fighting with other males during the breeding season

**Feeding:** Omnivorous, taking seeds, insects and other small creatures, including frogs and beetles

**Breeding:**

1. Breeds in southern and central Europe
2. Breeds in March, and a single male may mate with up to 5 females. All breeding Great



Bustards also moult again from June to September

3. Two or three olive or tan coloured, glossy eggs are laid in a small ground scrape
4. The female incubates the eggs alone for around 4 weeks
5. The chicks almost immediately leave the nest after they hatch, although they do not move very far from their mother until they are at least 1 year old
6. By three months they are able to fly reasonable distances

**Status:** EX: Locally Extinct (Extirpated from Lebanon).



**English Name:** Macqueen's Bustard

**Scientific Name:** *Chlamydotis macqueeni*

**Arabic Name:** الحبارى

**Family:** Otidae

**Description:**

1. Brown above and white below, with a black stripe down the sides of its neck
2. In flight, the long wings show large areas of black and brown on the flight feathers

**Female Distinction:** Smaller and greyer above



**Breeding:**

1. Breeds in deserts and other very arid sandy areas and is largely resident within its range
2. Two to four eggs are laid on the ground

**Status:** EX: Locally Extinct (Extirpated from Lebanon).



## VIII. Importance of Bird Conservation

### 1. Ecology

Wild birds are an integral part of the ecosystem and serve many important purposes, including: Insect and rodent population control, Distribution of seeds that leads to forest conservation, Food sources for bird predators. Therefore, by conserving birds, we can better study them and understand their relationships with other living things on our planet and how the interactions of those relationships can affect humans directly.

### 2. Biodiversity

Birds are one of the most populous life forms on the planet, and that biodiversity leads to a richness of life and beauty. The incredible number of bird species demonstrate amazing evolutionary adaptations, and by learning how birds are able to adapt throughout the world we can begin to adapt our own behaviors to live in our world, rather than to force our world into an artificial and unsustainable mold.

Bird conservation can also highlight the diversity of different habitats. All birds cannot live in the same habitats, and understanding the needs and requirements of different species can lead us to have more compassionate tolerance for different people and cultures.

### 3. Awareness

Participating in one type of conservation program inevitably

leads to a heightened awareness of other environmental and conservation issues.

Birders interested in preserving one species of bird may discover the reason of decline in the bird population. Conscientious birders should be aware of the threats affecting birds. Birders who are aware of these and similar issues can take action to promote responsible bird conservation.

### 4. Education



Observing and conserving birds can teach us much more than the details of individual bird species. By observing birds in flight, aeronautical engineers can design more efficient airplanes. Climatologists who study birds' migration patterns can gain a better understanding of seasonal climate changes. Psychologists familiar with birds' courtship rituals and community interactions can better understand complex group dynamics. By conserving birds and protecting their habitats, we can continue to gain insights from our avian friends.





### What You Can Do to Help?

**Practice Good Ethics:** By being an ethical birder (Appendix 1: code of birding ethics), you promote the viability of the hobby and ensure that others will be able to enjoy it and develop their own awareness of the importance of bird conservation.

One of the simplest pleasures we get from bird conservation is a genuine appreciation for our natural world. By participating in different programs and working to save unique species and habitats, we come into close contact with different birds and can discover their unique characteristics and quirks. By recognizing birds as unique and individual creatures, we can better understand the need for appropriate conservation efforts.



## IX. Get Ready, it's Field Time!

### 9.1. Getting Ready Before Going to Watch Birds in the Field





When planning for fieldwork, plan well ahead of time. It is necessary to pursue the following instructions:

1. Read the Code of Birding Ethics attached in Appendix 1. The bird's welfare must always come first!
2. Become familiar with the names of different parts of a bird's body. This will help when writing your notes or when you are describing the bird to others.
3. Set up a work plan of what you are going to do in advance.
4. Obtain a map of the area and its walking trails.
5. Carry packsack or waist pack with the field guide, recording material (notebooks and pencils) and relevant field equipment (binoculars and telescopes).
6. Carry the right field tools and gears (water bottle, boots, rain jackets, warm clothing, and caps) to ensure that you can protect yourself and your equipment from rain, humidity and heat.
7. Remember to avoid colorful clothing and to carry along with you a first aid kit and basic field hazards guide.
8. Ensure there is a system of contact in case of emergency.

### **9.2. Important Things to Remember While Watching Birds in the Field**

1. Be an ambassador for bird watching! Set a good example and encourage others to behave responsibly when bird watching.
2. On the day of the trip, leave early such that you have ample time for travel, either during sunrise or during sunset.
3. Keep your voice down, don't make abrupt motions and walk

slowly to avoid disturbing birds and their habitats.

4. Keep to the marked trails and make sure you are always in pairs or in small groups.
5. Use a notebook to record your sightings. This will develop your powers of observation and eye for detail. Do not rely on leafing through your field guide for the bird when you return home.
6. Keep your ears open. Many birds are heard before they are seen, so try to learn their calls. Look for sudden movements, which might give away the location of the bird.
7. Be patient and identify one bird at a time.
8. Apply the guidelines of chapter II for using bird watching tools.

#### ***Did You Know?***

*The use of playbacks may help in confirming records. So you may want to use playbacks to record bird calls while watching them. It is always good to keep record of all birds identified by sight and sound.*

*You could attract the attention of birds by learning to imitate their calls.*

### 9.3. After Coming Back from the Field

1. Clean and store your bird watching tools as indicated in chapter II.
2. Collect and edit the data as soon as possible.
3. File the data appropriately.
4. Always submit copies of data to relevant authorities.

#### ***Pay Attention!***

*Follow your work schedule as planned and be mindful of time and your safety throughout the trip.  
Make sure the backpack is waterproof.*

### Appendix 1: Code of Birding Ethics

#### **1. Promote the welfare of birds and their environment**

- a. Support the protection of important bird habitat.
- b. Avoid stressing birds or exposing them to danger. Exercise restraint and caution during observation, photography, sound recording, or filming.
  - i. Limit the use of recordings and other methods of attracting birds. Never use such methods in heavily-birded areas or for attracting any species that is Threatened, Endangered, is of Special Concern or is Rare in your local area.
  - ii. Keep well back from nests and nesting colonies, roosts, display areas and important feeding sites. In such sensitive areas, if there is a need for extended observation, photography, filming or recording, try to use a blind or hide, and take advantage of natural cover.
  - iii. Use artificial light sparingly for filming or photography, especially for zooms.
- c. Before advertising the presence of a rare bird, evaluate the potential for disturbance to the bird, its surroundings and other people in the area. Proceed only if access can be controlled, disturbance minimized and permission has been obtained from private landowners. The sites of rare nesting birds should be divulged only to the proper conservation authorities.
- d. Stay on roads, trails and paths wherever they exist; otherwise keep habitat disturbance to a minimum.

## 2. Respect the law and the rights of others.

- a. Do not enter private property without the owner's explicit permission.
- b. Follow all laws, rules and regulations governing use of roads and public areas, both at home and abroad.
- c. Practice common courtesy in contacts with other people. Your exemplary behavior will generate goodwill with birders and non-birders alike.

## 3. Ensure that feeders, nest structures and other artificial bird environments are safe.

- a. Keep dispensers, water and food clean and free of decay or disease. It is important to feed birds continually during harsh weather.
- b. Maintain and clean nest structures regularly.
- c. If you are attracting birds to an area, ensure the birds are not exposed to predation from cats and other domestic animals, or dangers posed by artificial hazards.

## 4. Group birding, whether organized or impromptu, requires special care.

Each individual in the group, in addition to the obligations spelled out in articles #1 and #2, has further responsibilities as a Group Member:

- a. Respect the interests, rights and skills of fellow birders, as well as people participating in other legitimate outdoor activities. Freely share your knowledge and experience,

except where points of article 1(c) applies. Be especially helpful to beginning birders.

- b. If you witness unethical birding behavior, assess the situation and intervene if you think it prudent. When interceding, inform the person(s) of the inappropriate action and attempt, within reason, to have it stopped. If the behavior continues, document it and notify appropriate individuals or organizations.

## Group Leader Responsibilities

[amateur and professional trips and tours].

- c. Be an exemplary ethical role model for the group. Teach through word and example.
- d. Keep groups to a size that limits impact on the environment and does not interfere with others using the same area.
- e. Ensure everyone in the group knows of and practices this code.
- f. Learn and inform the group of any special rules and regulations applicable to the areas being visited (e.g., no tape recorders allowed).
- g. Acknowledge that professional tour companies bear a special responsibility to place the welfare of birds and the public benefit ahead of the company's commercial interests. Ideally, leaders should keep track of tour sightings, document unusual occurrences and submit records to appropriate organizations.

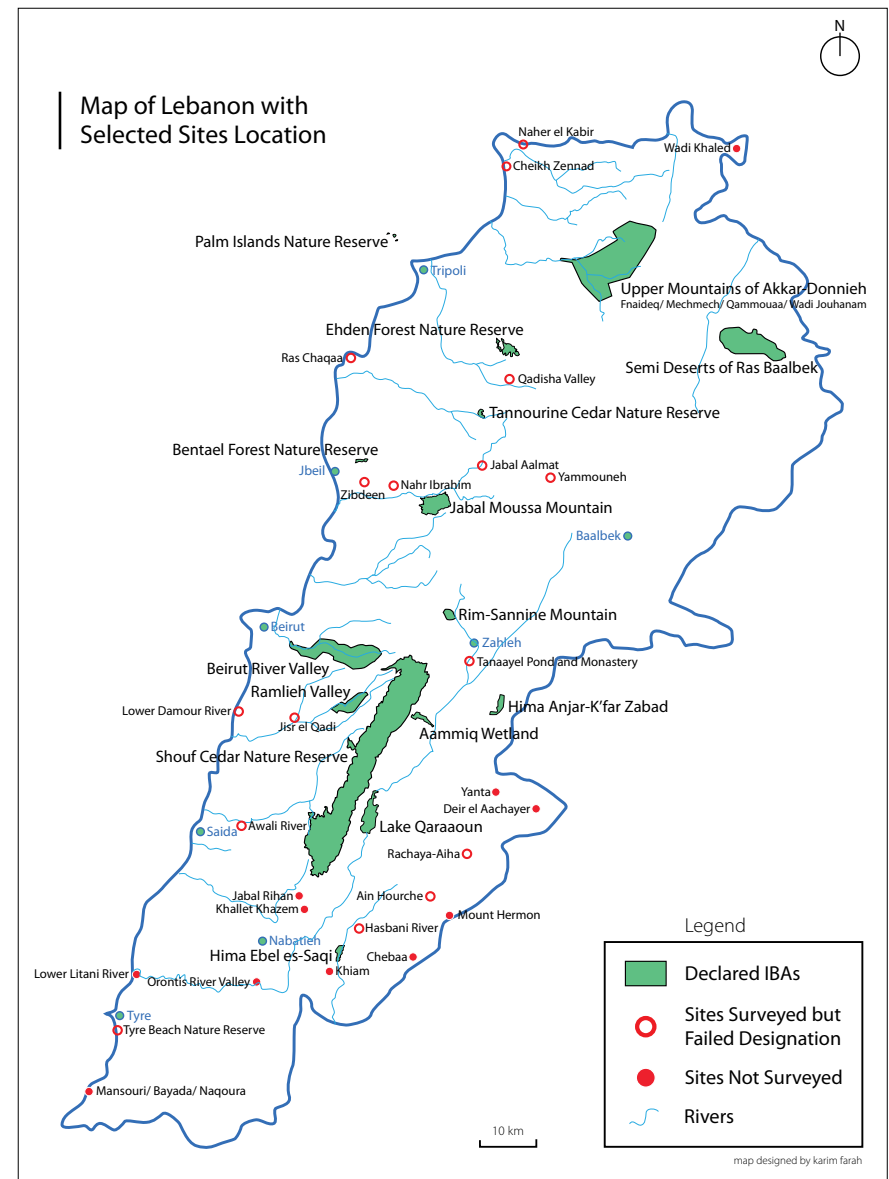
*Please follow this code, distribute and teach it to others.*





## Map of IBAs in Lebanon

### *Jewels for Bird Watching*



# Bird

Identification  
Manual



### **Ministry of Environment - MoE**

The Ministry of Environment was established in 1993, and in order to address environmental challenges in Lebanon, the Ministry of the Environment identified the principles and objectives of environmental policy and strategic objectives; and thus re-organized the Ministry accordingly. The Ministry of Environment is strongly convinced about the importance of strengthening the capacity of its staff and building lasting partnerships with public and private sectors. The ministry has been able to integrate environmental concepts at different levels, and is also working to resolve the remaining obstacles in the application of the laws.

**[www.moe.gov.lb](http://www.moe.gov.lb)**



Empowered lives.  
Resilient nations.

### **United Nations Development Program - UNDP**

UNDP is the UN's global development network, advocating for change and connecting countries to knowledge, experience and resources in order to help people build a better life. We are on the ground in 166 countries, working with them on their own solutions to global and national development challenges.

**[www.undp.org](http://www.undp.org)**



### **Global Environment Facility - GEF**

Established in 1990, the Global Environment Facility (GEF) invests in businesses around the world that provide cost-effective solutions to environmental and energy challenges. The firm concentrates on delivering favorable risk-adjusted investment returns to their limited partners over multiple vintage years and through varied macroeconomic climates.

**[www.thegef.org](http://www.thegef.org)**



### **BirdLife International**

BirdLife International is the world's largest nature conservation Partnership. Through our unique local-to-global approach, we deliver high impact and long-term conservation for the benefit of nature and people.

**[www.birdlife.org](http://www.birdlife.org)**



### **Society for the Protection of Nature in Lebanon - SPNL**

Is a national non-governmental organization established under no. 6. A.D. in 1986. SPNL is the national partner for BirdLife International in Lebanon. SPNL aims to conserve nature, birds, and biodiversity in Lebanon; and to promote the sustainable use of natural resources. SPNL is a leader in reviving the "Hima" community based approach as a decentralized approach for managing natural resources in a sustainable way.

**[www.spnl.org](http://www.spnl.org)**

### **"Mainstreaming Conservation of Migratory Soaring Birds into Key Productive Sectors along the Rift valley/Read Sea Flyway" - MSB project**

The project aims to ensure the preservation of globally threatened bird species. It also seeks to mainstream the migratory soaring bird concerns into the productive economic sectors of hunting, energy, agriculture, waste management and tourism on the flyway for migratory birds in the Rift Valley / Red Sea, making it a safe road for them.



Mainstreaming Conservation of Migratory Soaring Birds into Key Productive Sectors Along The Rift Valley/Red Sea Flyway

**[www.migratorysoaringbirds.undp.birdlife.org](http://www.migratorysoaringbirds.undp.birdlife.org)**