Setting the Path towards the establishment of a National Natural Park in the region of Akkar-Donnieh- project

The Avifauna Assessment of the Akkar-Donnieh Region Project

Prepared by

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IBA	Important Bird Area
SSG	Site Support Group
SPNL	Society for the Protection of Nature in Lebanon

1. Introduction

This document is the final report to Mada covering the work executed on the *Avifauna Assessment of the Akkar Region Project* under the Mada's project "*Setting the Path Towards the Establishment of a National Park in North Lebanon and the Promotion and Support of Ecotourism"*. The avifauna assessment was carried out by the Society for the Protection of Nature in Lebanon (SPNL), the Lebanese national partner organisation for BirdLife International.

Four sites in Akkar, North Lebanon, were surveyed for avifauna assessment during the period from March to December 2007. These were augmented by a fifth site in late summer 2007 focusing on soaring birds flyways. Resident, migrating, summer visiting and breeding summer visiting species were quantitatively and qualitatively documented, major flyways delineated and threats identified.
The collected data's would constitute a baseline database for the area for future monitoring and conservation efforts.

2. Objectives of the study

The *Avifauna Assessment of the Akkar Region Project* had several objectives each with a varying number of deliverables, which the project aimed at achieving. These are:

Field visits and bird counts

- Field reports prepared after each visit (GPS location, species observed/noted, habitat characteristics)
- Database (excel format as previously presented to Mada) summarizing field data collection, and necessary for the production of the maps indicating the richness of biodiversity.
- Maps indicating location of visited sites, transect for assessment, as well as attributes tables containing the results of the database.

A comprehensive report

- A checklist of the birds (names in Arabic, English and Latin) of the area with pictures whenever possible
- A mapped representation and written description of the habitats as well as the birds associated with these habitats
- Geo-referencing of the nesting areas/locations. These has been determined based on bird behavior and presence of juveniles. No disturbance or proximity to the nests has been made as this could endanger breeding success.
- For migratory birds, microflyways and resting sites have been determined and georeferenced, however it should be noted that these have not beprovided in terms of point location but only as major routes.
- Resident/endemic birds will be referenced in the report as well.

Monitoring manual

A monitoring protocol has been developed, which includes the timing and frequency, census datasheets, the locations where monitoring should be undertaken as well as a checklist of birds that need to be monitored during the different seasons. A reporting mechanism will be proposed to feed this information into the World Bird Database (BirdLife International) and make the site known worldwide. Based on the request from Mada, the IBA monitoring form is currently under preparation based on the results of the field assessments during the past

year; thus constituting year "0" which would become the basis for future monitoring in the region

3. Methodology

In the original project proposal this objective is stated as follows:
"12 visits of 2 days each will be undertaken in spring 2007, summer 2007, and autumn 2007. The visits will take place in the zones adopted for the flora assessment in order to get coherent results between the two studies".
The 12 stipulated visits were carried out in the four designated sites for the flora assessment study already in progress, namely Quemmamine, Mechmech, Fnaideq and Qammouaa. A further fifth site thought to be significant to the determination of the micro flyways of migrating soaring birds was located in the hamlet of Chambouq north of the allocated study area. This was visited on 7 Hawkwatch dates.
The field reports, with all requisite material and the Database excel sheets have already been submitted to Mada. Copies are included in Annexes **A** and **B**, **A** being the Field Reports and **B** the database. GPS readings and maps are included in Annexes **C** and **D** respectively.

Line transacts were established on existing paths in each of the sites, attempting to cover the highest environmental gradients, which will then be sampled across. Short forays off the tracks followed by 5 minutes point counts were undertaken to minimize any potential bias caused by adopting the transact approach. The starting and end points of each transact including all major landmarks and point counts locations were identified with a GPS reading, facilitating its repeatability and future long-term monitoring program. This method was adopted in favour of other random sampling techniques because it was found most suitable in consideration of the time allowance and habitat disturbance/destruction which could be caused otherwise. The simultaneous utilization of the line transacts and point count in this survey should afford a more efficient time use, overcome the limitations of each individual procedure and provide more reliable and representative results.
Migrating soaring birds flyways determination was based on field observations augmented by information gleaned from the local community environmentalists, hunters, Site Support Group (SSG), and any other knowledgeable source.

Biome Restricted Species are defined as those bird species with largely shared distributions, often greater than 50.000 km2, which occur mostly or wholly within all or part of a particular biome. A biome is defined as a major regional ecological community, characterized by distinctive life forms and principal plant species.

Breeding Evidence Codes Adopted
Possible breeding
1. Species observed during breeding season in possible nesting habitat.
2. Singing male(s) present (or breeding calls heard) during breeding season.

Probable breeding
1. Pair observed in suitable nesting habitat during breeding season.
2. Permanent territory presumed because of observed territorial behaviour at the same site, on at least two occasions at least one week apart.
3. Courtship and display.
4. Species visiting probable nest site.
5. Agitated behaviour or anxiety calls from adults.
6. Brood patch on adult examined in the hand.
7. Nest-building or excavating of nest-hole.

Confirmed breeding
1. Distraction display or injury feigning.
2. Used nest or eggshells found (occupied or laid within the period of survey).
3. Recently fledged young (nidicolous species) or downy young (nidifugous species).
4. Adults entering or leaving nest-site in circumstances indicating occupied nest (including high nests or nest-holes, the contents of which cannot be seen) or adult seen incubating.
5. Adult carrying faecal sac or food for young
6. Nest containing eggs.
7. Nest with young seen or heard.

Status designation code adopted:
The status designation was mostly based on the local standing of the bird, which might not be reflected in its accepted national position.

The code used:
R: Resident
M: Migrant
SV: Summer Visitor
BSV: Breeding Summer Visitor
WV: Winter Visitor

Estimates areas of surveyed zones:
The areas of surveyed zones were estimated by multiplying the linear length of a transact by its width. While the length was assessed as the distance travelled, measured by the GPS, the width was determined as the averaged value of the field of vision afforded in different sections of each site and/or the confidence limit in bird identification due to distance to target object.

4. Results

Quemmamine (Total Area: 375 ha, Surveyed Area: 10 ha, Alt. 564m): 50 species of birds were recorded in this site, of which 24 were migrant, 5 were summer visitors, 2 breeding summer visitors, 3 winter visitors and 16 resident species (Annex B). 7 of all species logged were Biome Restricted and 1 Globally Threatened (Table 1). There were 5 confirmed, 7 probable and 3 possible nesting species (Table 2). The threats to this site are listed in (Table 3).

Table 1: *Biome Restricted species of Quemmamine*

Biome Restricted species of Quemmamine
Tawny Owl
Thrush Nightingale
Finsch's Wheatear
Upsher's Warbler
Sardinian Warbler
Western Rock Nuthatch
Masked Shrike
Globally Threatened: Syrian Serin (IUCN Red List category, Vulnerable)

Table 2: *Breeding birds of Quemmamine*

Confirmed	**Probable**	**Possible**
Wren	Yellow-vented Bulbul	Black Redstart
Blackbird	Dipper	Cetti's Warbler
Western Rock Nuthatch	Lesser Whitethroat	Sardinian Warbler
Masked Shrike	Great Tit	
Goldfinch	House sparrow	
	Chaffinch	
	Greenfinch	

Table 3; *Threats in Quemmamine*

Major	Over-grazing/over-browsing
Intermediate	Excessive disturbance of birds, Deforestation/tree cutting
Minor	Over-exploitation of birds/eggs, Excessive or irresponsible hunting, Deliberate persecution of birds, Solid waste pollution, i.e. debris/garbage.

Mechmech (Total Area: 3774 ha, Surveyed Area: 200 ha, Alt. 1196m): 76 species were recorded in this site, comprised of 20 resident species, 5 summer, 3 winter and 16 breeding summer visitors, however there was a significant increase in autumn migrants 32 species compared to 10 in spring, see Annex B. In all, there were 13 Biome Restricted, and 1 Globally Threatened species (Table 4), also 13 confirmed breeding, 11 probable and 6 possible species were recorded, as shown in Table 5. Table 6 list the threats to this site.

Table 4: *Biome Restricted species of Mechmech*

Biome Restricted species of Mechmech
Levant Sparrow Hawk
Lesser Spotted Eagle
Black-eared Wheatear
Finsch's Wheatear
Upsher's Warbler
Sardinian Warbler
Sombre Tit
Western Rocknuthatch
Masked Shrike
Pale Rock Sparrow
Crimson-winged Finch
Cretzschmar's Bunting
Black-headed Bunting
Globally Threatened: Syrian Serin (IUCN Red List category, Vulnerable)

Table 5: *Breeding birds of Mechmech*

Confirmed	**Probable**	**Possible**
Wood Lark	Lesser Whitethroat	Quail
Black Redstart	Whitethroat	Common Cuckoo
Blackbird	Blackcap	Yellow-vented Bulbul
Mistle Thrush	Sombre tit	Wren
Red-backed Shrike	Great Tit	Upcher's Warbler
Masked Shrike	Jay	Orphean Warbler
Spanish Sparrow	Hooded Crow	
Chaffinch	House Sparrow	
Syrian Serin	Rock Sparrow	
Goldfinch	Greenfinch	
Rock Bunting	Linnet	
Black-headed Bunting		
Corn Bunting		

Table 6: *Threats inMechmech*

Major	Excessive or irresponsible hunting, Excessive disturbance of birds, Tree cutting, Over-grazing/over-browsing, Toxic pollution.
Intermediate	Deliberate persecution of birds, Over-exploitation of birds/eggs,
Minor	Conversion to agriculture, Solid waste pollution, i.e. debris/garbage.

Fnaideq Forest (Total Area: 98 ha, Surveyed Area: 10 ha, Alt.1390m): 53 species were recorded of which 14 were resident, 27 migrants, 9 breeding summer, 1 summer and 2 winter visitors (Annex B), out of which were 5 Biome Restricted and 1 of each Globally and Regionally Threatened species (Table 7). 4 confirmed, 7 probable and 6 possible nesting species were found, these are presented in Table 8, while the threats are shown in Table 9.

Table 7: *Biome Restricted species of Fnaideq*

Biome Restricted species of Fnaideq
Levant Sparrow Hawk
Lesser Spotted Eagle
Sardinian Warbler
Masked Shrike
Black-headed Bunting
Globally Threatened: Syrian Serin (IUCN Red List category, Vulnerable)
Regionally Threatened: Red-footed Falcon (Category, Near Threatened)

Table 8: *Breeding birds of Fnaideq*

Confirmed	**Probable**	**Possible**
Red-backed Shrike	Common Cuckoo	Wren
Masked Shrike	Blackbird	Sardinian Warbler
Chaffinch	Mistle Thrush	Jay
Goldfinch	Lesser Whitethroat	Hooded Crow
	Great Tit	House Sparrow
	Greenfinch	Black-headed Bunting
	Syrian Serin	

Table 9: T*hreats in Fnaideq*

Major	Built development, Excessive or irresponsible hunting, Deliberate persecution of birds, Excessive disturbance to birds, Over-grazing/browsing
Intermediate	Over-exploitation of birds/eggs, Solid waste pollution, i.e. debris/garbage, Tree cutting.
Minor	Agriculture intensification

Qammouaa (Total Area: 1023 ha, Survey Area: 220 ha, Alt.1535m): In all, 112 species were recorded; comprised of 25 resident, 54 migrant, 20 breeding summer, 3 summer and 10 winter visiting species (Annex B). There were 18 Biome Restricted and two of each Globally

and Regionally Threatened species (Table 10). Nesting was confirmed for 17 species while, 14 were probable and 7 possible (Table 11). Threats are presented in Table 12.

Table 10: *Biome Restricted species of Qammouaa*

Biome Restricted species of Fneideq
Levant Sparrow Hawk
Lesser Spotted Eagle
Steppe Eagle
Tawny Owl
Water Pipit
Black-eared Wheatear
Finsch's Wheatear
Upsher's Warbler
Sardinian Warbler
Sombre Tit
Western Rock Nuthatch
Masked Shrike
Alpine Chough
Pale Rock Sparrow
Brambling
Crimson-winged Finch
Cretzschman's Bunting
Black-headed Bunting
Globally Threatened: Pallid Harrier and Syrian Serin (IUCN Red List category, Near Threatened and Vulnerable respectively)
Regionally Threatened: Red Kite and European Roller (Category, both Near Threatened)

Table 11: *Breeding birds of Qammouaa*

Confirmed	**Probable**	**Possible**
Hoopoe	Turtle Dove	Chukar
Woodlark	Common Cuckoo	Skylark
Shore Lark	Crested Lark	Wren
Black Redstart	Common Redstart	Orphean Warbler
Blackbird	Black-eared Wheatear	Upcher's Warbler
Lesser Whitethroat	Finsch's Wheatear	Blackcap
Coal Tit	Mistle Thrush	Corn Bunting
Great Tit	Whitethroat	
Red-backed Shrike	Western Rock nuthatch	
Hooded Crow	Masked Shrike	
House Sparrow	Jay	
Rock Sparrow	Pale Rock Sparrow	
Chaffinch	Greenfinch	
Syrian Serin	Rock Bunting	
Goldfinch		
Linnet		
Black-headed Bunting		

Table 12: *Threats in Qammouaa*

Major	Over-exploitation of birds/eggs, Excessive or irresponsible hunting, Deliberate persecution of birds, Excessive disturbance of birds, Over-grazing/ browsing, Tree-cutting.
Intermediate	Excessive soil erosion/degradation, Solid waste pollution, i.e. debris/garbage.
Minor	Built development.

Flyways; Chambouq (Area: point count, Alt. 1083m): In all, 8 species were recorded, out of which 6 were soaring raptors (Annex B). The Crested Honey Buzzard record should be the third for the country.

5. Highlights

A fair amount of details relevant to each site can be found in the Field Reports provided in Annex **A,** however, it was felt prudent to include some of the highlights for each site for ease of reference:

Quemmamine, this river valley habitat had healthy resident bird populations. It also proved to be an important staging post for the migrating aerial feeders such as swifts and hirundines, swallows and martins, and to two species of soaring birds (White Pelicans (*Pelecanus onocrotalus)* and Cranes (*Grus grus)*). Of particular interest here is the resident Dipper population, the subspecies occurring in Lebanon, *rufiventris*, being endemic to the country.

Various parts of the valley were surveyed during the different visits to insure thorough coverage of the diverse habitats occurring in this site, such as the rugged slopes or upper reaches, the lush thickly vegetate river path or roads' side tracks. The observed threats although of some significance were not detrimental, since human disturbance and hunting levels were found to be of limited effect and the localized but consistent wood cutting and grazing/browsing pressure were restricted. However, while the high variability and floral diversity of the whole gorge is potentially attractive to bird populations providing food, shelter and nesting niches, this was not reflected by the number of species observed, a fact backed by anecdotal information. These results are considered consistent with the low ecological densities of bird distribution patterns documented in other riverine systems in the country during the national IBA designation program.

Mechmech cultivated lands interspersed with mixed conifers, *Quercus,* and other low trees and shrubbery had a broad base of resident species and proved to be a heaven for autumn migrants and of significance to breeding summer visitors. However, summer and winter visitors were poorly represented. Most abundant of the nesting visitors were the shrikes, Spanish Sparrow (*Passer hispaniolensis*), Syrian Serin (*Serinus syriacus*) and buntings. Of particular importance were the confirmed nesting of the Mistle Thrush (*Turdus viscivorus*) and the globally threatened Syrian Serin. The probable nesting of the Sombre Tit (*Parus lugubris*), and the occurrence of the Crimson-winged Finch **(***Rhodopechys sanguinea)* and the Isabelline Shrike (*Lanius isabellinus*) are noteworthy.

As expected, typical farmland avifauna abounds in this site complemented by a variety of woodland species. 5 species of shrikes out of a possible 6 were recorded here; the finches were well represented highlighted by the nesting Syrian Serin population, where emphasis and effort should be exerted in its protection and conservation. This site appeared to be outside the migrating soaring bird's main flight path with topography unconducive to its congregation, where only 10 species were observed in very low numbers.

The extensive human disturbance, although thinly spread at times was very prevalent throughout the farming season, while locals tended to their fields as the land/crops dictated. Even when the farmers' presence appeared reduced due to termination of harvest, vehicular traffic was still wide-ranging, probably in preparation for the winter season. The use/over use of pesticides should also be addressed as a very serious, yet underrated, threat.
The incredibly widespread grazing practices have well surpassed the carrying capacity of this region; as herds denude a specific area then move into neighbouring tracks annihilating any chance of floral regeneration.

Hunting was very excessive in any conceivable form; hawk shoot, taped lures, on foot, on beasts of burden, as well as from mobile vehicles (cars, trucks, tractors). Observations of hunters' bags indicated that each hunter was not collecting a big bag, however, the sheer numbers and the pressure caused thereof would constitute a significant and grave threat.

Wood cutting became an acute threat with the advent of cooler temperatures, whereby cut wood was seen carried out on donkeys, trucks, tractors even in car boots.

In **Fnaideq** municipality, the study was focused mainly on the deciduous oak (*Quercus cerris*) forest, distinctive in Lebanon, and its boundaries which housed a limited number of resident and migrating species. The variability observed during the different visits showed that this site is still of some value for birds on passage, such as Wryneck (*Jynx torquilla*), Golden Oriole (*Oriolus oriolus*) the few warblers noted and flyover raptors and other aerial feeding species and also to the four breeding shrike and finch species, the Biome Restricted Black-headed Bunting and the Globally Threatened Syrian Serin population.
Observations indicated it could be a possible Hooded Crow roost.

This characteristic forest is definitely attractive and of national merit, but of limited avifauna qualitatively and quantitatively, yet birds and other wildlife spotted such as the Persian Squirrel were not shy or secretive. Thus it begs the question; are these organisms just hardy well adapted to disturbance and disruption or could this habitat be a heaven affording an otherwise unavailable distinct shelter? It is felt here that further study is needed to determine which of these two hypotheses is the accurate one.

Although extensive human disturbance was not observed during the visits, its evidence is abounding all through the wooded area; in the form of some farmed sectors, but mostly litter and garbage left by picnickers and merry makers. However, more insidious than most of these obvious effects, is the encroachment of construction into the actual wooded area. With more affluence more buildings are being erected. Three sides of the wood boundaries are nearly closed with human activities, and houses are being built deeper into the wooded area creating somewhat of a hostile environment to wildlife. A measure of organization of this construction is definitely required to be put in place.

Grazing/browsing was restricted to the same three but very efficient goat herds, moving from one exhausted area to the next, negating any chance of floral regeneration except in areas where grazing is prohibited due to other land use such as wheat growing. This was revealed by the few oak saplings striving in proximity to these fields.

Hunting evidence; anecdotal and field observations, spent cartridges, indicate prevalent hunting within this area. Few shots were often heard and even one shooter was seen on the balcony of his house. It can not be over stressed that any level of hunting would constitute a heavy pressure in consideration of the isolated confined nature of this forested space.

Wood cutting is definitely a major threat, since stumps of newly cut trees, most of which are more than 80 years old, were perceived during each of the later visits and fire wood was stacked in most of the neighbouring houses. Tree cutting is forbidden by municipal and national decrees; however, there was not any sign of enforcement.

Qammouaa *forest is vast and of diverse nature, so it was deemed judicious to sub-divide it into its four predominant habitats*: mixed trees, flat open lands, scattered coniferous trees and sub-alpine, this mosaic proved conducive to a rich and diversified avifauna. Varied migrants, summer breeding visitors and many high altitude specialists complemented the limited resident population typical of such high elevation habitats. Most interesting of the height adapted species are the Shore Lark (*Eremophila alpestris*), Pale Rock Sparrow (*Carpospiza brachydactyla*), and Crimson-winged Finch (*Rhodopechys sanguinea*). Confirmed nesting of the Hoopoe (*Upupa epops*) and the globally threatened Syrian Serin (*Serinus syriacus*) here are worthwhile additions to the country's ornithological data banks. The diverse soaring birds migration, although limited in quantity included 26 out of a possible 33 species, there were 5 pipit records out of a possible 6, all possible Redstarts and *Saxicola spp*., 4 species out of 5 *Turdus spp*., 3 *Parus spp* out of 4, 3 sparrow species out of 4, 8 finch species out of 9 and 5 buntings out of 7. As can be noted, the grain feeding groups were well represented while the insect feeders representation was variable, of particular intrigue was the limited presence of wheatears and warblers, however it was beyond the scope of this study to investigate the intricacies of such findings.

Overall, there was in excess of 2.5 fold increase in the autumn migrating species as compared to those in spring; this could be attributed to the still cold temperatures prevailing by the end of winter in contrast to the comparatively more hospitable end of summer clime. Same reasoning could be applied to the autumn increase in the number of winter visitors by factoring in the expected harsh weather and systematic hunting with the advancement of the cold season, still the Goldcrest (*Regulus regulus*); a significant record for Lebanon, was recorded in March stressing the richness and importance of this site.

Human disturbance wanes and ebbs with the seasons, being directly proportional to fair weather conditions, but generally, it could be very extensive in localized sections, such as the flat agricultural and recreational zone and along roadsides. Here the actual harm is restricted to garbage and litter coupled with broad base disturbance resulting from picnicking and cookout excursions.

Grazing/browsing is a very serious and major threat, being abundant and extending to new areas as previously grazed sections have been exhausted. Consequences are very profound as indicated by the lack of any signs of tree regeneration; youngest trees being 30 years old.

Hunting is a very extensive activity, generally all year round, but with particular damage in autumn, focusing on any migrating bird, but with particular stress on the arriving wintering species such as thrushes and finches.

Wood cutting unfortunately is still a practiced and yet irreversible activity, in consideration of the prevailing grazing pressure. Brush and limited wood cutting is abounding all through the seasons, however with the advent of winter, this reached heartbreaking proportions, with 80-100 years trees cut for firewood.

Flyways were determined based on a thorough study of the topography of the terrain followed by exhaustive field observations and rigorous discussions with local environmentalists, hunters or anybody thought capable of a meaningful contribution disregarding status or calibre. All pointed to the hamlet of Chambouq to the north east of the designated study area. Case in hand; on August 26, the only passage observed was 57 Honey Buzzards in the northern parts of the Qammouaa all coming from the Chambouq direction. An observation post was set in that area; passage was very limited, with most birds heading South-East (towards the Beqaa) at the ridge with few choosing the South-West passage (towards study area).

Further observations confirmed this passage pattern, so more time was spent within the confines of the study area to elucidate the flight paths followed within it. A crag, designated the Hawkwatch Cliff, was located in Qammouaa where passage was more intensive. It was noted that a significant portion of the migrating birds which followed the south-west path at Chambouq, guiding them over the western slopes of Mount Lebanon, did change their flow into a south-easterly direction at Hawkwatch Cliff, and did not pass over the Fnaideq ridge.

Therefore, it can be concluded that the main flyway seemed to separate at the Chambouq; the major path being towards the south east while the rest would follow a south westerly flow. A secondary separation took place further south at the Qammouaa Hawkwatch Cliff site, yet again decimating the passage south west which would pass over the Fnaideq ridge, as depicted in the map in Annex **D5**. These observed separations did not seem to be species specific. However, there seems to be a totally independent flow over the western slopes as reported over Quemmamine on November 1.

6. Conclusion & Recommendations

Conclusion

The overall field results are presented in Annex **B**, and show 13183 total number of birds counted belonging to 131 species, of these there were 45 species occurring in 3 or more locations. Although this number might represent only 1/3 of the overall species recorded; it would gain significance upon considering the totals recorded for some of these sites such as Quemmamine 50, Fnaideq 53, and even Mechmech 75. Also, nearly half of all species logged were represented by 10 individuals or less, too small a number to be dispersed over the 4 locations. Upon reviewing and evaluating this trend, it was felt prudent to consider the 4 sites investigated as one major ecosystem since they seemed to be congruous culturally and geobiologically, plagued by closely related threats. There might appear individual differences particular to each site, yet, they all do share a very wide buffer zone of similar nature.

The threats, although varied could be narrowed down to human activities, be it caused by grazing and hunting or even compounded by wood cutting and general daily practices. Localised problems do prevail, such as the encroachment of construction into the Fnaideq wooded area, and contribute heavily towards the deterioration of that habitat. However in all actuality these pressures are all interrelated; the whole study area is very heavily used by the local communities; even harvested fields are turned to the cattle to graze, dead wood is collected, water is extracted at the source; in short, all resources are harnessed for human consumption, leaving little reserve for birds or any form of wildlife.

The locals are well meaning folks tending to their fields and families following the age old accepted traditions, just like their fathers and fore fathers. However, the present generations seem to have failed to appreciate the great demographic changes occurring in the latter years

of the 20th century in the form of the exponential growth of populations. It is really archaic mentality deploying modern technology destroying future hope.

Recommendations
Each of the four sites studied does qualify for a BirdLife Important Bird Area (IBA) designation on its own, presence of the globally threatened species being the main reason, and the occurrence of the biome restricted species and soaring birds as secondary reasons (please refer to Annex **E** for BirdLife global and regional IBA categories and criteria). However, based on the above presented rational the most suitable approach would be to recommend all four sites as one IBA under categories 1A, 2A, 3A allowing it to be handled efficiently under one management by unifying decision taking and reducing duplication.

In consideration of the cultural foundation of the prevailing threats, these communities are in dire need of a very intensive, extensive and profound awareness campaign detailing the fundamentals of sustainable utilization of resources.

Abuses such as grazing and woodcutting are rooted in community need, and are best left to experts in that field to administer; however the destruction caused by hunting, and the entrenchment of the hunting tradition in these communities, indeed in the whole of the nation, forces the implementation of some form of organizational measures pending the awareness efforts fruition. Effective yet enforceable controls such as banning of hunting on specific days of the week, allowing migrating birds time to rest and feed, or prohibiting shooting before dusk, thus protecting migrating soaring birds. Soaring birds, as the name implies, depend on thermals, columns of rising air caused by uneven heating of the land surfaces, to gain height, since these currents tend to dissipate with the cooling of the day, the birds would lose elevation and become vulnerable, easy targets to the multitude of waiting hunters.

7. Capacity building of local groups

Community consultations were developed with the locals, community representatives and environmentalists, hunters, farmers, forest rangers and shepherds. Field surveys were modified at times to accommodate realistic recommendations.

With the start of autumn soaring birds migration, this input became quite valuable in particular in defining flyways followed, as reported in the section **5. Highlights, Flyways.** Generally consultations were very extensive and did prove helpful, saving time, effort and resources, although at times frustrating. Kindly do refer to the above noted subdivision for more details.

The representatives from each community were selected and a three-day workshop was set for 22-24 May, 07. Unfortunately hostilities broke out at Al-Barid Camp just few days before the set date, negating such a possibility. A new date was set for 18-21 September 07, which was later postponed to October 30, 31 and November1, 2007.
The training workshop was attended by 10 participants, and covered two days of bird identification skills, whereas the third day introduced the Important Bird Areas program, conservation issues, and monitoring techniques. Necessary tools (field guides and binoculars) were provided to the participants in addition to wide number of awareness publications. Details of the workshop are presented in Annex **F**.

8. Monitoring Protocol

SPNL being the BirdLife partner in Lebanon adheres to BirdLife protocols especially in regard to the Important Bird Areas (IBA) Programme. Within this context, the IBA monitoring procedure, guidelines, indicators and form are adopted for the regular monitoring of declared sites.

The Basic IBA Monitoring guideline was the basis for the training session during the Akkar workshop (power point presentation and exercise). An Arabic version of the IBA monitoring form was distributed during the training course and its intricacies elucidated to the participants.
Copies of The Basic IBA Monitoring guideline and the Structured Form for Submitting Basic IBA Monitoring Information-Ar are included in Annex **G**.

Based on the request from Mada, the IBA monitoring form is currently under preparation based on the results of the field assessments during the past year; thus constituting year "0" which would become the basis for future monitoring in the region (Annex G).

9. Bibliography

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