

# Sociable Lapwing *Vanellus gregarius* in Syria during 2011: status, presence, habitat survey

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The Sociable Lapwing *Vanellus gregarius* is a critically endangered species (www.birdlife.org) and listed in the African-Eurasian waterbirds agreement tables (www.unep-aewa.org). The population of this species has suffered a rapid and alarmingly-steep drop, declining 50–70% to reach c10 000–15 000 birds (BirdLife International 2011). This indicates the severity of the threats this species faces whether on the breeding plains, wintering grounds or at stop-over sites. The Sociable Lapwing migrates from the breeding plains, which occur mainly in northern and central Kazakhstan and to a lesser extent in southern Russia, on two separate flyways (western and eastern). The majority of the breeding population follows the western flyway heading west before turning in a southwest direction either down the eastern or around the western shores of the Caspian sea passing in a wide flyway through eastern and central Syria, northwest Iraq and southeast Turkey leading to wintering grounds in northeast Africa (Sudan and reportedly Egypt, Eritrea, Ethiopia) and the Arabian peninsula (Saudi Arabia, Oman, Yemen). The eastern flyway passes through the northern plateau of Pakistan and ends in southeastern Pakistan and northwest India (Cramp & Simmons 1983, BirdLife International 2011). The Syrian steppe has a good proportion of the Sociable Lapwing's stop-over sites in the Middle East (Hofland & Keijl 2008). The species uses these stop-over sites for a short period before completing its journey north or south, in the spring or autumn respectively. The main objective of the present work, during 2011, was to investigate further the key areas that the species uses as its stop-over sites in Syria (Figure 1). Similar sites were assessed for their suitability as potential stop-over sites and another aim was to describe the various pressures that affect Sociable Lapwings during stop-overs in Syria.

## SYRIAN CLIMATE

The Mediterranean climate predominates all over Syria. It is characterised by a wet season (winter) and a long dry season (summer) with two short intermediate and relatively dry seasons, spring and autumn (Abdelsalam 1990). These intermediate seasons vary between years in the amount of rainfall resulting in wet or dry years. Syrian weather in winter and early spring involves some rain and strong winds as well as the occasional sand storm. Rainfall within Syria tends to decrease from the west and north towards the east and south; the southeastern corner of Syria is the driest part of the country (Abdelsalam 1990). The average annual rainfall in areas where Sociable Lapwings stop-over ranges between 375 mm near the Turkish border and c100 mm in the southeastern corner of

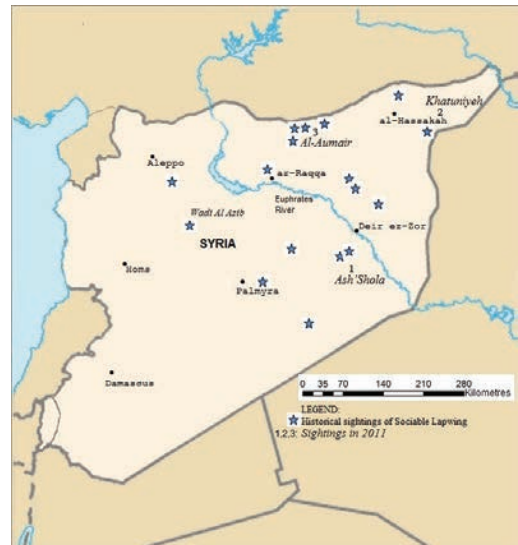


Figure 1. Map of Syria, with stars indicating location of Sociable Lapwing *Vanellus gregarius* sightings 2005–2010 (not 'Historical') (Hofland & Keijl 2008, Maggs *et al* 2009, Kemp *et al* 2010) and numbers 1–3 show the location of the three sightings of 2011.

Syria. The rainy season has a scattered series of short rainy periods amongst prolonged periods of dry and sunny weather. Eastern parts of Syria are usually liable to southeasterly and westerly winds in the spring, liable to cause dust and sand storms. The year 2011 was considered a dry year especially for the eastern part of Syria. As for ar-Raqqa, Deir ez-Zor and Palmyra (Figure 1) meteorological stations, the rainfall by the end of the rainy season in spring 2011 did not exceed 70, 50 and 40 mm respectively, which represents 42, 33 and 32% of the annual average. The dry and rather cool conditions of 2011 appeared to have an adverse effect on the condition and suitability of many of the sites for Sociable Lapwings and perhaps delayed their spring migration in Syria.

## FIELDWORK AND METHODS

Potential stop-over sites were identified using modern records of Sociable Lapwing occurrence in Syria (Hofland & Keijl 2008, Kemp *et al* 2010, Figure 1) and these areas were targeted and surveyed along with other apparently suitable sites during the spring migration period late February–late March 2011. We also met with locals and regular hunters from those areas to help assess the various pressures facing Sociable Lapwings in the Syrian steppe.

The sites were surveyed in two rounds, 15–28 February and 1–15 March. These sites were mainly in Deir ez-Zor, al-Hassakah, ar-Raqqa, eastern parts of Homs and rural eastern areas of Aleppo provinces. Targeted surveying took place almost on a daily basis, weather permitting. The survey was carried out according to the bird census direct-species-counting method (Gilbert *et al* 1998, Bibby *et al* 2000, Gregory *et al* 2004, AEWA 2005). The strategy was to drive through areas of habitat deemed suitable for the Sociable Lapwing and stop at vantage points (usually higher ground) so that a scan of the area using binoculars/telescopes could be carried out. A brief description of the habitat was recorded, *ie* what was the dominant vegetal species present in the shrub and sward layers and at what estimated frequency and abundance did they occur.

All sightings of Sociable Lapwings were recorded and individuals were visually sexed and aged where possible. On sites where the Sociable Lapwing was present, a more comprehensive survey of the habitat was immediately conducted within a c50 m radius of the first sighted location. This involved dividing the area into three structural components as percentages (shrub, sward and bare ground layers). Within each layer, a rough percentage presence was assigned to the dominant species. The 50 m radius habitat was then put into context by quickly describing the habitat immediately surrounding it using the same procedure in order to show the level of continuity or discontinuity of the Sociable Lapwing site within surrounding vegetation. GPS coordinates were noted. A Garmin 3000 unit was used to take waypoints of all sites where Sociable Lapwings had previously been seen as well as at other suitable areas. Special attention was paid to the ar'Ruweida and al-Aumair sites in ar-Raqqa (Figure 1), which were visited on four separate occasions. However, the situation on Eiwa nearby had deteriorated considerably so it was only visited twice as with other previously registered sites.

Bedouins, villagers and hunters were asked, whenever feasible, about possible Sociable Lapwing sightings in the area whether in the spring or autumn. The sighting was confirmed if the person in question could clearly identify Sociable Lapwing from the Porter & Aspinall (2010) or Mullarney *et al* (2000) or Svensson *et al* (2010) field guides each of which shows all five species of Western Palaearctic lapwing on a single page (pages 117, 137 and 147 respectively). Care was also taken to ensure that the individual was able to distinguish between Sociable Lapwing and Cream-coloured Courser *Cursorius cursor*, a regular passage migrant and summer visitor to the area (Murdoch & Betton 2008, Porter & Aspinall 2010).



**Plate 1.** Ash'Shola site, Syria: two Sociable Lapwings *Vanellus gregarius* were seen, in the area of relatively greener vegetation. © Nabegh Ghazal Asswad



**Plate 2.** Khatuniyeh site, Syria: a single Sociable Lapwing *Vanellus gregarius* was seen (at the northeastern bank of the lake, not shown). © D Thurlow

## RESULTS

A total of 23 Sociable Lapwings were located at three different sites, 19–25 February. This represents the lowest number of Sociable Lapwings seen in Syria since 2007, despite all the known key sites having been visited on at least two occasions. All Sociable Lapwings were located in areas with noticeably greener and more diverse vegetation in areas of wide shallow wadis that remain damper and support more vegetation than the surrounding slightly higher land. All birds seen were stationary on the ground in steppe or on dry fallow/cultivated land containing short, patchy vegetation, often stony and with extensive bare ground. The '50 m radius of habitat' recordings showed the ground cover of the shrub and woody plants and perennials layer (whose height rarely exceeded 0.5 m) ranged between 20–40% (average 30%) of the total recorded area, the sward layer of herbaceous species between 40–55% (47.5%) and the bare ground layer between 10–35% (22.5%). Table 1 summarises habitat composition and plant species dominance at the three locations. The 'surrounding habitat' recordings showed that the shrub layer percentage remained constant with that of the '50 m radius' recordings whilst the percentage of the grass sward layer decreased across all three sites, being replaced by bare ground. Though only from three sites, these findings support previous field observations that birds were generally seen in areas with noticeably greener and with more diverse vegetation. The notion that these greener areas are more invertebrate rich was born out from local observations.

**First sighting:** 19 February 2011, ash'Shola 35° 05' N 39° 48' E (Figure 1, Plate 1). A generally flat area south-southeast of Deir ez-Zor. At 07.30 h one adult male and one first summer male were spotted there amongst other birds including Hoopoe Lark *Alaemon alaudipes*, Skylark *Alauda arvensis*, Crested Lark *Galerida cristata*, Meadow Pipit *Anthus pratensis*, Isabelline Wheatear *Oenanthe isabellina*, and Cream-coloured Courser (calling in flight). This area has a slight depression, wadi, which had green vegetation with very good coverage and almost no bare ground for an area of c2000–3000 m<sup>2</sup>. It was dominated by 40% perennials and woody plants and more than 55% grasses. The woody plants were mainly *Haloxylon corniculatum* 60%, *Anabasis syriaca* 30% with *Artemisia herba-alba*, *Haloxylon articulatum*, *Astragalus spinosa* etc covering the remaining 10%. There was an abundance of *Artemisia scoparia* in the surrounding and wider area. The herbaceous cover consisted mainly of *Poa* sp 50%, *Hordeum glaucum* and other wild barley 35% with other grasses and broadleaved species which included *Helianthemum salicifolium*, *Plantago ovata*, *Torularia torulosa*, *Koeleria phleoides*, *Muscari racemosum*, *Ornithogalum* sp and *Crocus* sp.

**Table 1.** Habitat composition and plant species dominance at the locations of the three sightings in 2011 (Site 1 ash'Shola, Site 2 Khatuniyeh, Site 3 al-Aumair). + indicates species was present but with coverage not reaching 1%.

Habitat composition	Site 1	Site 2	Site 3
<b>Perennials and woody plants</b>	<b>40%</b>	<b>25–30%</b>	<b>20%</b>
<i>Haloxylon corniculatum</i>	60%		
<i>Anabasis syriaca</i>	30%		
<i>Haloxylon articulatum</i> & <i>Astragalus spinosa</i>	10%		
<i>Atriplex leucoclada</i>		75%	
<i>Alhagi mourorum</i>		25%	
<i>Peganum harmala</i>			90 %
<i>Artemisia herba-alba</i>	+		10%
<b>Herbaceous cover</b>	<b>50%</b>	<b>40–45%</b>	<b>45–55%</b>
<i>Poa</i> sp	50%	+	60%
<i>Hordeum glaucum</i> & other wild barleys	35%		
<i>Carex stenophylla</i>	+		20%
<i>Plantago ovata</i>	+		10%
<i>Aeluropus littoralis</i>		90%	
<i>Frankenia hispida</i>		10%	
1– <i>Helianthemum salicifolium</i> , 2– <i>Torularia torulosa</i> , 3– <i>Muscari racemosum</i> , 4– <i>Koeleria phleoides</i> , 5– <i>Ornithogalum</i> sp, 6– <i>Sperulago</i> sp.	15% comprised of species 1–5		10% comprised of species 2,3,4 & 6
<b>Fallow &amp; Bare Ground</b>	<b>10% Uncultivated</b>	<b>30% Cultivated</b>	<b>25–35% sandy soil &amp; scattered stones</b>

**Second sighting:** 22 February 2011, northeastern edge of lake Khatuniyeh (al-Hawl area) 36° 25' N 41°14' E in an area of arable fields (Figure 1, Plate 2). A single adult male Sociable Lapwing was seen at 15.30 h with five Red-wattled Lapwings *Vanellus indicus* on natural vegetation. Other species present in the wider area included Black Kite *Milvus migrans*, Common Buzzard *Buteo buteo*, Long-legged Buzzard *Buteo rufinus*, Hen Harrier *Circus cyaneus* (female), Marsh Harrier *Circus aeruginosus*, Pallid Harrier *Circus macrourus*, Sparrowhawk *Accipiter nisus*, Lesser Short-toed Lark *Calandrella rufescens*, Calandra Lark *Melanocorypha calandra*, Starling *Sturnus vulgaris*, Pochard *Aythya ferina*, Little Grebe *Tachybaptus ruficollis*, Armenian Gull *Larus armenicus* and Spanish Sparrow *Passer hispaniolensis*. The vegetation on the slightly-salty loamy soil was comprised of low woody plants with coverage of 25–30% of which *Atriplex leucoclada* composed 75% while the remaining 25% was *Alhagi mourorum*. The herbaceous cover was c40–45% composed of *Aeluropus littoralis* (90%) with *Poa* sp and some scattered *Frankenia hispida* covering the remaining 10%. The surrounding area was mainly a field of lightly planted barley at the early growth stage covering less than 30% as well as remnants of *Atriplex leucoclada*, *Alhagi mourorum* and patches of bare ground.

**Third sighting:** 25 February 2011, al-Aumair 36° 26' N 39° 41' E (Figure 1, Plate 3). At 13.30 h, 20 Sociable Lapwings were found of which five were females. Of the fifteen males



**Plate 3.** Al-Aumair site, Syria: 20 Sociable Lapwings *Vanellus gregarius* were seen. © Nabegh Ghazal Asswad

there were six adults and nine first summer individuals. Amongst this flock there was one Greater Sand Plover *Charadrius leschenaultii*. There was also a remarkable abundance of larks (Crested and Skylark). This site is a suitable habitat with coverage of herbaceous species reaching 45–55%, woody plants 20% and 25–35% of bare ground of sandy soil and some scattered stones. Herbaceous cover was *Poa* sp 60%, *Carex stenophylla* 20%, *Plantago ovata* 10%, and other annuals of 10% including *Torulularia torulosa*, *Koeleria phleoides*, *Muscari racemosum* and *Sperulago* sp. Of the woody plants, 90% were *Peganum harmala* and 10% *Artemisia herba-alba*.

## DISCUSSION

Sites where Sociable Lapwings were recorded in 2011 are rangeland reserves, ‘Grazing Protected Areas’, where restoration work is being undertaken by planting shrubs (native or introduced) of value for livestock to increase the vegetal cover and richness and where restrictions on grazing activities are being organised. Grazing is allowed in two 60 day periods, one in the spring (March/April) and the second in the autumn (October/November). This is usually decided according to the calculated grazing capacity that can be offered. Shrubs are planted in long rows c5–10 m apart. This is to slow down blowing sand and catch seeds to encourage herbaceous vegetation to establish. The rangelands will be restored to shrubby areas up to 2 m tall. With this in mind, there may well be a potential conflict with the Sociable Lapwing in the long run. Although degraded sites, such as Eiwa, will certainly benefit from restoration, they may potentially become unsuitable for the Sociable Lapwing if it reverts to a dense shrubby habitat. The key areas for Sociable Lapwing may need additional special management such as adopting the right shrub species and organising grazing post-restoration to maintain swards at ideal heights. Some of the sites with sightings of Sociable Lapwing are important bird areas (Evans 1994) such as Wadi ar-Radd, Khatuniyeh and al-Jabboul (Hofland & Keijl 2008, Kemp *et al* 2010, present survey).

Additional sites within the Syrian steppe were surveyed and their suitability for the Sociable Lapwing was assessed. Wadi al-Azib (35°18' N 37°40' E), an IBA, and Rasm al-Ahmar (35°30' N 37°42' E) can be added to the list of sites with potential for Sociable Lapwing stop-overs. Locals were questioned about unreported previous sightings and such sites where Sociable Lapwing individuals have previously been spotted can be given priority over other sites only deemed suitable from the perspective of habitat quality assessment.

The number of Sociable Lapwings observed has fluctuated from year to year (Hofland & Keijl 2008, Maggs *et al* 2009, Kemp *et al* 2010, Table 2). It is likely that the effect of the repeated drought, combined with over-grazing, has further degraded the quality of the northern steppe areas. Despite the dry weather, areas of ar'Ruweida, al-Aumair, al-Hawl and to a slightly lesser extent Bir Saeed and Jalib al-Hokuma seemed to still provide good and suitable habitat; however, despite this not a single Sociable Lapwing was seen on the ground in the second set of these sites during this survey.

**Table 2.** Numbers of Sociable Lapwings observed on the Syrian steppe 2007–2011 and the climatic feature of each year (wet/moderate/dry).

Year	2007	2008	2009	2010	2011
<b>Totals</b>	2679	69	70	391	23*
<b>Season feature</b>	Wet	Dry	Dry	Moderate	Dry

\* Numbers of individuals seen up to 15 March 2011 when the field survey was concluded



Flocks of Sociable Lapwings were still on the wintering grounds in Sudan and Saudi Arabia when the 2011 spring survey in Syria was concluded (due to lack of logistics and funds) suggesting a delay in the appearance of the main population which may have occurred unnoticed later in March. This was confirmed through monitoring some satellite-tagged individuals which were showing minor localised movement on the wintering grounds both in Sudan and Saudi Arabia (Rob Sheldon pers comm). This can probably be attributed to the favourable conditions of the habitat in the wintering grounds before starting their journey northbound on the western flyway. It may also be due to the poor weather conditions associated with the flyway across Syria which may have caused the Sociable Lapwing to continue moving northwards, 'over-flying' with minimal stay in Syria. However, information from tagged individuals from the eastern flyway showed that individuals were heading northbound, as expected, in the first half of March on their way to the breeding grounds in Kazakhstan (Rob Sheldon pers comm).

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