

The status of the Armenian Gull (*Larus armenicus*) in Israel

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Summary

The Armenian Gull (*Larus armenicus*) breeds in eastern Turkey, Armenia, southern Georgia and northwestern Iran. Its breeding habitat, high-altitude inland lakes, is under risk and as a result it is likely that the global breeding population is declining as well.

It is an abundant winter visitor and passage migrant in Israel, and is the commonest large gull in Israel. Birds are seen throughout Israel in varying numbers almost year-round, peaking between late September and Mid-March.

Targeted counts of this species in Israel between 1980 and 2015 indicate a major decline, from estimations of over 60,000 individual birds in Israel in the late 1980's and early 1990's down to about 22,000-26,000 birds in recent years (2009 – 2014). Likely causes for this decline are a decline in breeding populations, but also the modernization of sewage and rubbish treatment facilities in Israel reduced habitat quality in some sites in Israel.

A dramatic decline in the breeding population in turkey was noted in recent years, and probably also in Iran the situation is not good, But all over its range monitoring is difficult and information is scarce, Therefore monitoring results in Israel that is the main wintering ground for the species may be a strong indication for the global status and should raise great concern regarding its status. Its global status should be carefully discussed.

Introduction

Breeding range

The Armenian Gull was only recently ranked as a full species (Liebers *et al.* 2001). It has a limited breeding range from Turkey in the west (Lake Beyshehir in the west to lake Kildir in the east), through southern Georgia, Armenia to northwestern Iran (Lake Orumiyeh) in the East. Its main wintering range is in Israel and possibly Lebanon, Syria and Egypt (Mediterranean coast). Another small population is wintering in Kuwait. A non-migratory population with minor altitudinal movements exists in Armenia and Turkey, seen year-round (figure 1).



Figure 1: Distribution map of Armenian Gull with main breeding sites indicated, downloaded from HBW Alive <http://www.hbw.com/species/armenian-gull-larus-armenicus>

Estimation of current size of breeding population

The Armenian Gull is currently classified as Near Threatened in Europe (BirdLife International 2015). Size of the breeding population in Armenia in 2011-12 was estimated at 9,000 - 14,000 pairs (BirdLife International 2015), mainly in Lake Sevan and Lake Arpi, where the Arpi population is apparently larger (Vasial Ananian, pers. comm.).

The Turkish population in 1999 was estimated by Leibers *et al.* (1999) at about 2,400 pairs. Breeding numbers in Tuz Golu seemed to be stable back then, but apparently declined in Van Golu due to predation on the main breeding island (Ahtamar Island). However, these were probably underestimates, and in 2013 the population size in Turkey was estimated at 10,000 – 15,000 pairs, after a rapid decline of up to 30% between 2008 and 2012 (BirdLife International 2015).

The latest known count from Iran (Lake Orumiyeh) from the late 1970's estimated 4,000-5,000 breeding pairs at the lake (Scott 2007). The area of this lake has decreased dramatically since 1970's, and now is only about 10% of its original area (Asem *et al.* 2012). It is likely that the Iranian breeding population has declined as well.

If the rate of decline in Turkey is similar in Iran, then the current global population can be estimated at 21,000 – 31,500 breeding pairs: 9,000 – 14,000 in Armenia, 10,000 – 15,000 in Turkey, and 2,000 – 2,500 in Iran.

Documented numbers in Israel

In Israel the Armenian Gull winters mainly between September and February. The numbers of birds increase gradually from several hundred in late July to its maximum numbers in September to Mid-March.

It is found mainly along the Mediterranean Coast and in the northern Harod and Beit Shean valleys, in fish farms and reservoirs. It feeds on some large landfills and in fish farms.

During the 1980's and 1990's most sewage farms and landfills within its wintering range, were converted to modern facilities. The main landfill at Hiriya near Tel Aviv (32.15 N, 34.49 E) closed down in 1989. Until then it was the major site for gulls in Israel, and attracted in winter tens of thousands of gulls of some species. Since then the national landfill relocated to the northern Negev, away from the Gull main sites. The same happened with other sewage farms and landfills in Rishon Lezion, Netanya, Ashdod, Petach Tikva and Hod Hasharon, all closed down until 2003.

As a result, numbers of several gull species wintering in Israel declined dramatically, including Baltic gull (*Larus f. fuscus*) and Black-headed Gull (*Chroicocephalus ridibundus*). See figure 2 for location of main sites in Israel.

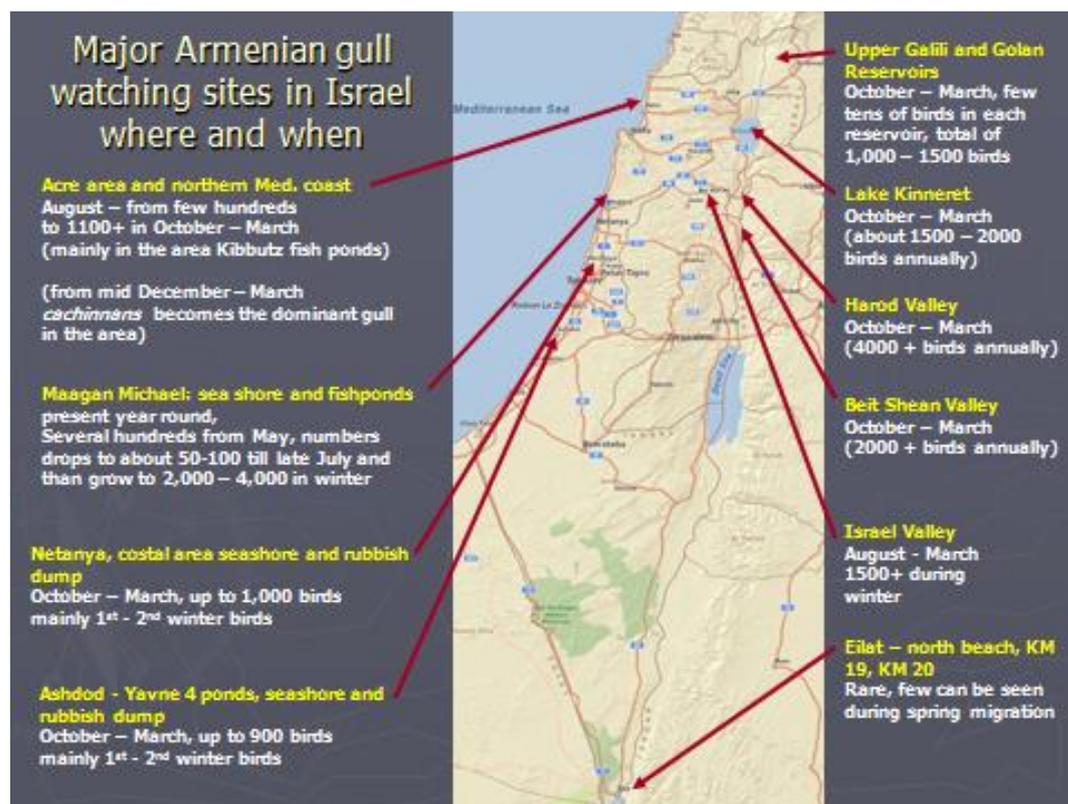


Figure 2: Main wintering sites in Israel, map created by Amir Ben Dov.

Counts were carried out in Israel by independent birders (Amir Ben Dov, Ehud Dovrat *et al.*), and also as part of the national waterbird count coordinated by the Israeli Nature and Parks Authority (INPA) in January annually.

In the late 1980's to mid 1990's counts were carried out by several birders (Ehud Dovrat, Hadoram Shirihai, Amir Ben Dov, Barak Granit) and estimated a national total of about 60,000 individual birds of all ages (Shirihai 1996). Between 2009 and 2014 Amir Ben Dov counted gulls in all their main wintering sites, and Ehud Dovrat counted mainly at Ashdod. See table 1 for summary of site estimates.

Table 1: maximal winter estimates in main sites in Israel

Site	Coordinates	1990's estimates	2009 – 2014 counts
Ma'agan Michael	32.33 N, 34.54 E	15,000	3,500
Beit She'an and Jizreel Valley	32.25 N, 35.32 E	20,000	7,300
Haifa and Acre valley	32.55 N, 35.42 E	15,000	1,100
Central med. Coast (Hadera to Rishon Lezion)		10,000	
Ashdod	31.85 N, 34.71 E		1,300

Shifdan and Ashdod

Until the late 1990's a large concentration of up to 10,000 Armenian gulls counted at Shifdan sewage works, south of Tel Aviv, (near Rishon Lezion). However in 1999 Shifdan was converted from open lagoons to a modern sewage treatment facility and gulls concentrating there dispersed to other sites. The complex of rubbish dump and ponds north of Ashdod attracts since then much smaller numbers of Armenian Gulls (up to 1,300) (figure 3).

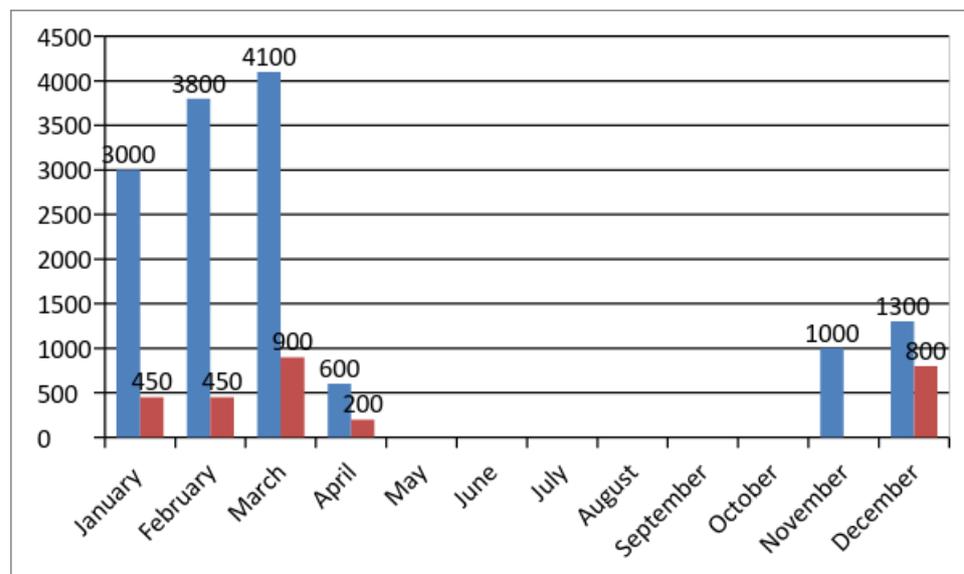


Figure 3: Comparison of maximal daily counts between Shifdan and Ashdod, showing much lower numbers in Ashdod. In blue: Shifdan 1982-1993, in red: Ashdod 2009-2011

Ma'agan Michael

During the years 2010 – 2013 I made several counts in Ma'agan Michael fish ponds. This site suffers serious human disturbance, mainly from fish farmers driving away pelicans and cormorants, and netting over fishponds. Monthly counts in recent years are much lower compared to counts made in the late 1980's (Shirihai, 1996). Only April counts in recent years are higher than corresponding counts in the late 1980's. See figure 4 for comparison of monthly maximal daily counts.

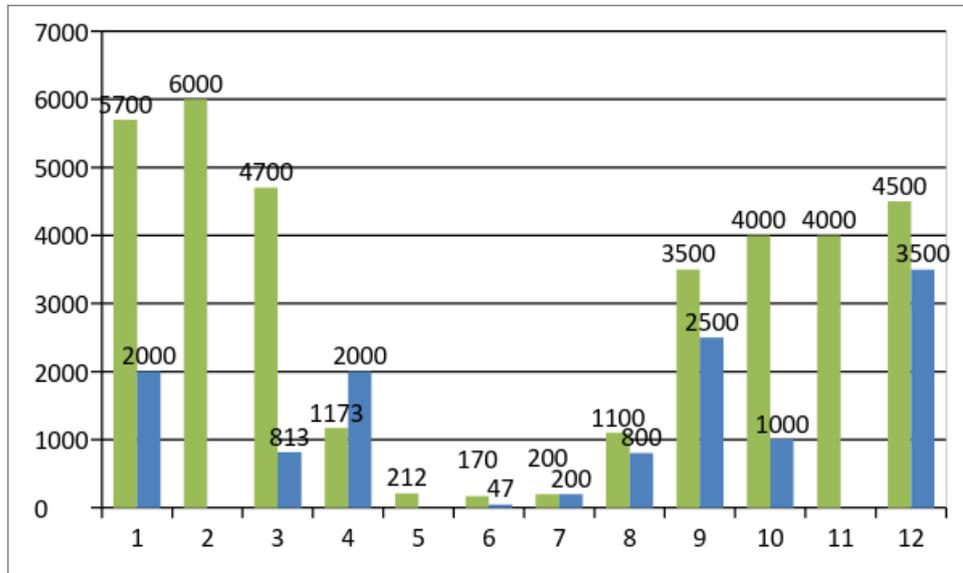


Figure 4: Maximal daily counts at Ma'agan Michael.

In green: 1986-1989 counts, in Blue 2007-2014 counts

Beit Shean Valley and Jizreel valley

In these northern valleys gulls rely on fish farms for food, they suffer there from similar human disturbance as at Ma'agan Michael. Current numbers are much lower compared to the 1980's – 1000 birds in February 2014 compared to 20,000 in February 1989 (Avner Rothchild) (figure 5).

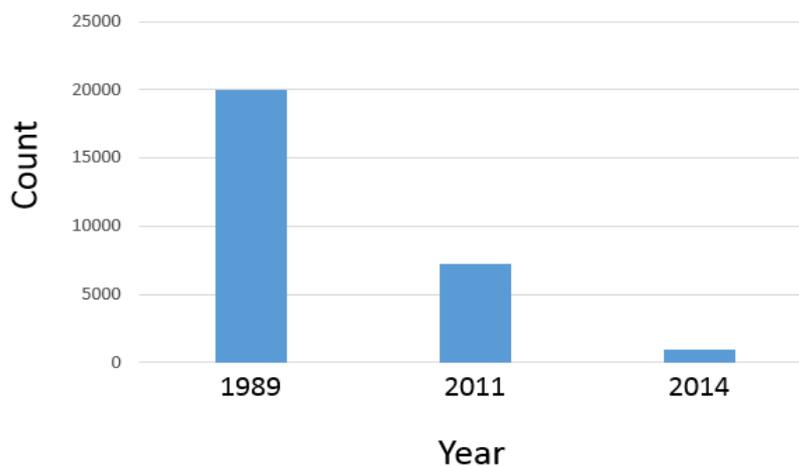


Figure 5: maximal February counts in the Bet Shean and Jizreel Valleys.

Acre Valley

Counts in the Acre valley are more sporadic. A recent count by Amir Ben Dov of 1,100 birds in December at Evron Rubbish Dump, the local hotspot there (32.59 N, 35.65 E) in December 2011 was much lower than estimates from the early 1990's of 15,000 birds.

Results from the annual January national waterbird census (INPA)

To my request from 2011 INPA agreed to include Armenian Gulls in the annual national January waterbird counts. Many observers taking part in this count are not experienced birders, and despite special training for better identification skills that was carried out for this count, large numbers of gulls are not identified or misidentified. However, it is likely that the vast majority of large gulls in this count are Armenian Gulls.

Only the 2014 count should be regarded with some certainty. Previous counts did not cover all gull sites properly. Still, despite the large number of gulls counted in 2014 (over 19,000) I estimate that the total number in Israel is probably higher, as INPA counts do not systematically aim at gulls but on waterbirds in wetlands, and gulls are often found away from wetlands. See table 2 for results of these counts.

The increase between 2011 and 2014 reflects to my judgment, better count effectiveness than a real population increase.

Table 2: results of INPA January counts.

Species	2011	2012	2013	2014
Armenian Gull	3,551	4,226	8,962	11,433
Unidentified large gull	2,280	1,934	1,075	7,781

Bringing into account difficulties in counting gulls in winter in Israel, my current estimate is around 22,000-26,000 birds wintering in Israel annually. This is based on the national INPA counts, and combined estimates based on local counts. This is much lower than the estimate of 60,000 in the early 1990's (Shirihai 1996).

Ringling and rings reads in Israel

Only one ringling recovery ever occurred in Israel: 1st CY found dead in the Beit Shean Valley in October 1990 (Kobi Merom) ringling in June 1990 at Sevan Lake, Armenia. 16 birds were colour-ringed in Israel since 2008, mainly rehabilitated wounded birds, but they produced no recoveries yet.

Based on the very few ringling results, it is difficult to assess where the breeding grounds of the birds wintering in Israel are. Sadly there is no ringling scheme of Armenian Gulls anywhere on its breeding or wintering grounds.

Discussion

A decline of about 50%-60% in wintering numbers in Israel was noted in recent decades. There could be two main reasons for this decline:

- 1) This decline reflects a decline in the global breeding population, as indicated by declines in Turkey and Iran.
- 2) The transformation of open sewage lagoons to modern sewage treatment plants, and closure of some open rubbish tips and transformation of others to modern landfills have decreased potential food sources for gulls in Israel and it is possible that some numbers that used to winter in Israel may winter elsewhere.

Such decline is alarming, and conservation efforts should be focused on this species. Specific migration routes and connections between breeding sites and wintering grounds are unknown. I recommend that studies of these patterns should begin, using transmitters or at least intensive colour ringing.

In addition, winter monitoring in Israel should be upgraded to reflect the threatened global status, because of the importance of Israel as the major wintering site for the species. Winter monitoring in other important sites such as Turkey and Kuwait are important as well.

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