BIRD MONITORING REPORT – PARAVANI TRANSMISSION LINE

The survey was carried out in April 6-10, 2015.

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Objective of the survey:

Registration of local and migrant species (spring migration) encountered. Registration of birds (bird mortality, injury) caused by collision with OTL or electrocution

Weather conditions: sunny, low nebulosity. Visibility: good.

The survey started from Khertvisi substation site. 50m wide strip, each side of the centerline along the OTL (78% of the tower sites and sections of the line) and area around the towers was checked. (For some of the sections and sites, depending on the landform and weather the wider strip was surveyed 'strip' as deemed advisable according to professional judgment of the team leader).

Monitoring started from Khertvisi area (Figure 1) and ended in the area south to Tsinubani (Figure 2) The map with indication of the sites is given in Annex.



Figure 1.. Towers near the Paravani substation



Figure 2. Tower in the crossing of the Tsinubnistskali gorge

Particular attention was paid to the sections of river/ravine crossings and the areas where the line runs near the high trees. As mentioned in the previous report these sections are checked particularly carefully because of their comparative sensitivity.

Bird migration is best expressed in the Paravani-Mtkvari confluence area and adjacent plateau (Figure 1) and in Mtkvari crossing near vil.Agara. Therefore observation in these sections was longer. Monitoring included morning and evening hours.

Because of strong wind migration was at high elevation, therefore the probability of collision was nonexistent. On the other hand for the same reason identification of migrating species (in particular small ones) was complicated.

In the environs of the Mtkvari- Paravani confluence, including adjacent plateau identified were: Egyptian vulture (*Neophron percnopterus*), Griffon vulture (*Gyps fulvus*) (Figure 3), Short-toed snake eagle (*Cyrcaetus gallicus*),

Common buzzard (Buteo buteo), Long-legged buzzard (Buteo rufinus) (Figure 4), common kestrel (Falco tinnunculus), Armenian gull (Larus armenicus) (Figure 5), Eurasian skylark (Alauda arvensis), Greater short-toed lark (Calandrella brachydactyla), Water pipit (Anthus spinoletta), Common redstart (Phoenicurus phoenicur), Black redstart (Phoenicurus ochruros), Northern wheatear (Oenanthe oenanthe), Chiffchaff (Phylloscopus collybita), Green leaf warbler (Phylloscopus nitidus), Linnet (Carduelis cannabina) and Corn bunting (Miliaria calandra).



Figure 3. Confluence and plateau (section between the towers #5 and #6)



Figure 5. Long-legged buzzard (*Buteo rufinus*) near the Paravani confluence.



Figure 4. Griffon vulture (Gyps fulvus).



Figure 6. Armenian gull (*Larus armenicus*) – Mtkvari river.

In this section diflectors are installed (Figure 7) that are visible well from a distance.



Figure 7. Bird diverters on the OTL in the section above the Paravani gorge.



Figure 7. Towers in the cultivated land area

Majority of birds in this section have been registered between the Paravani gorge and the Khizabavra- Saro road. Flight direction is mainly parallel to the Paravani gorge. After the mentioned road towards the end of the plateau majority of the towers are located in the middle of cultivated plots (Figure 7). There are not many birds there.



Figure 8. Common buzzards (Buteo buteo) - hunting

The main species registered include: wheatear (*Oenanthe oenanthe*) nesting near the stone heaps and several Common buzzards (*Buteo buteo*) hinting near the Common voles (*Microtus arvalis*) burrows in the area (Figure 8).

From the edge of the plateau (Tower 26) in Aspinza-Damala direction (Towers 27-34) the area was not accessible because of complicated landform (Figures 9 and 10). The team tried to get as close to the line as possible. Observation in the morning and evening does not reveal migration in the section of interest. Well shaped migration flows have not be registered in the section along the line away from the Mtkvari from Aspindza towards the Mtkvari section between

vil.Agara and Sakuneti either. Exception - Common buzzard (*Buteo buteo*) registered on the ground and in the air in this area (Figure 11).

Within the OTL corridor near vil. Idumala (Tower 48) feathers of Common buzzard (*Buteo buteo*) were found (Figure 12). The ends of the feathers were gnawed away. Based on this material identification of the cause of death was not possible.



Figure 9. View in direction of towers 27 and 28



Figure 10. Tower 28 at poorly accessible cliff



Figure 11. Common buzzard (*Buteo buteo*) above the OTL



Figure 12. Feathers of Common buzzard found in the PTL corridor

Spring migration was observed near the Mtkvari crossing (Figure 14) and along the slope of the mountain on the right side of the Mtkvari gorge. Registered were: Egyptian vulture (*Neophron percnopterus*), Lesser spotted eagle (*Aquila pomarina*), Booted eagle (*Aquila pennata*), Black kite (*Milvus migrans*), Short-toed snake eagle (*Cyrcaetus gallicus*), Common buzzard (*Buteo buteo*) and Long-legged buzzard (*Buteo rufinus*) (Figure 14), Common kestrel (*Falco tinnunculus*), Little ringed plover (*Charadrius dubius*), Northern lapwing (*Vanellus vanellus*), Wood sandpiper (*Tringa glareola*), Common swift (*Apus apus*), Eurasian skylark (*Alauda arvensis*), Greater short-toed lark (*Calandrella brachydactyla*), Barn swallow (*Hirundo rustica*), Water pipit (*Anthus spinoletta*), Common redstart (*Phoenicurus phoenicur*), Black edstart (*Phoenicurus ochruros*), Wheatear (*Oenanthe oenanthe*),



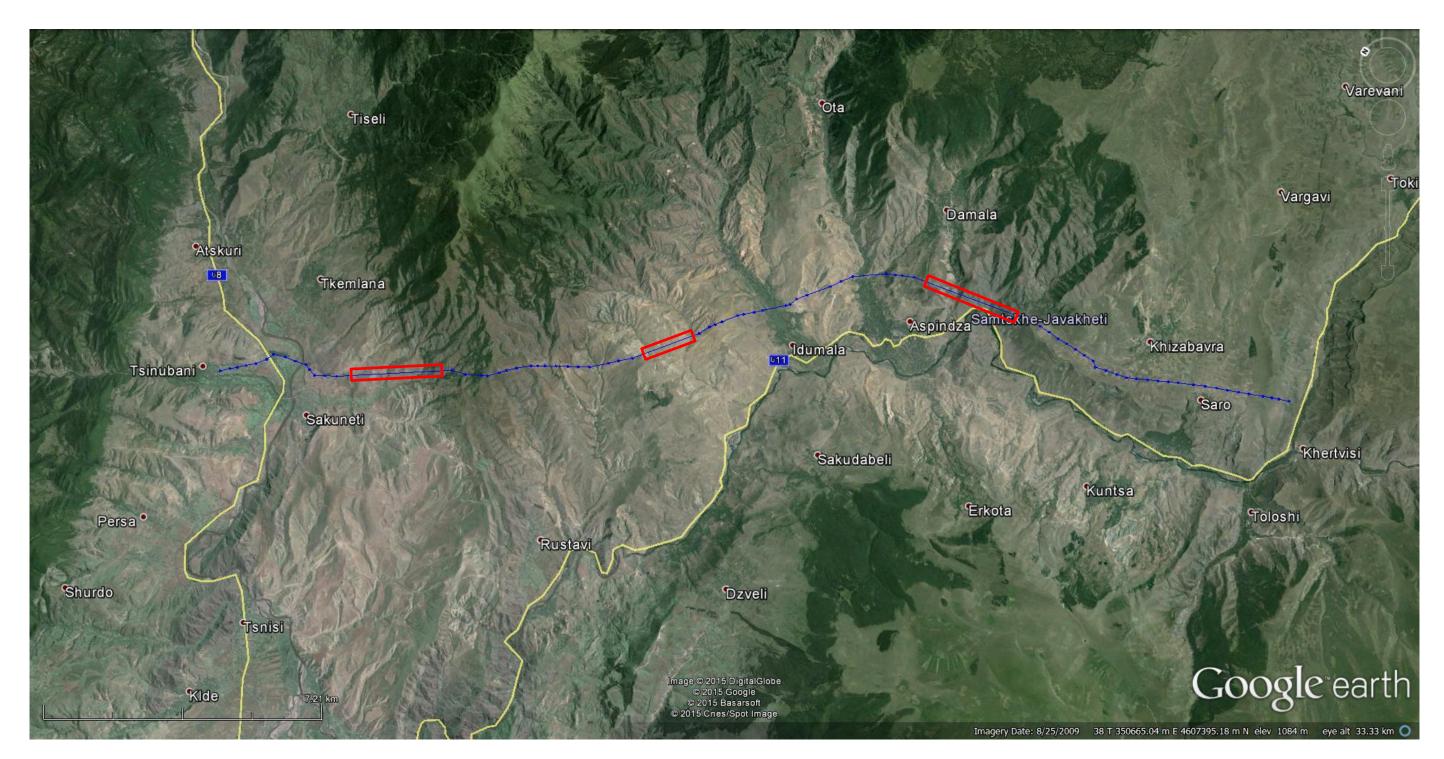
Chiffchaff (*Phylloscopus collybita*), Common chiffchaff (*Phylloscopus nitidus*) and some other species that were not possible to identify because of a distance.

Conclusion:

Monitoring carried out in April 6-10, 2015 has not reveal any case of mortality or injury caused by the presence of 220kV transmission line .

Figure 14. Common buzzard (*Buteo buteo*) and Long-legged buzzard (*Buteo rufinus*) flock

Annex



Кеу

Sections not visited because of poor accessibility

Coordinates of the sites

X	Y	Points
344173	4619289	1
344347	4619102	2
344482	4618944	3
344647	4618766	4
344818	4618569	5
345058	4618394	6
345266	4618303	7
345362	4617987	8
345399	4617705	9
345464	4617407	10
345401	4617250	11
345339	4617053	12
345471	4616807	13
345615	4616515	14
347333	4613855	15
347418	4613475	16
347618	4613076	17
347691	4612924	18
347921	4612697	19
348067	4612563	20
348250	4612371	21
348499	4612068	22
348589	4611915	23
348680	4611746	24
348828	4611500	25
348973	4611224	26
349103	4610987	27
349251	4610720	28
349592	4610336	29
349781	4610139	30
350022	4609860	31
351501	4608660	32
351789	4608502	33
351914	4608404	34
352073	4608284	35
352431	4608009	36
262547	4607881	37
352733	4607677	38
352899	4607498	39
353327	4607026	40
353405	4606949	41
353618	4606863	42

х	Y	Points
353849	4606675	43
354357	4606254	44
354620	4606074	45
354901	4605862	46
355216	4604802	47
355499	4604899	48
355565	4604738	49
355675	4604457	50
356200	4601198	51
356196	4600914	52
356182	4600634	53
356149	4600334	54
356143	4600081	55
356131	4599803	56
356615	4599536	57
356097	4599260	58
355986	4599119	59
346044	4598833	60
356099	4598535	61
356147	4598279	62
356261	4598029	63
356384	4597766	64
356499	4597505	65
356615	3497255	66
356724	4597019	67
356884	4596644	68
356999	4596361	69
357107	4596071	70
357204	4595800	71
357005	4595525	72
357408	4595258	73
357532	4594920	74
357609	4594702	75
357676	4594520	76
357782	4594232	77
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