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## **SAVE Foundation wolf research and monitoring – 4<sup>th</sup> interim report**

### **Wolf monitoring in the Holy Cross Mountains region since 15<sup>th</sup> of March 2014 till 31<sup>st</sup> of March 2015**

#### **Methods and the area of monitoring**

We continued systematic survey of the 4 areas - the western part of the Holy Cross Forest (PS, forest districts of Suchedniów and Zagnańsk), Niekłańsko - Bliżyńskie Forest (LNB, forest districts of Stąporków and Skarżysko Kamienna), Przysucha Forest (PB, forest districts of Przysucha and Barycz) and Iłżecka Forest (PI, forest districts of Starachowice Marcule and Ostrowiec Świętokrzyski) (Fig. 1). Additionally we were looking for signs of wolf presence in the eastern part of Holy Cross Forests, forest area west of Końskie town and western vicinity of Skarżysko Kamienna (next to the construction site of express road S7) (Fig. 1)

In total, we spent 61 days in the field. In each of the areas we searched for wolf tracks, scats and other signs of wolf presence. We sampled fresh scats for further DNA analysis. In July - October we systematically attempted to stimulate wolves to howl in order to check for presents of pups, which have distinctive voice. The stimulation was done at night, with 2 teams in 2 vehicles communicating by radio. We stopped 2-3 kilometers apart, howled simultaneously and then listened if wolves' responded. We repeated the procedure until we covered entire forest complex or wolves responded. The winter was exceptionally mild and with very little snow cover. During days with some snow we focused on search for tracks in order to estimate the size the packs. As in the previous period we also gathered all the information about wolves from the Forest Service, hunters and others.

The analyses of collected scats for diet analysis were completed in April 2014 by Katarzyna Lewalska, in the laboratory of the Jagiellonian University at Krakow. The results of the analysis were the subject of Katarzyna's Master Thesis, completed in June under the supervision of Professor Henryk Okarma. The results will be included in the publication which aimed the variation of wolf diet among packs we studied across Poland we are working on. DNA samples for analysis are stored frozen and will be transferred to laboratory of Technische Universität München at Fraising supervised by Professor Ralph Kuehn. The analysis should be completed by November.

On the demand of regional branch of League of Nature Conservation (Liga Ochrony Przyrody) we prepared an article summarizing results of monitoring of wolves in Holy Cross Region since 2006. The article has been published in the local journal of League: Gula, R. i A. Milanowski 2014. Monitoring of wolves in Holy Cross Region. Piękne, Rzadkie i Chronione IV - Skarżyskie Zeszyty Ligi Ochrony Przyrody,

13: 48-56. We presented the results at annual meeting of League held in Skarżysko-Kamienna on 27<sup>th</sup> of October 2014.

### **Status of the monitored packs**

We recorded signs of wolf presence for 106 times, which includes separated tracks, scats, howling and visual observations. We confirmed the presence of wolf packs in 4 locations - PI, PS, LNB and PB. We confirmed wolf reproduction of PI and PS packs, although reproduction of LNB and PB cannot be excluded.

Additionally we recorded wolves in eastern part of Holly Cross Forest (WPS) and in the forest complex north-west of Końskie Town (tracks of 2 wolves, Fig. 1). We did not confirm presence of wolves in forest located in western vicinity of Skarżysko-Kamienna, despite the area is connected by forest corridor with area of LNB pack (Fig 1). Unfortunately, the snow cover period was too early and short, to let us determine if any of pack we followed included female in estrous.

#### ***PI Pack***

The PI pack responded for howling stimulation on 6<sup>th</sup> of September 2014. There were 4 adults plus 3 pups at minimum, howling from the same site and another adult wolf howling at the distance of about 2 km. Therefore in the fall there were 5 adults plus minimum 3 pups in the pack. During winter we recorded maximum 4 foot prints at once.

#### ***PS Pack***

In July 19<sup>th</sup> 2014 wolves of this pack responded for our howling stimulation. There were 3 adults plus 2-3 pups howling. They responded from the same location on 21<sup>st</sup> of July. We searched the site in late August and founded signs of prolonged wolf presence – bones of prey, daybeds and wolf paths, likely the rendezvous site. We heard pack howling again in September and January of 2015 in other locations. The tracks we recorded in September and visual observation from November confirmed that pack consisted of minimum 5 wolves. This was first reproduction of this pack since 2007.

#### ***LNB Pack***

The pack did not respond despite we quite intensively attempted to stimulate howling in the area. Whole summer and fall we have seen tracks of wolves in the area although no more than of 2 wolves. In February, during the period of little snow cover we recorded tracks of 3 wolves and this was the maximum number we recorded in the area.

#### ***PB Pack***

The pack responded for howling stimulation on 7<sup>th</sup> of September 2014. We heard 3 adults howling. We did not hear pups, although wolves were howling from quite far therefore it is possible we missed the voice of pups. This was the only time we have got response, despite we stimulated in July and August. In winter we recorded foot prints of 3 wolves at maximum.

## **Eastern Part of Holly Cross Forest – WPS**

In September 2014 Wiktor Król heard wolves howling from the village of Orzechówka, located at southern vicinity of the forest. It was single wolf but the other night he heard minimum of 3 wolves also howling spontaneously. We patrolled the forest twice in late September although we did not have had any response. In late winter we recorded tracks of maximum 2 wolves in the area.

## **Wolf research in Lower Silesia Forest - the Yellow Land Rover brings wolves closer to people**

The winter 2014/15 was a time of intensive and fruitful field work in the Lower Silesia Forest. On 12th January 2015 we trapped and radio-collared a young female that belonged to a local wolf pack. Orzechowa, as we called her, joined her family a few days later. Since then, she has shown that her pack, composed of four members, holds a territory of 127 km<sup>2</sup>. It contains only the northern part of the home range of the pack which we monitored during the previous two winters. Nowadays, the southern part of that area is occupied by other wolves, which suggests that the former wolf pack has split into two groups. This hypothesis will be checked with the means of molecular analyses of DNA material collected from scats. Occasionally, Orzechowa and her family visited Germany, which was the reason for starting collaboration with the German wolf-specialists from organization LUPUS. Additionally, we checked some of the wolves telemetry locations in search for signs of their activity, such as remains of food and day beds, and for scat and hair samples used for genetic and isotope analyses. This will broaden our knowledge about wolf behavior, food and habitat needs in this part of Europe. We also used photo-traps to monitor the wolves. Examples of video we have taken are available at:

<https://dl.dropboxusercontent.com/u/58748552/IMAG1029.AVI>

<https://dl.dropboxusercontent.com/u/58748552/IMAG1026.AVI>

<https://dl.dropboxusercontent.com/u/58748552/IMAG0491.AVI>

The Yellow Land Rover has proved to be an irreplaceable tool in our field work. It coped fantastically with the rough and muddy roads while following the wolves during the radio-telemetry and snow tracking, setting the traps and phototraps. It has become a symbol of wolf presence and conservation for the local community, who actively participated in numerous workshops about wolf protection and ecology <http://ruszowplus1.blogspot.com/2015/03/dr-kasia-o-wilkach-zawod-czy-pasja.html>. We hope they helped to establish a positive image of this large carnivore, which people have forgotten how to live with.

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Fig. 1 Results of the monitoring of wolves in the Holy Cross Mountains region from 15th March of 2014 to 31<sup>st</sup> March of 2015. Numbers of wolves given for each area are the largest group sizes recorded during snow-tracking, howling stimulation or spontaneous howling.



Fig. 2 Female wolf (Orzechowa) caught in Lower Silesia Forest fitted with the collar equipped with GPS/Iridium/VHF transmitter.



Fig. 3. Radio-telemetry (VHF) localization of female wolf Orzechowa

