

26.3.2018

Report of Raccoon Dog management in Finland for 2017

The Goal for 2017 in Finland was to continue the Actions of MIRDINEC LIFE project to prevent further invasion of Raccoon Dogs to Sweden and Norway, and to develop the work to be more cost effective while exploring the solutions for long-term financing.

In Finland the following Actions was carried out following the project working plan with practical adaptations where seen reasonable.

- Continue the use of monitoring cameras/early warning system EWS and develop the method to allow for rapid response from local voluntary hunters.
- Continue the use of Judas animals and develop the method to be more cost effective
- Continued co-operative management and information activities with volunteer hunters
- Information about IAS and dissemination of project results
- Efforts to renew the current legal context of the raccoon dog and its status as an invasive species, in alignment with the Finnish management plan of the raccoon dog, produced during the LIFE project.
- Legal permissions

General overview and Raccoon Dog (RD) harvest

The project was successfully outsourced. Tmi Juha Mäkimartti was selected as external contractor for 2017-2020. The annual level of service depends on available funding.

Raccoon Dog management in Lapland was temporarily on hold January-March due to reorganization of the project. However, voluntary hunters were active during winter months and in practice there was no meaningful gap in management actions.

During 2017 the project achieved the set objectives and succeeded to manage the RD population in the Finnish Lapland. The harvest level known by project has had slightly increasing trend since 2014. However, the proportion of Raccoon Dogs caught by regular hunters is decreasing, which indicates that management is successful. The messages from hunters in Lapland reflect a clear decrease of Raccoon Dogs as they are not observed or caught so often anymore.

The raised awareness among public and hunters has resulted observations and contacts from new areas improving our overall image of the RD situation in the project area, especially Central Lapland. The public support for the project has been on a relatively good level and media has treated the subject well.

Active co-operation with local voluntary hunters has continued and expanded well. The purchased trap materials and gift cards has played an important role as project has been able to provide tools for RD hunting. As previous years, also in 2017, a significant number of hunters has participated education events and meaningful number of live traps were built, set and maintained throughout Lapland by trained hunters.

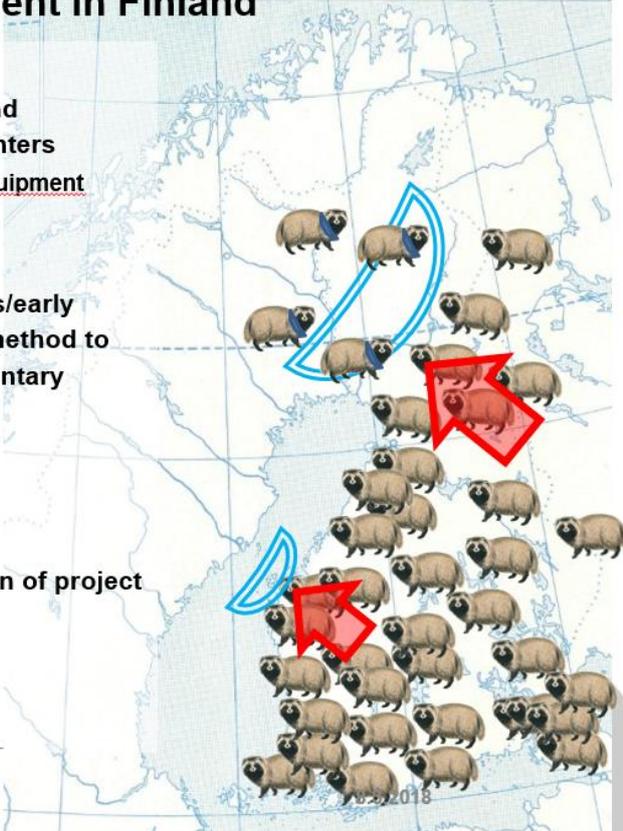
In Kvarken area, Korsholm Archipelago and Valörarna in particular was new focus area in 2017 with continued activities in future years. In 2017 total of 8 Raccoon Dogs were eradicated from Valsörarna by volunteers with the help of game cameras provided by the project and traps provided by local hunting association. Good co-operation was established with all four hunting associations in Kor-

sholm Archiplego and trap alarms and game cameras were purchased to increase RD hunting pressure in the whole area.

In Lapland the Raccoon Dog harvest by project staff and involved voluntary hunters was 139 animals in 2017. In addition project staff has received information of 17 RD killed by other hunters and of 5 traffic kills. Total of 161 Raccoon Dogs has known by the project to be killed in 2017 in the project area in Lapland. In the Valsörarna local volunteers captured 8 Raccoon Dogs. The Raccoon Dog harvest in the whole Korsholm Archipelago is more than a hundred individuals.

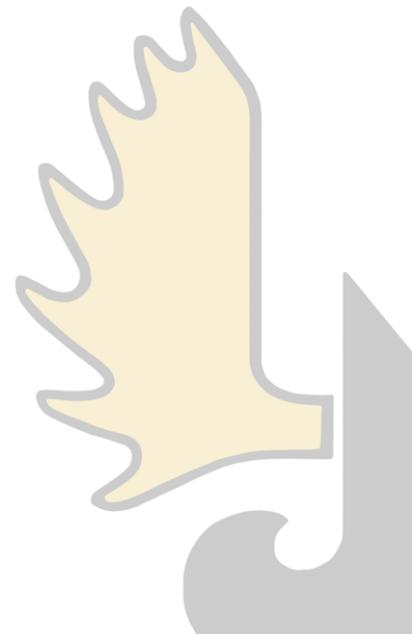
Management in Finland

- **Continued co-operative management and information activities with volunteer hunters**
 - Trap building, active hunting training, equipment
→ effective large-scale management
- **Continue the use of monitoring cameras/early warning system EWS and develop the method to allow for rapid response from local voluntary hunters**
- **Continue the use of Judas animals**
- **Information about IAS and dissemination of project results**

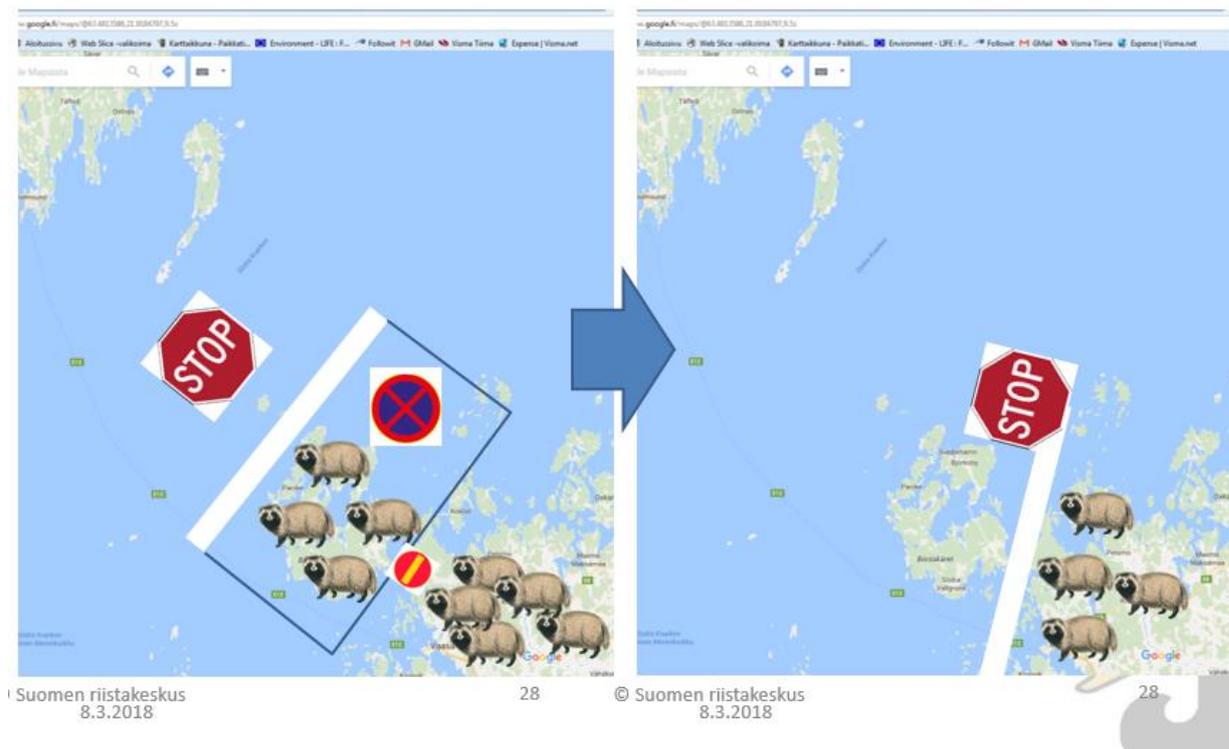


SUOMEN RIISTAKESKUS
FINLANDS VILTCENTRAL

Picture 1. Overview of Raccoon Dog management in MIRDINEC AFTER-LIFE project in Finland



Valsörarna Vision 2025



Picture 2. Illustration of the planned activities in Korsholm Archipelago and Valsörarna in particular.

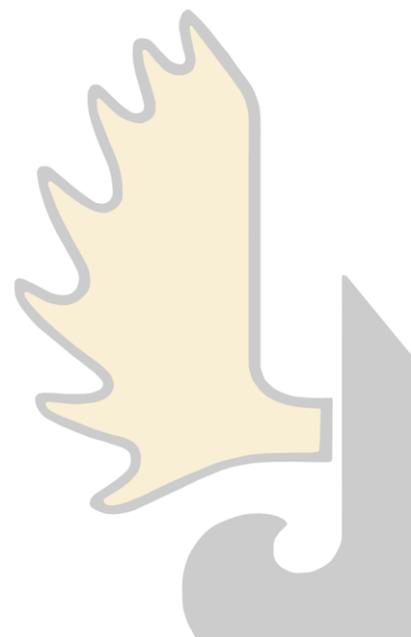
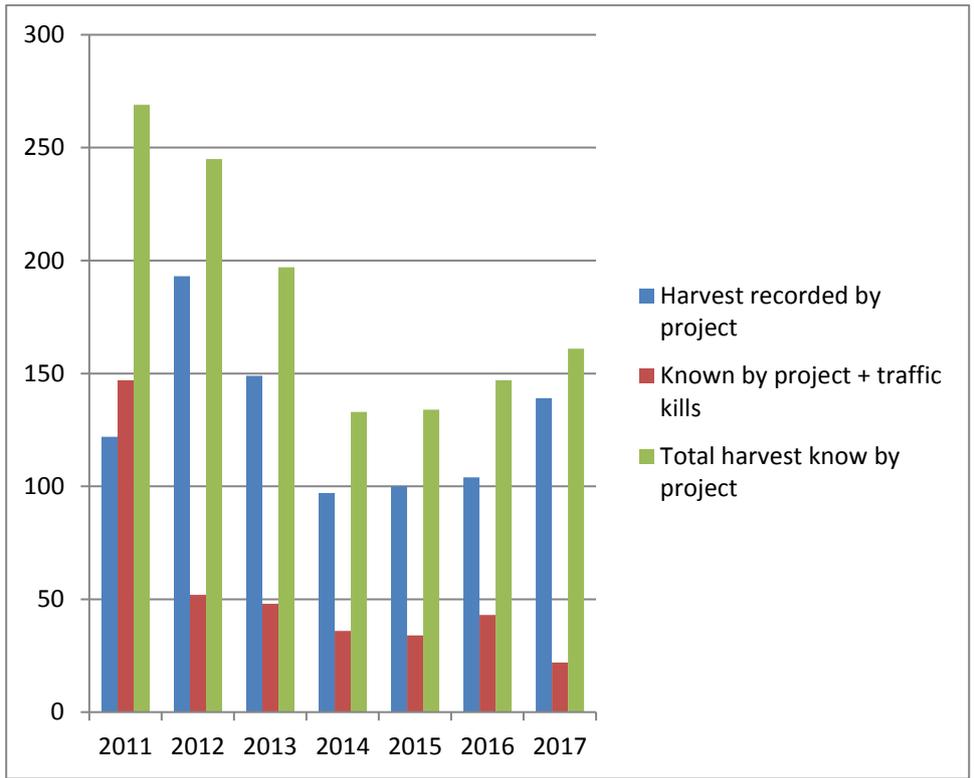


Table 1. Raccoon Dog harvest in Lapland

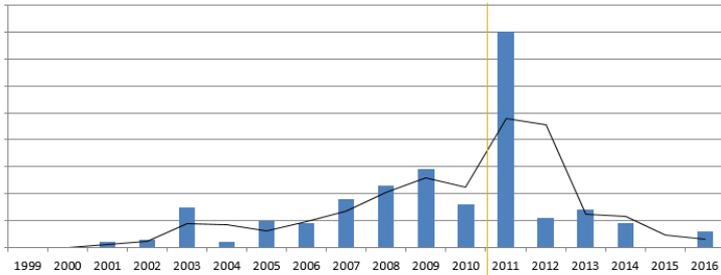
Raccoon Dog Harvest, MIRDINEC After Life	2011	2012	2013	2014	2015	2016	2017
<i>January</i>	0	0	0	3	2	4	20
<i>February</i>	6	4	0	10	4	8	
<i>March</i>	27	40	10	9	2	10	
<i>April</i>	2	22	23	4	9	12	12
<i>May</i>	1	9	14	3	4	12	14
<i>June</i>	8	15	0	3	7	8	7
<i>July</i>	4	7	15	1	17	11	20
<i>August</i>	17	8	9	5	10	12	13
<i>September</i>	22	27	17	14	16	13	15
<i>October</i>	24	33	28	27	19	8	30
<i>November</i>	5	26	30	15	7	4	8
<i>December</i>	6	2	3	3	3	2	
Total project/Mäkimartti	122	193	149	97	100	104	139
Other harvest known by Mäkimartti (actual harvests higher, this is and indicative figure)	128	40	39	32	32	37	17
Traffic kills (known by Mäkimartti)	19	12	9	4	2	6	5
<u>Total killed Raccoon Dogs</u>	<u>269</u>	<u>245</u>	<u>197</u>	<u>133</u>	<u>134</u>	<u>147</u>	<u>161</u>
<u>Other harvest + road kills</u>	<u>147</u>	<u>52</u>	<u>48</u>	<u>36</u>	<u>34</u>	<u>43</u>	<u>22</u>
Other small predators in projects live KaNu Traps ' the fox index'	9	13	12	18	30	30	31
red fox	3	5	6	12	14	15	17
badger	5	6	4	3	10	6	4
mink		2	1		2	3	4
pine marten/stoat	1		1	3	4	6	6



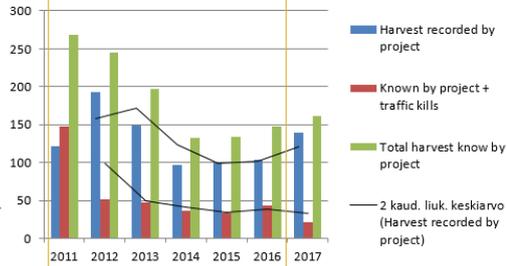
Picture 3. Graph of Raccoon Dog harvest in Lapland.

Results, Finland, Lapland
Essential for succesfull work in Sweden

Official bag statistics trend in Lapland

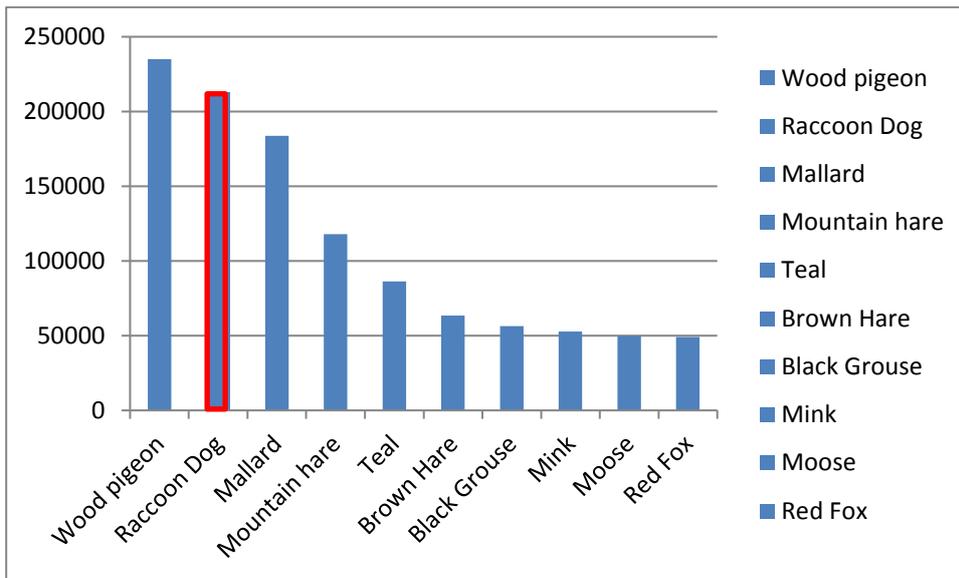


Harvets recorded by project



Picture 4. Comparison of project data and official statistics's trend of Raccoon Dog harvest in Lapland

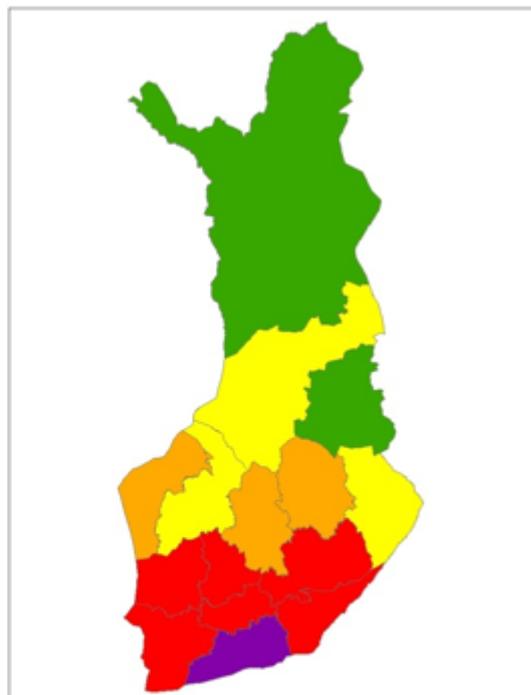




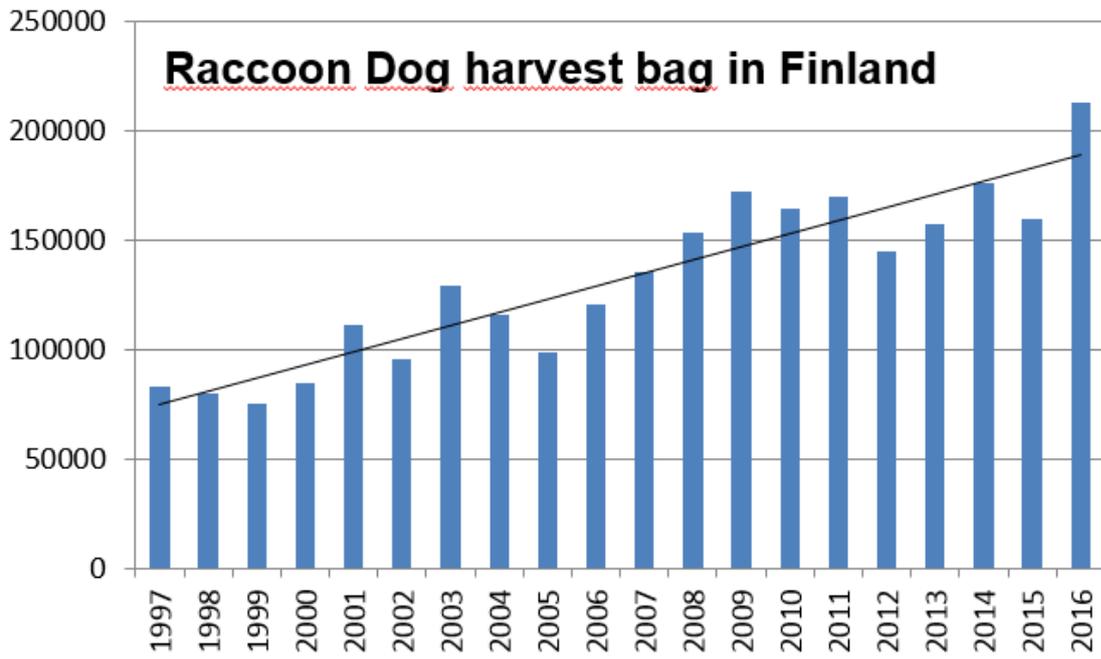
Picture 5: Total harvest of game animals in Finland 2016 (2017 figures available in early summer). Note: Raccoon Dog the 2nd most numerous harvested game animal in Finland

Average harvest of Raccoon Dog 2012-2016 per km² of land in each of the regions based on official statistics
Natural Resources Institute Finland

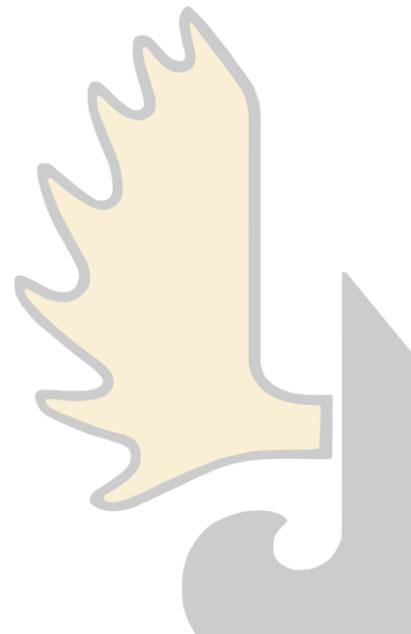
Lappi	0,01
Kainuu	0,03
Oulu	0,1
Pohjois-Karjala	0,3
Pohjanmaa	0,4
Keski-Suomi	0,7
Rannikko-Pohjanmaa	0,8
Pohjois-Savo	0,9
Satakunta	1,1
Kaakkois-Suomi	1,1
Etelä-Savo	1,4
Varsinais-Suomi	1,4
Pohjois-Häme	1,4
Etelä-Häme	1,9
Uusimaa	3,2

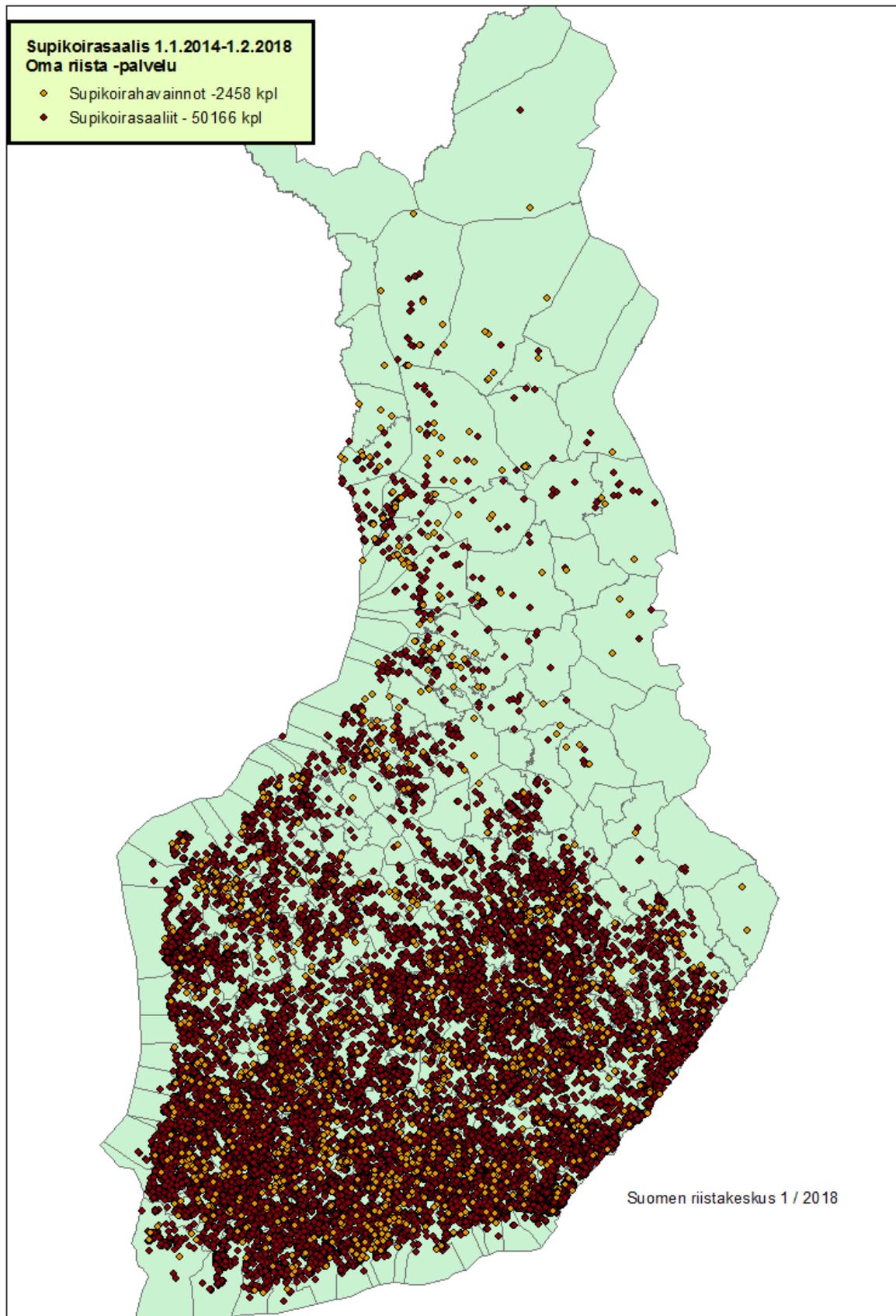


Picture 6. Raccoon Dog harvest density per km² of land per region.



Picture 6. Raccoon Dog harvest trend in Finland





Picture 7. Voluntary Raccoon Dog harvests and observations recorded in Oma riista -service 1.1.2014-1.2.2018. N= 52 624 in the whole country

Continued use of monitoring cameras/early warning system EWS and developing the method to allow rapid response from local voluntary hunters

In South-Western Lapland 10-20 game cameras were actively used by project staff to follow the RD situation and to assist eradication. In addition, many cameras were used by voluntary hunters.

New 10-camera EWS line funded by Metsähallitus was established in the Southern border area of Lapland to follow the Raccoon Dog situation on the southern edge of the project area.

During 2016 it was found out that Raccoon Dogs has established to Valsörarna, just 25 km from closest islands in Sweden. Two game cameras were purchased and local hunter contacted to set the camera to Valsörarna. In 2017 17 new cameras were purchased to cover the whole Korsholm archipelago in close co-operation with local hunters.

Continued the use of Judas animals and develop the method to be more cost effective

During 2017 there was 102 recorded Judas animal activities.

On 53 occasion Judas animal and/or partner was captured and released/killed.

Eight (8) Swedish Judas animals were captured/killed in Finland. One was road killed, one killed by Golden Eagle and two Swedish Judas's paired up in Tervola and were captured at the same spot.

Total of 14 times Judas animal was captured in a live trap or captured by volunteer hunters on an active hunt. Compared to the amount of Judas animals in Lapland, it can be said that the proportion encountered in traps and by hunters indicate that hunting pressure is at relatively good level.

With Judas method total of 16 adult Raccoon Dogs were captured and 18 pups during the summer.

Continued co-operative management and information activities with volunteer hunters

Project continued active working with voluntary hunters. The local people are the key resource for effective Raccoon Dog management in Lapland and in Kvarken area. The hunters have participated the project actions well and interest towards educational events and reporting RD observations have been good.

Lapland

Total of 24 different events was organized or participated by the project with total of 350 participants.

KaNu traps and trap building material were provided for interested hunters in the project area. In some places the traps set during MIRDINEC project were moved to better places to increase the effectiveness. The model traps were built in the educational events and material for more traps was given to local hunting associations for further use. Total of 91 KaNu traps was built in project for/by local hunters.

(13)

In 2017 no new wildlife cameras or trap alarms were purchased in Lapland. The existing equipment was circulated to new users as seen necessary. The old Mink Police trap alarms purchased during LIFE project and in 2014 are still functional and actively used. 24 wildlife cameras were given to new users and 79 hunters received a trap alarm to use for certain time period along with new KaNu trap.

Project was presented in 5 events for young hunters or at schools with 667 participants. The project joined 3 exhibition events where it was estimated that 1400 people were reached.

Kvarken/Valsörarna

A hunter meeting was organized in Korsholm archipelago in Kvarken area with 20 participants from local hunting associations with focus on Valsörarna.

Project purchased two KaNu traps to assemble to Valsörana.

Special additional funding provided by Finnish Wildlife Agency and Director of Sustainable Wildlife Management Jarkko Nurmi allowed the purchase of 8 Uovision trap alarms and 17 Burrel Wildlife Cameras to be used for Raccoon Dog management in Korsholm Archipelago

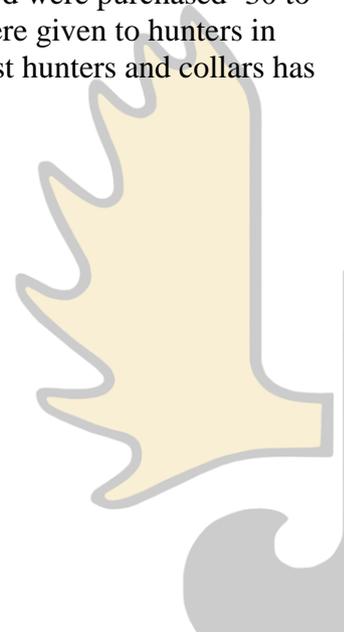
Table 2. Events and participants during 2017.

Type of event	number of events	number of participants
Hunter education/information/project presentation	25	370
Schools and Young hunters	5	667
Exhibitions/general public	3	1400
TOTAL	32	2417

Gift card –campaign

The idea of Gift-Card campaign was to motivate the hunter to report and return GPS-collars. This is a way to reward active hunters providing animals for collaring and to retrieve the lost collars.

It was estimated that 30 x 50 € card are needed for 2017. Total of 40 gift card were purchased 30 to web store Retkitukku and 10 to outdoor store in Sodankylä. 36 gift cards were given to hunters in 2017. The campaign has proven successful and raises the awareness amongst hunters and collars has been returning better.



(13)

Information about IAS and dissemination of project results

Table 4. Press articles

April	Riistalehti
April	Sompiolainen
21.6.2017	Lapinkansa
7.9.2017	Riistalehti
8.9.2017	Ase ja Erälehti

Press release by Finnish Wildlife Agency

- <https://riista.fi/seis-supikoiran-etenemiselle-lapissa/>
- <https://riista.fi/sv/stopp-for-mardhundens-utbredning-i-lapland/>

Metsästäjä/Jägaren magazine 4/2017 at page 34 http://lehtiluukku.net/lehti/jagaren/_read/04-2017/152472.html

Efforts to renew the current legal context of the raccoon dog and its status as an invasive species, in alignment with the Finnish management plan of the raccoon dog, produced during the LIFE project.

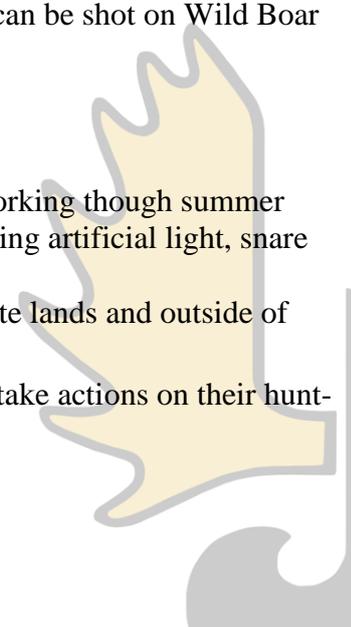
The Raccoon Dog was listed in EU - list of Invasive Alien Species of Union concern. The change will come into force in 2019.

The listing will cause changes in hunting legislation and it is foreseen that more tools will be available for effective management.

The Hunting Act was revised during 2017 but it did not provide major improvements for Raccoon Dog eradication. Minor improvements have been achieved. Raccoon Dogs can be shot on Wild Boar feeding stations with stationary artificial light.

Legal permissions

- The project was issued a derogation of Hunting Act for effective working though summer and to use forbidden hunting methods (shooting close to vehicle, using artificial light, snare etc.)
- Metsähallitus has issues permit to use ATV and Snowmobile on state lands and outside of designated trails.
- Virtually all key hunting associations have permitted the project to take actions on their hunting areas.



(13)

Costs of Actions and realized funding

The total costs of project Actions in 2017 was 162 893,02 euro.

The cost level was higher than in previous years which is explained by the purchase of 10 new GPS collars kindly funded by Norway.

Table 5. Budget and realized costs and funding

Cost item	€ piece/set	Number needed	Total cost	Realized cost
1. Mission, Juha Mäkimartti to carry out project activities	71 000	1	71 000	77 141,07 €
2. Travel costs			20 000	19 274,70 €
3. MMS wildlife camera+ GSM service and trap equipment	200	30	6 000	5 693,85 €
4. Motivating voluntary hunters. Thanks giving dinner etc.	1 500	1	1 500	855,00 €
5. Gift Cards for Judas-animals			3 000	750,00 €
6. Brochures, Batteries, timber, screws etc small items			1 500	2 373,50 €
Valsöarna/Kvarken area equipment - additional special funding				4 558,84 €
7. Followit service	35 000	1	35 000	35 000,00 €
8. New GPS-GSM/iridium collars	2000	10	20 000	17 246,06 €
Total			158 000	162 893,02 €
ANNUAL Funding:				
Country: cost item				
<u>Finland</u>				Realized funding
Finnish Wildlife Agency: 2, 3, 4, 5, 6	20 000			26 893,02 €
Metsähallitus: 2	10 000			10 000,00 €
<u>Sweden: 7</u>	35 000			35 000,00 €
<u>Norway: 1, 2, 8</u>	93 000			91 000,00 €
TOTAL	158 000	-	-	162 893,02 €

(13)

Conclusions

- The Raccoon Dog population of the project area in South-Western Lapland has stayed at low level compared to 2011.
- Raccoon Dogs are present throughout Lapland. North of Arctic Circle population is small and scattered to small cells.
- New establishment of Raccoon Dog in Kvarken area Valsörarna is under management and the whole Korsholm Archipelago will be under project activities in 2018 by local hunting associations supported by the project
- Project actions have been cost-effective and generally well accepted thanks to hands-on working model that is easy to contact and participate for the local hunters.
- The reorganization of the project to external contractor Tmi Juha Mäkimartti was successful and project has continued the activities as planned.
- All available means of Raccoon Dog management are needed and together different working tools (active hunting, Judas animals, cameras, trapping) create a frame to control the population

March 26th 2018.

Mikko Alhainen, Sami Tossavainen
Finnish Wildlife Agency

