

25.2.2020

## Report of Raccoon Dog management in Finland for 2019

The Goal for 2019 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 activities were carried out following the project working plan with practical adaptations where needed.

- Continued co-operative management and information activities with volunteer hunters
- 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
- Information about IAS and dissemination of project results
- Legal permissions to allow effective eradication of Raccoon Dogs.

The legal context of the Raccoon Dog was changed from game species to an invasive species, in alignment with the Finnish management plan of the raccoon dog which was produced during the LIFE project.

Finland organized the meeting of Nordic reference group on the management of invasive alien predators and related Raccoon Dog Seminar 1-3 October. The event was successful, constructive and enjoyable, thanks to the excellent organization by Jaakko, Stefan and Johan. Volunteer hunters demonstrated their skills on Raccoon Dog hunting and mother nature showed how hunting in Archipelago is subject to weather conditions – the planned visit to Valsörarna was no-go due to storm.

### 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





## General overview and Raccoon Dog (RD) harvest

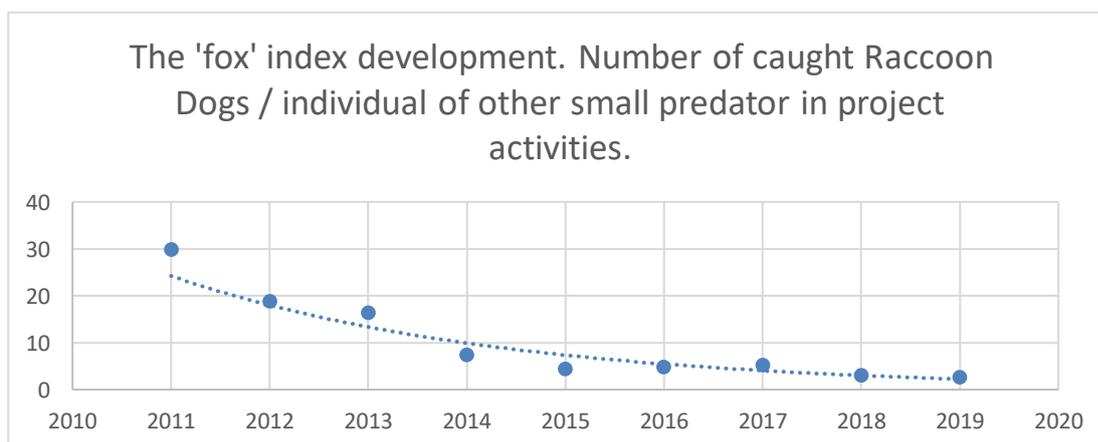
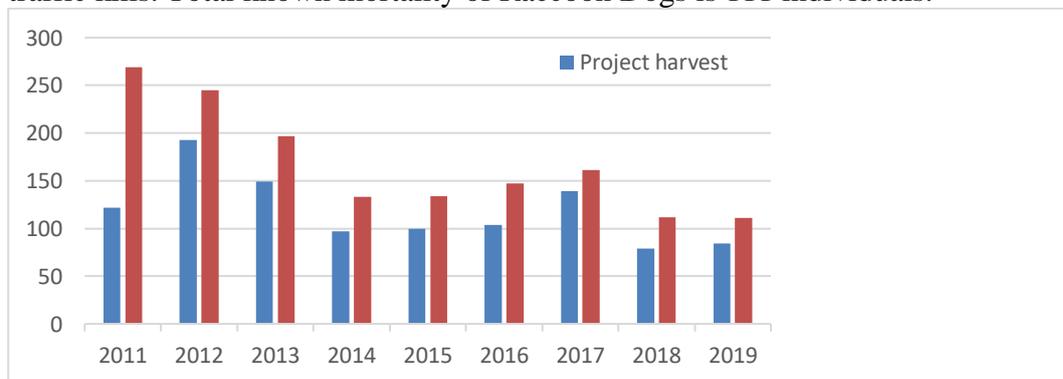
### Lapland

Juha Mäkimartti implements project activities in Lapland as external contractor for 2017-2020. The annual level of service depends on available funding.

During 2019 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 from 2014 to 2017 while harvest was at all-time low from 2018 to 2019. Harvest numbers are declining as the area effectively covered by project has increased significantly. The proportion of Raccoon Dogs caught by regular hunters has increased, which indicates that project receives information of the harvest better than before. The messages from hunters in Lapland in general reflect a clear decrease of Raccoon Dogs as they are not observed or caught so often anymore compared to 2011-2012.

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 and incentives for RD hunting. As previous years, also in 2019, 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. The non-scientific 'fox index' indicates that work has been successful and relative proportion of Raccoon Dogs in project traps has decreased significantly while know-how and number of traps has increased. Record number of foxes in project traps indicate that traps are functioning well.

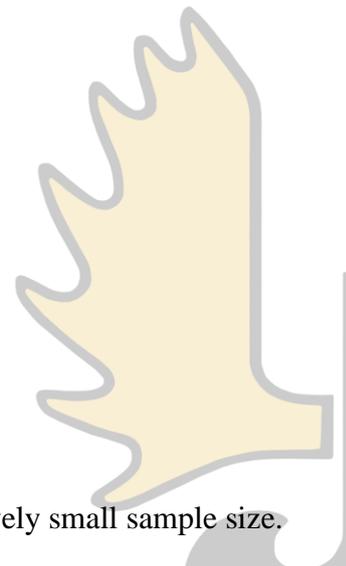
In Lapland the Raccoon Dog harvest by project staff and involved voluntary hunters was 84 animals in 2019. In addition, project staff has received information of 21 RD killed by other hunters and of 6 traffic kills. Total known mortality of Raccoon Dogs is 111 individuals.



## Raccoon Dog harvest in Lapland

<b>Raccoon Dog Harvest MIRDINEC After LIFE</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>
<i>January</i>	0	0	0	3	2	4	20	5	1
<i>February</i>	6	4	0	10	4	8		3	1
<i>March</i>	27	40	10	9	2	10		5	6
<i>April</i>	2	22	23	4	9	12	12	9	6
<i>May</i>	1	9	14	3	4	12	14	2	7
<i>June</i>	8	15	0	3	7	8	7	16	17
<i>July</i>	4	7	15	1	17	11	20	0	0
<i>August</i>	17	8	9	5	10	12	13	2	8
<i>September</i>	22	27	17	14	16	13	15	18	14
<i>October</i>	24	33	28	27	19	8	30	13	15
<i>November</i>	5	26	30	15	7	4	8	4	9
<i>December</i>	6	2	3	3	3	2	0	2	0
<b>Total by project &amp; involved voluntary hunters</b>	<b>122</b>	<b>193</b>	<b>149</b>	<b>97</b>	<b>100</b>	<b>104</b>	<b>139</b>	<b>79</b>	<b>84</b>
Other confirmed harvest and dead Raccoon Dogs.	128	40	39	32	32	37	17	25	21
Traffic killed Raccoon Dogs	19	12	9	4	2	6	5	8	6
<b>Known removal of Raccoon Dogs in the project area in Northern Finland</b>	<b>269</b>	<b>245</b>	<b>197</b>	<b>133</b>	<b>134</b>	<b>147</b>	<b>161</b>	<b>112</b>	<b>111</b>
<b>Other small predators caught during project activities</b>	<b>9</b>	<b>13</b>	<b>12</b>	<b>18</b>	<b>30</b>	<b>30</b>	<b>31</b>	<b>37</b>	<b>42</b>
Fox	3	5	6	12	14	15	17	11	23
Badger	5	6	4	3	10	6	4	11	9
Mink		2	1		2	3	4	4	4
Stoat, Pine Marten	1		1	3	4	6	6	11	6

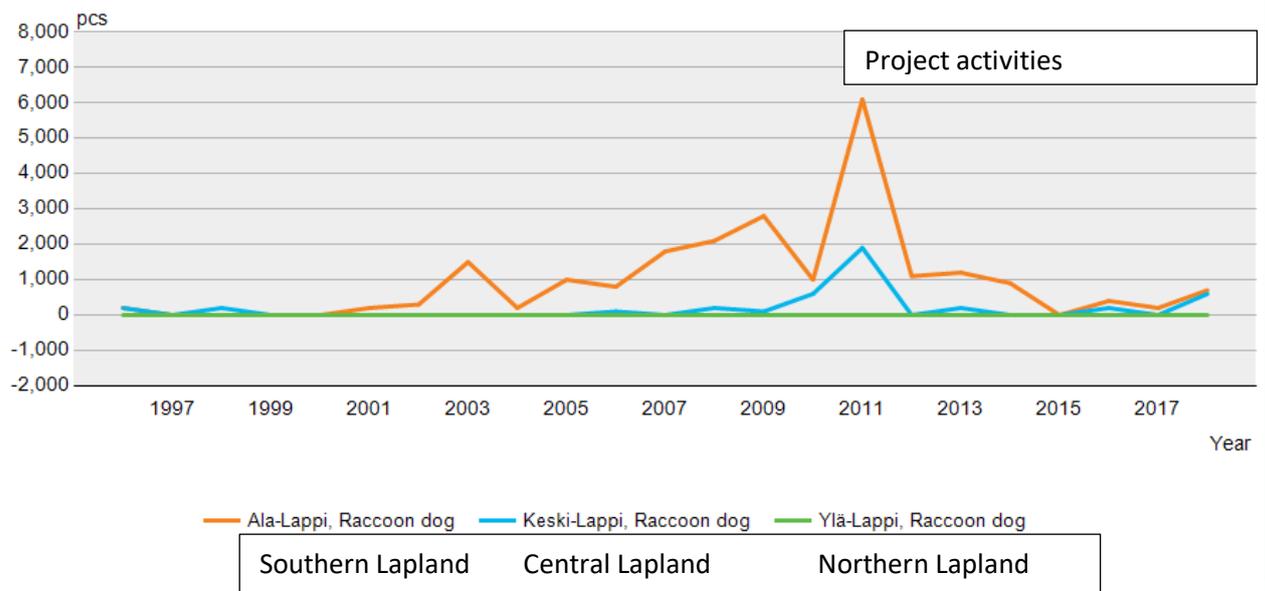
The official game bag statistics is based on hunter questionnaire with relatively small sample size.



The official statistics in Lapland can be used as an index reflecting large-scale changes in the Raccoon Dog population/harvest development.

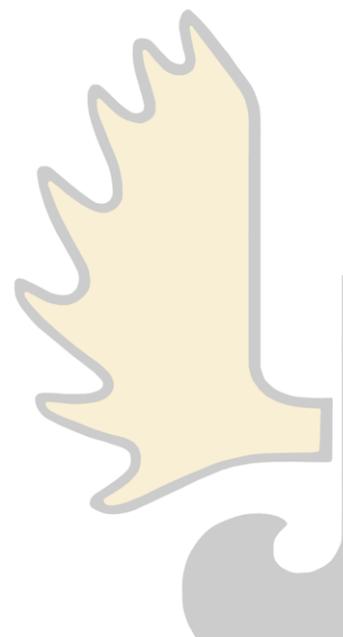
At large the Raccoon Dog population and harvest increased until 2011, when record harvest, thanks to project activities, lead to significant decline in the harvest and likely the population.

Game bag by Area, Species and Year



Source: OSF: Natural Resources Institute Finland, Hunting

Raccoon Dog harvest in Lapland until 2018 based on official statistics. <http://stat.luke.fi/en/> . 2019 estimates will be available in summer of 2020.



### Valsörarna, Kvarken area.

The Kvarken area, Korsholm Archipelago and Valsörarna in particular, is new focus area since 2018. Good co-operation is established with all four hunting associations in Korsholm Archipelago. Network of solar-powered scout cameras, baiting sites and live traps are operative throughout the area by volunteer hunters using trained dogs.

Total Raccoon Dog harvest in archipelago was significant, divided to areas of four hunting associations (table below). Total harvest increased from 130 to 137. It is expected that this level of harvest will have effect and the harvest numbers will decrease in following years due to decline of the population.

<u>Village/hunting area</u>	<u>2018</u>	<u>2019</u>
1 Björköby	44	50
2 Norra Vallgrund	34	25
3 Raippaluoto	27	29
4 Södra Vallgrund	25	33
<b><u>TOTAL</u></b>	<b><u>130</u></b>	<b><u>137</u></b>



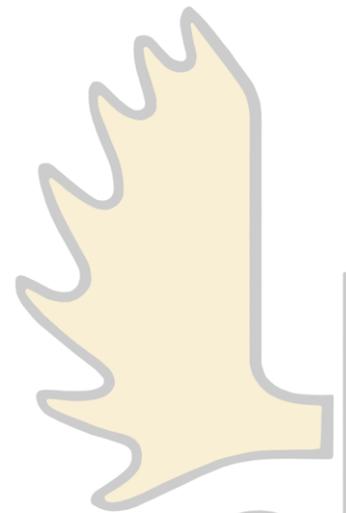
In Valsörarna, the key dispersal corridor to Sweden, one Raccoon Dog was culled in 2018 and its partner escaped the hunters.

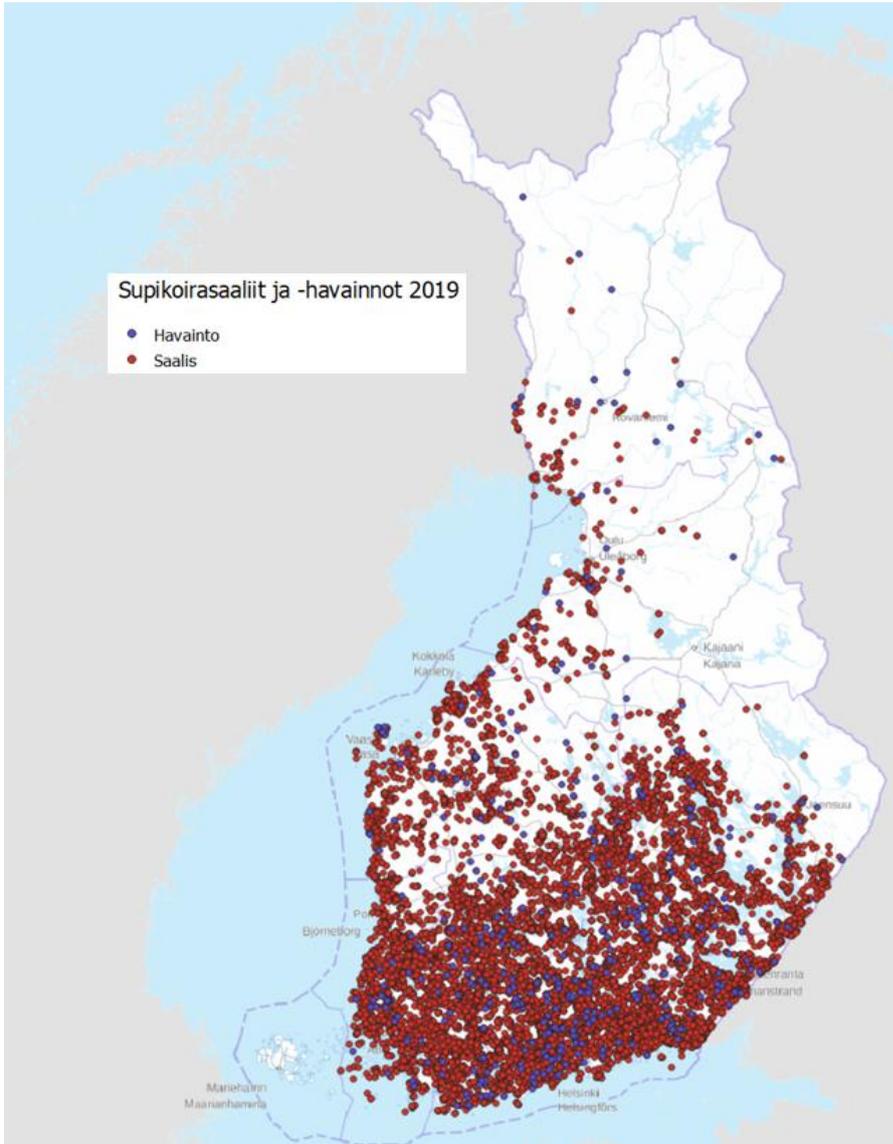
In December 2019 a Raccoon Dog pair was observed in project camera in Valsörarna (picture below). Raccoon Dogs were eradicated on January 6<sup>th</sup> 2020 by local volunteer hunters. In February 2020 there is no known Raccoon Dogs in outer archipelago and Valsörarna.



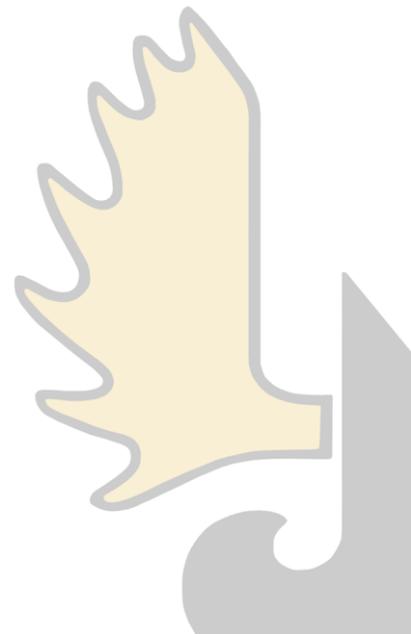
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Raccoon Dog harvests and observations voluntarily recorded in Oma riista -service during 2019.  
*Havainto – observation. Saalis – harvest.*



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

Lapland

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, large number of older cameras were used by voluntary hunters.

Kvarken/Valsörarna

Total of 22 game cameras provided by the project are used in the area. 10 of the cameras are equipped with solar-panel-battery power units for nearly maintenance-free operation of GSM-cameras in remote locations.

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

Lapland

During 2019 there was 62 recorded Judas animal activities in Lapland. 17 adults and 17 pups were captured with this method, including 3 Swedish Judas Raccoon Dogs (one of them was road-killed). 25 Gift Cards were handed to people involved in Judas work. New Judas's were recruited or collar changed to existing ones 23 times.

Kvarken/Valsörarna

Two Judas Raccoon Dogs were in Kvarken area. They provided a wealth of new information about Raccoon Dog movements and home ranges in the area. Judas had key importance in the project information and dissemination activities.

**Continued co-operative management and information activities with volunteer hunters**

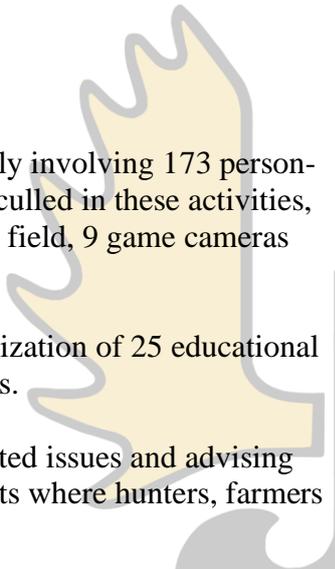
Project continued active working with voluntary hunters. The local people are the key resource for effective Raccoon Dog management in Lapland and in Kvarken area. The hunters have participated the project actions well and interest towards educational events and reporting RD observations have been good.

Lapland

Project recorded 131 working days or events of Raccoon Dog hunting actively involving 173 person-days by volunteer hunters in the project framework. 42 Raccoon Dogs were culled in these activities, including 1 Judas trapped by volunteer hunter. 5 new KaNu traps were set in field, 9 game cameras and 15 trap alarms were relocated to new users, and 8 gift cards given.

Project was active in hunter education with 30 events for planning and organization of 25 educational presentations involving 291 hunters. 44 KaNu traps were built in these events.

People of various background contact Juha Mäkimartti on Raccoon Dog related issues and advising and informing people is day-to-day work. In 2019 project recorded 108 events where hunters, farmers



of general public were informed and advised on Raccoon Dogs involving 259 people. 5 Gift Cards were given.

Project was presented in 10 events for young hunters or at schools with 565 participants. The project joined an exhibition events where it was estimated that 3500 people were reached. Project gave 5 other presentations in events reaching 160 people.

Project update was given in annual meetings of 20 Game Management Associations in Lapland reaching 650 people.

### Kvarken/Valsörarna

Hunter education, co-operation event and thanks giving dinner was organized in May 2019. Meeting was organized in Korsholm archipelago in Kvarken area with 20 participants. Representatives of all four local hunting associations were present. Altogether 4 hunting trips to Valsörarna were done by volunteers. There are 7 active Raccoon Dog hunters with two well trained dogs in Björköby. Both Replot and Södra Vallgrund have about 5 hunters specialized in Raccoon Dog hunting. In Norra Vallgrund there is well-established and active Raccoon Dog hunting tradition in which majority of members are involved.

### **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 or to reward hunters who has shown remarkable activity.

It was estimated that 50 x 50 € card was needed for 2019. Total of 50 gift card were purchased to web store Retkitukku, which sells hunting and fishing equipment and gear. The gift cards were split to 40 for Lapland and 10 to Kvarken/Valsörarna.

40 gift cards were given to hunters in Lapland and 3 in Kvarken. The campaign has proven successful and raises the awareness amongst hunters and collars has been returning better.

### **Information about IAS and dissemination of project results**

Project was presented in media 9 times. 6 radio interviews and 3 articles. The project activities were not as actively raised in the channels of the Wildlife Agency as in the previous years. The key focus for IAS media work in 2019 was to effectively disseminate the changed legislative framework of Raccoon Dog in general to hunters.

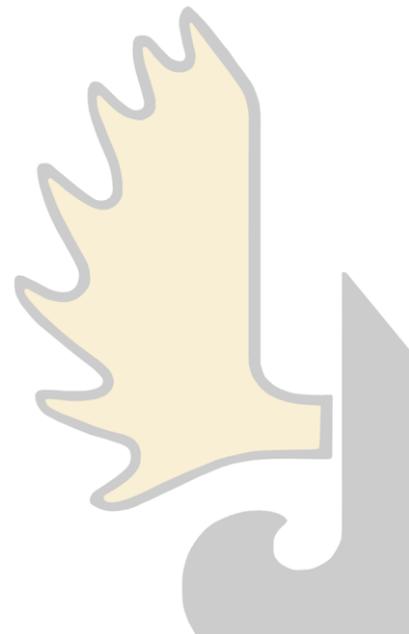
### **Efforts to renew the current legal context of the raccoon dog and its status as an invasive species, in alignment with the Finnish management plan of the raccoon dog, produced during the LIFE project.**

The Raccoon Dog, American Mink and other similar species were listed as ‘alien species’ in the legislative change in June 2019.

- For more details, please refer to article in Jägaren starting at page 10
  - <https://www.lehtiluukku.fi/lue/jagaren/04-2019/216566.html>
- For more information <http://vieraslajit.fi/fi/content/v%C3%A4lkommen-till-portalen-f%C3%B6r-fr%C3%A4mmande-arter-i-finland>

### 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.) for 2 years in 2018
- Metsähallitus issued permit to use ATV and Snowmobile on state lands and outside of designated trails.
- Project was issued a special permit until 2021 by Ministry of Environment and Metsähallitus Nature Conservation for culling Raccoon Dogs in National Parks and Strict Nature Reserves with some area-specific limitations.
- Virtually all key hunting associations have permitted the project to take actions on their hunting areas.



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## Costs of Actions and realized funding

The total costs of project Actions in 2019 was 171 571 euro.

Table 5 Realized costs and funding

<b>Raccoon dog management in Finland 2019</b>		
<b>Costs of project operation, materials and equipment.</b>		
<b>ANNUAL COSTS</b>		
<b>Cost item</b>	<b>Planned</b>	<b>Actual costs 2019</b>
1. Mission, Juha Mäkimartti to carry out project activities	80 000 €	91 791 €
2. Travel costs, estimated total	25 000 €	19 658 €
3. Equipment, traps, trap materials, scout cameras and accessories, trap alarms	10 000 €	14 720 €
4. Motivating voluntary hunters. Thanks giving dinner etc.	1 500 €	0 €
5. Gift Cards for Judas-animals	2 500 €	2 500 €
6. Batteries, timber, screws etc small items. Estimated total	2 000 €	2 891 €
7. Followit service	35 000 €	35 000 €
8. Operation costs of Valsörarna (travel costs of voluntary and project staff, game cameras, Judas-animal collaring, Traps and trap alarms)	5 000 €	819 €
9. Meeting of Nordic Reference Group. Additional funding provided by FWA	5 000 €	4 192 €
<b>Total</b>		<b>171 571 €</b>
-		
<b>ANNUAL Funding: Country: cost item</b>		
<u>Finland</u>		
Finnish Wildlife Agency: 1-9		44 192 €
Metsähallitus: 2,3		15 000 €
<u>Sweden: 1, 7, 8 *</u>		<u>35 000 €</u>
<u>Norway: 1</u>		<u>76 000 €</u>
<u>Transfer from 2018</u>		<u>4 483 €</u>
<b>TOTAL</b>		<b>174 675 €</b>
-		
<b>BALANCE - transferred to 2020 budget</b>		<b>3 105 €</b>

## Conclusions

- The Raccoon Dog population of the project area in Lapland has stayed at low level compared to 2011. Raccoon Dogs are present throughout Lapland. North of Arctic Circle the population is small and scattered to small cells. Special attention is again needed on South-Western Lapland to keep up with achieved results.
- New establishment of Raccoon Dog in Kvarken area Valsörarna is under management and the whole Korsholm Archipelago is under project activities 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 has proven to be successful and project has continued the activities as planned.
- All available means of Raccoon Dog management are needed and different working tools (active hunting, Judas animals, cameras, trapping) together create the frame to control the population.
- New IAS legislation significantly improves the possibilities of regular hunters to carry out effective management.

February 24<sup>th</sup> 2020.

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