

25.2.2021

Report of Raccoon Dog management in Finland for 2020

The Goal for 2020 in Finland was to continue the Actions of MIRDINEC LIFE project to prevent further invasion of Raccoon Dogs to Sweden and Norway.

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.

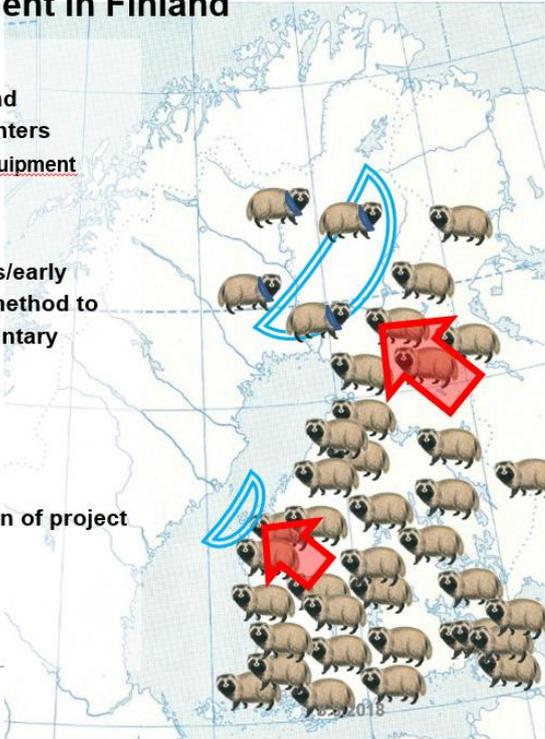
The legal context of the Raccoon Dog was changed from game species to an invasive species in 2019, in alignment with the Finnish management plan of the raccoon dog which was produced during the LIFE project.

The project activities were carried out in Northern Finland with focus on South-Western Lapland, Bothnian Bay coast and Tornio river valley and in Korsholm Archipelago with focus on Valsörarna and adjacent archipelago areas.

Despite COVID19 restriction the project was able to carry out the essential management activities in the field.

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

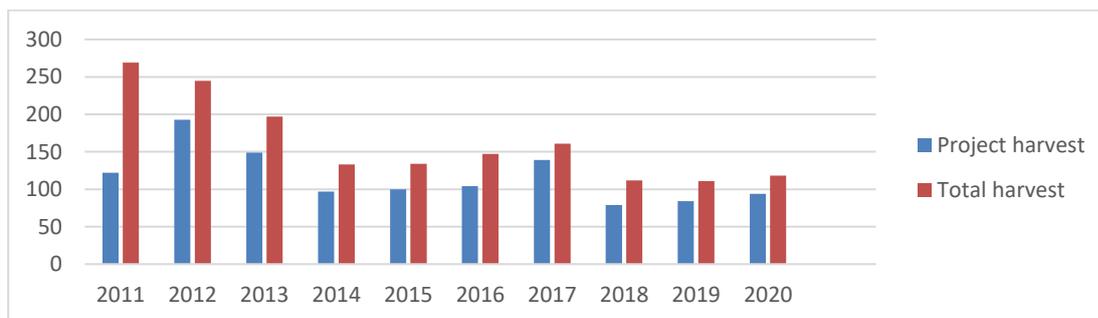
Juha Mäkimartti implements project activities in Lapland as external contractor for 2017-2024. The annual level of service depends on available funding.

During 2020 the project achieved the set objectives and succeeded to manage the RD population in the Finnish Lapland. The harvest level known by project had slightly increasing trend from 2014 to 2017 while harvest was at all-time low from 2018 to 2019 and remained low during 2020. Harvest numbers are declining as the area effectively covered by project has increased significantly. The messages from hunters of observed or caught Raccoon Dogs in Lapland reflect a clear decrease compared to numbers in 2011-2012.

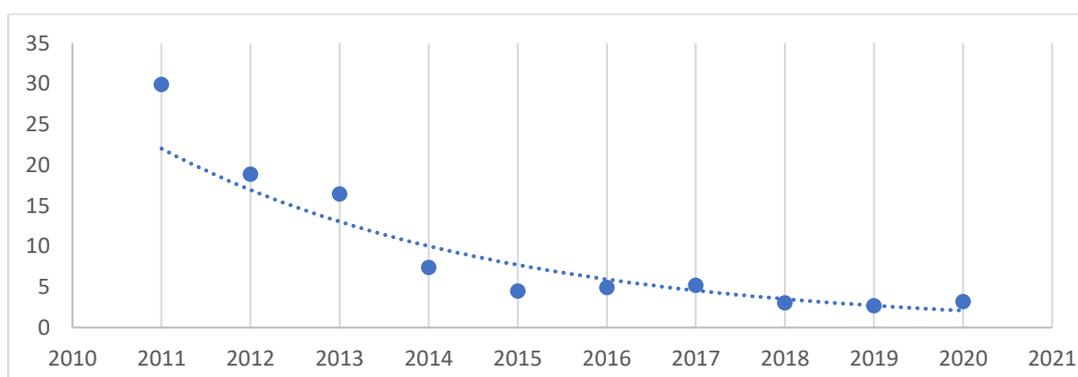
The non-scientific 'fox index' indicates that work has been successful and relative proportion of Raccoon Dogs in project traps has decreased significantly while know-how and number of traps has increased. Number of foxes in project traps indicate that traps are functioning well.

The COVID19 restrictions severely affected the face-to-face communication, educational events and training of hunters. Despite the challenges, the project was able to deliver expected results in management, thanks to active work of voluntary hunters in the field and dedicated project staff.

In Lapland, the Raccoon Dog harvest by project staff and involved voluntary hunters was 94 animals. In addition, project staff has received information of 19 RD killed by other hunters and of 5 traffic kills. Total Raccoon Dog mortality known by the project is 118 individuals. The increase of harvest compared to 2019 is largely explained by high harvest in March-April harvest and again in December, which both target the reproducing population.



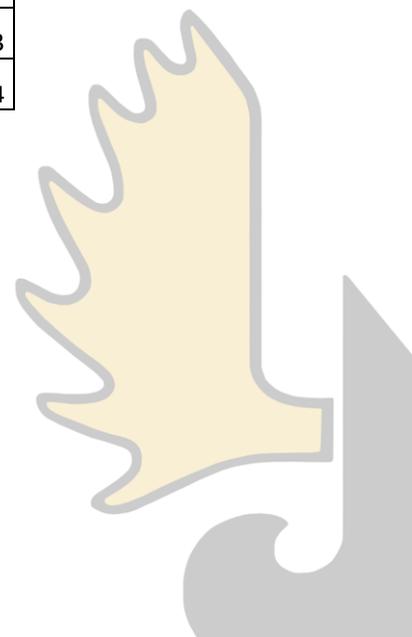
Development of known total harvest and Raccoon Dogs culled within the project framework



The 'fox index' development. Number of caught Raccoon Dog per individual of other small predator in project activities

Raccoon Dog harvest in Lapland

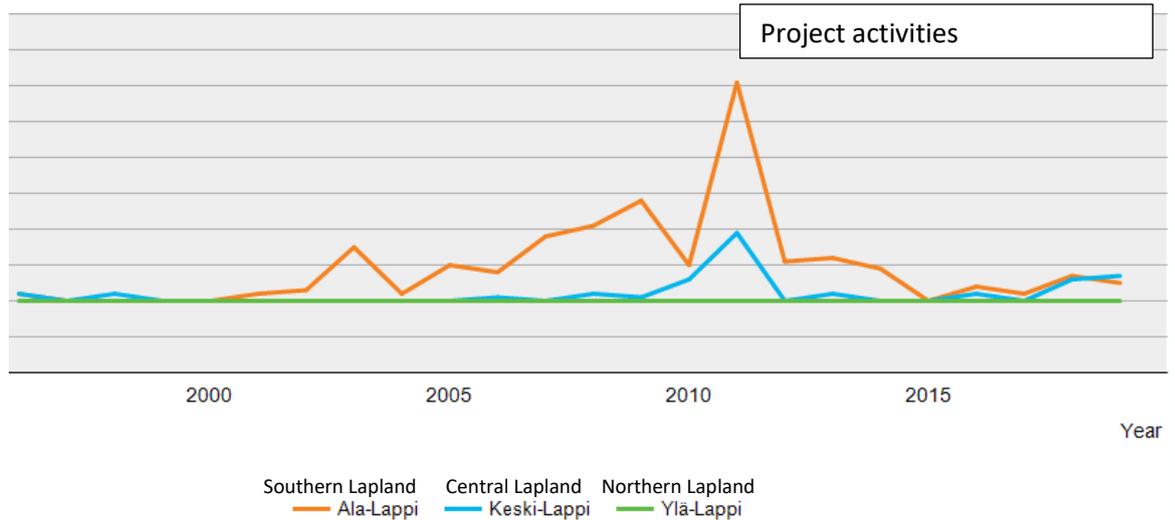
Supikoirasaalis MIRDINEC After LIFE	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
<i>January</i>	0	0	0	3	2	4	20	5	1	2
<i>February</i>	6	4	0	10	4	8		3	1	4
<i>March</i>	27	40	10	9	2	10		5	6	12
<i>April</i>	2	22	23	4	9	12	12	9	6	12
<i>May</i>	1	9	14	3	4	12	14	2	7	5
<i>June</i>	8	15	0	3	7	8	7	16	17	2
<i>July</i>	4	7	15	1	17	11	20	0	0	1
<i>August</i>	17	8	9	5	10	12	13	2	8	12
<i>September</i>	22	27	17	14	16	13	15	18	14	15
<i>October</i>	24	33	28	27	19	8	30	13	15	15
<i>November</i>	5	26	30	15	7	4	8	4	9	8
<i>December</i>	6	2	3	3	3	2	0	2	0	6
Total for project	122	193	149	97	100	104	139	79	84	94
Other confirmed Raccoon Dog harvest	128	40	39	32	32	37	17	25	21	19
Traffic kills	19	12	9	4	2	6	5	8	6	5
Total culled Raccoon Dogs	269	245	197	133	134	147	161	112	111	118
Other small predators taken in project activities (traps)	9	13	12	18	30	30	31	37	42	37
Fox	3	5	6	12	14	15	17	11	23	21
Badger	5	6	4	3	10	6	4	11	9	9
Mink		2	1		2	3	4	4	4	3
Stoat, Pine Marten	1		1	3	4	6	6	11	6	4



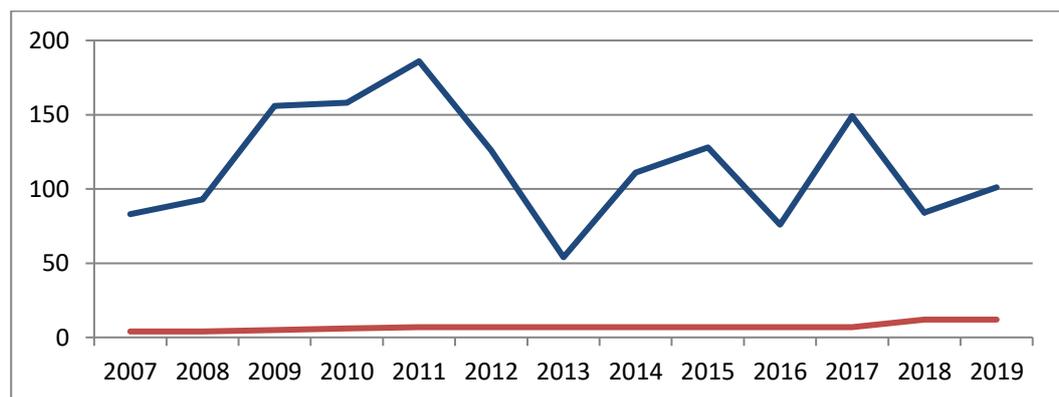
The official game bag statistics is based on hunter questionnaire with relatively small sample size. The official statistics in Lapland can be used as an index reflecting large-scale changes in the Raccoon Dog harvest development.

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

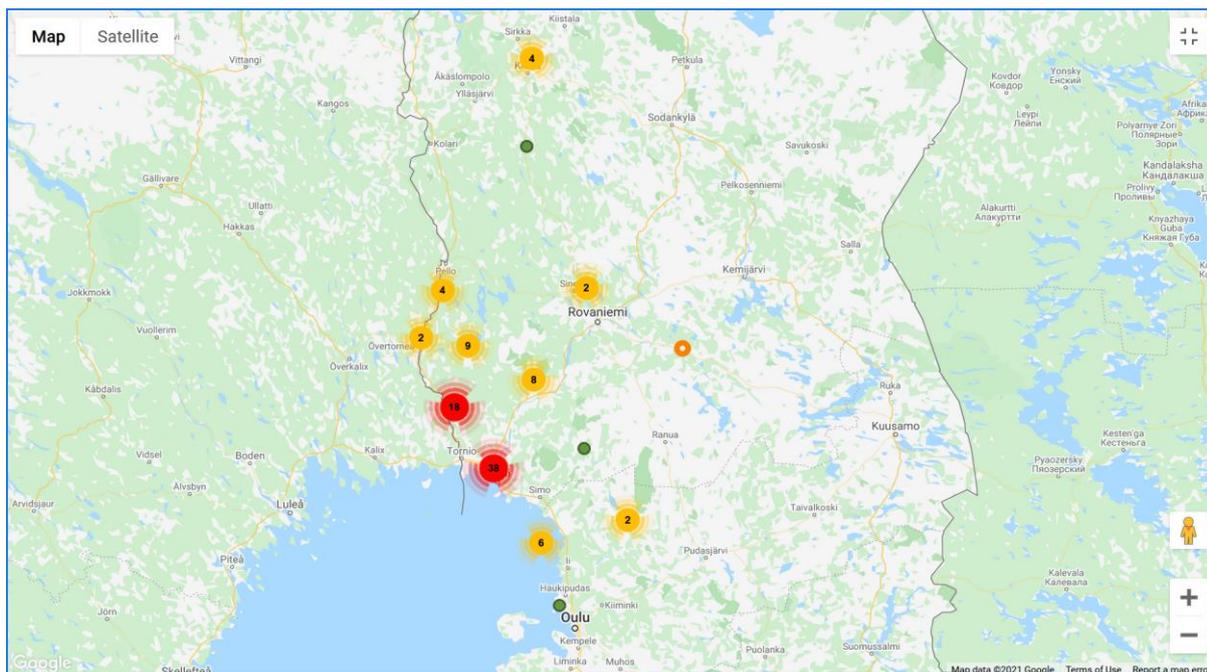
Game bag by Area and Year. Raccoon dog.



Raccoon Dog harvest in Lapland until 2019 based on official statistics. <http://stat.luke.fi/en/>. 2020 estimates will be available in summer of 2021. Data should be interpreted as an index of population development.



Local Game Management Association organize annual small predator hunting competitions. Raccoon Dogs reported to small predator hunting competitions of Game Management Associations in Lapland (blue line). 2007 four associations provided data and 2019 data is from 12 associations, number of associations in dataset in brown line. 2020 data is available in spring 2021. This is non-scientific casual data providing an additional insight to Raccoon Dog population and harvest development.



Network of Raccoon Dog traps within the project framework, either directly electronically supervised or managed by voluntary hunter in close coordination with the project. In addition there is hundreds of traps managed by local volunteer hunters throughout project area.



Juha Mäkimartti preparing to collar a new Judas animal. Trapping results in project area.

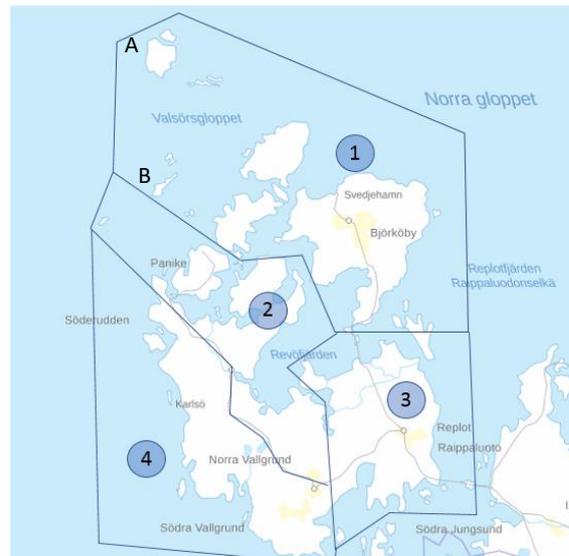
Valsörarna, Kvarken area.

The Kvarken area, Korsholm Archipelago and Valsörarna in particular, is a 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.

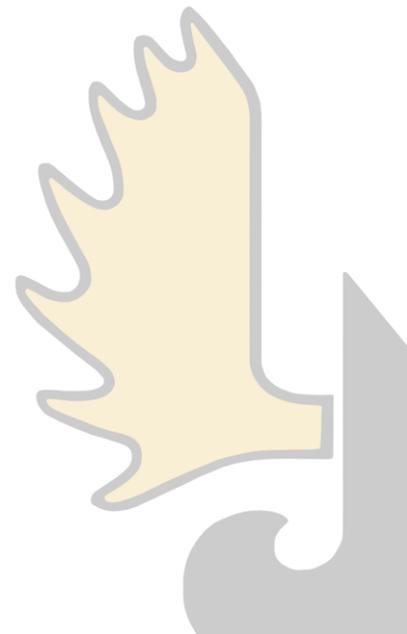
In addition to voluntary management a group of 4 local hunters with hunting dogs were contracted to carry out one-week professional level Raccoon Dog eradication in Valsörarna and adjacent islands. A Raccoon Dog couple was taken from outer edge of the Valsörarna (A) and 3 from Björkögrundet (B), on the map in December 2020.

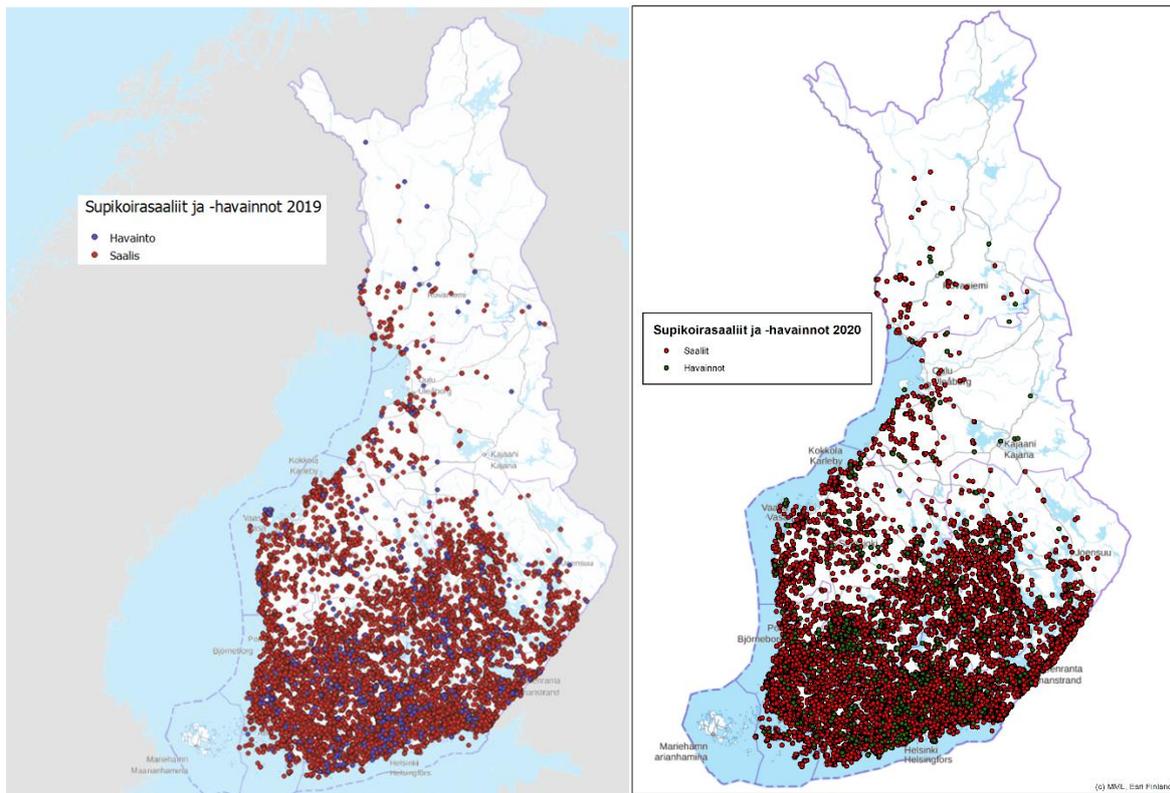
Total Raccoon Dog harvest in archipelago is provided in table below, divided to areas of four hunting associations. Total harvest decreased from 137 to 112. It is probable that increased management activities have started to impact the population size. It is expected that harvest numbers will continue to decrease in following years due to decline of the population. The harvest in Björköby might have been affected by presence of wolves in hunting area, which limited the used of hunting dogs. Majority of Björköby harvest is from the southern edge, indicating influx of Raccoon Dogs from Replot and mainland.

Village/hunting area	2018	2019	2020
1 Björköby	44	50	31
2 Norra Vallgrund	34	25	38
3 Replot	27	29	29
4 Södra Vallgrund	25	33	14
TOTAL	130	137	112



Valsörarna. Photo: S. Snygg.





Raccoon Dog harvests and observations voluntarily recorded in Oma riista -service during 2019 and 2020. *Havainto* – observation. *Saalis* – harvest. The overall distribution of Raccoon Dog harvest and observations has been relatively stable in recent years.

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, number of older still functioning cameras were used by voluntary hunters.

20 new game cameras were purchased.

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 archipelago locations.

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

Lapland

During 2020 there was 43 recorded Judas animal activities in Lapland. 14 adults and 10 pups were captured with this method, including a Swedish Judas Raccoon Dogs and one road-killed Judas. In addition, Judas's were encountered and collared during regular hunting and management when Judas methods was not actively used.

Kvarken/Valsörarna

One Judas animal was collared in 2020 but it disappeared soon after collaring. Judas-method is foreseen to be activated in upcoming years.

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 despite challenges of COVID 19 the reporting of RD observations and management actions have been good.

Lapland

Project recorded 104 working days or events of Raccoon Dog hunting actively involving 138 person-days by volunteer hunters in the project framework. 32 Raccoon Dogs were culled or collared in these activities.

7 new KaNu traps were set in field, 24 game cameras and 34 trap alarms were relocated to new users.

10 new trap alarms were purchased and materials for traps.

The planned project was activities in hunter education was reduced to 5 events due to COVID 19.

People of various background contact Juha Mäkimartti on Raccoon Dog related issues and advising and informing people is day-to-day work. In 2020 project recorded 140 events where hunters, farmers of general public were informed and advised on Raccoon Dogs involving 228 people.

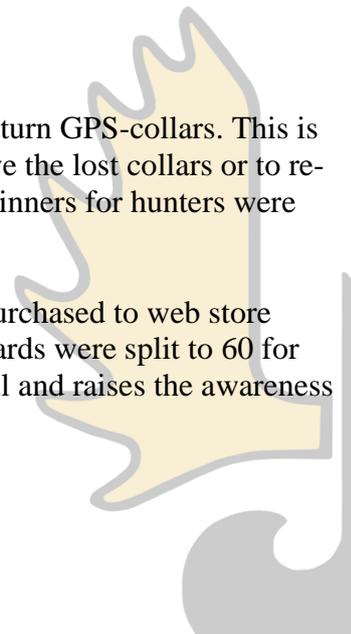
Kvarken/Valsörarna

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 Valgrund there is well-established and active Raccoon Dog hunting tradition in which majority of members are involved. Trap building materials, traps, bait enclosures and 4 new trap alarms were purchased to support local management.

Gift card –campaign

The idea of Gift-Card campaign was to motivate the hunters 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. The planned motivation dinners for hunters were cancelled and resources reallocated to gift cards.

It was estimated that 70 x 50 € card was needed for 2020. Gift cards were purchased to web store Retkitukku, which sells hunting and fishing equipment and gear. The gift cards were split to 60 for Lapland and 10 to Kvarken/Valsörarna. 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 several times. The project activities were not as actively raised in the channels of the Wildlife Agency as in the previous years due to other IAS management projects with active media work.

In Lapland an interview at RIISTA magazine was given and radio interview to Local radio.

The Kvarken Raccoon Dog SWAT-team in December reached national level TV-news
<https://yle.fi/uutiset/3-11669383>

Project printed out 4000 brochures and 2000 leaflets describing the legal methods of Raccoon Dog Management (attached).

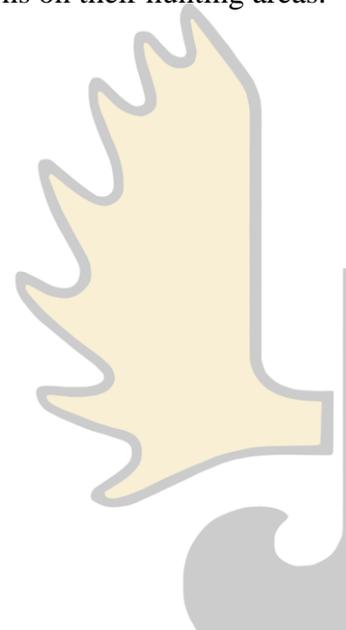
Efforts to renew the current legal context of the raccoon dog and its status as an invasive species, in alignment with the Finnish management plan of the raccoon dog, produced during the LIFE project.

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

- 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 2018-2020.
- Metsähallitus issued permit to use ATV and Snowmobile on state lands and outside of designated trails.
- Project was issued a special permit until March 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.
- All key hunting associations have permitted the project to take actions on their hunting areas.



11)

Costs of Actions and realized funding

The total costs of project Actions in 2020 was 183 227,86 €.

Table 5 Realized costs and funding

Raccoon dog management in Finland 2020				
Estimated costs of materials and equipment.				
ANNUAL COSTS				
Cost item	€ piece/set	Num- ber needed	Estimated	Realized
1. Mission, Juha Mäkimartti to carry out project activities	8 000	12	96 000,00 €	106 545,39 €
2. Travel costs, estimated total	30 000	1	30 000,00 €	18 891,84 €
3. Equipment, traps, trap materials, scout cameras and accessories, trap alarms	200	50	10 000,00 €	10 183,99 €
4. Motivating voluntary hunters. Thanks giving dinner etc.	1 500	1	1 500,00 €	0,00 €
5. Gift Cards for Judas-animals	50	50	2 500,00 €	3 150,00 €
6. Batteries, timber, screws etc small items. Estimated total	2000	1	2 000,00 €	1 749,90 €
7. Followit service	35 000	1	35 000,00 €	35 000,00 €
8. Operation costs of Valsörarna (travel costs of voluntary and project staff, game cameras, Judas-animal collaring, Traps and trap alarms	5 000	1	5 000,00 €	2 746,74 €
9. One (1) working week by 2 local contracted hunters for eradication of Raccoon Dog in Valsörarna and adjacent areas. Estimated cost	4 000	1	4 000,00 €	4 960,00 €
Total			186 000,00 €	183 227,86 €
ANNUAL Funding: Country: cost item				
Finland				
Finnish Wildlife Agency: 1-8			50 000,00 €	50 000,00 €
Metsähallitus: 2,3			20 000,00 €	20 000,00 €
Sweden: 1, 7, 8 *				
Norway: 1 / 2020			77 600,00 €	77 600,00 €
Savings from 2019				3 104,62 €
TOTAL				185 704,62 €
Balance - included to 2021 budget				2 476,76 €
Norway: 1 / jan-mar 2021* Included in 2020 project plan as secured funding of Mäkimartti 1.1-31.3.2021				19 400

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 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. The framework contract was tendered during 2020 and Tmi Juha Mäkimartti was selected to continue the forthcoming 4 years.
- 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 25th 2021.

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