



Forest Management plans related to Natura 2000 area in Rekijokilaakso

The Rekijoki valley covers the large area consisting of its eponymous river and the rivers and streams flowing from them in the Somero and Salo areas. The Rekijoki valley area also forms a uniform Natura 2000 area. It is one of Finland's most representative and extensive traditional landscape sites. The area also has significant value due to its old-growth forests. The flying squirrel thrives in the Rekijoki valley area. The trees along the rivers and streams provide good connections, and the area has plenty of food and shelter. The nature management plans of the area also take into account the needs of the flying squirrel alongside many other species. The presence of the flying squirrel is safeguarded by preventing and slowing down the loss and fragmentation of habitats.

The goal in the Rekijoki area

The goal was to strengthen the habitat network of the flying squirrel by offering forest management guidance that considers the flying squirrel to landowners in the Rekijoki Natura 2000 area. The forest management guidance was targeted at forest properties in Rekijoki area where flying squirrels had been observed during previous surveys and during the surveys conducted in the project in 2019-2020. Landowners in the area were also offered other opportunities to increase knowledge about the flying squirrel and forest management that considers the flying squirrel.

Description of the forest plan and guidance process

The forest advisory services were implemented in close cooperation with the ELY Centre of Southwest Finland and the Finnish Forest Centre. At the beginning of the project, an introductory event was organised for landowners and residents of the area in the spring of 2019. The event provided information about the flying squirrel as a species, the unique features of the Rekijoki area's nature, forest nature management, opportunities for voluntary conservation, and upcoming dog-assisted flying squirrel surveys.

In 2019-2020, flying squirrel surveys were conducted in the Rekijoki area using traditional survey methods and dog-assisted methods. Information was also collected on the dog-assisted method for its development. The different survey methods were compared, and the occurrence data of the flying squirrel in the area was updated.

Contacting landowners began early 2021. The first letter was targeted generally all the landowners in Rekijoki area, and the letter included information about the project, how to take into account flying squirrel in the forest planning and the opportunities for voluntary conservation. Second letter was targeted to smaller group of landowners with real estate specific information in the late 2021 and beginning 2022. Letter included an offer for a free forest plan consultation, information about the real estate's nature values and flying squirrel observations. Landowners were contacted by phone after the letter. Some landowners were guided during the phone calls and altogether 14 landowners agreed to have forest plans made. The field visits were scheduled for spring

2022. Some of the landowners wanted to join the field visit, some the landowners wanted to have face-to-face discussion before or after the field visit and some of the landowners did not participate in the field visit.

Both organisations were represented during the field visits. After the field visits, the forest plan and guidance materials were compiled and written together with the Forest Centre and the ELY Centre. The materials included maps of the area and a Natura site information form. The guidance services took into account the restrictions of the Natura area, the conditions to protect the breeding and resting sites of the flying squirrel, travel routes, and feeding areas. The plan also included guidance on forest nature management suitable for commercial forestry. Landowners were also advised on various opportunities for voluntary conservation, both temporary and permanent. The plans were delivered to landowners between October and December 2022.

In October 2022, a Forest Walk information excursion event was held for the area's landowners. With the landowner's consent, one of the planned sites was selected as the excursion site. Information and discussions covered the consideration of the flying squirrel, nature values, Natura 2000, nature management, and commercial forest management.

Observations from guidance and planning process

Direct contact with landowners is an effective way to get them involved. Discussing and meeting face-to-face with landowners is a good way to address their concerns, clarify various restrictions and opportunities in forest use, increase knowledge about the species and habitat types, and generally enhance awareness of nature values.

Such direct contact, including mailing letters, emails, phone calls, field visits, and cooperation between two organisations, requires time and resources. This type of contact cannot currently be implemented with basic funding. Separate funding e.g. EU LIFE funding, enables direct contact and field visits together with the landowner. When implemented with separate funding, efficiency in contacting is also achieved, as the operational area is typically clearly defined, and projects have their deadlines. These contacts and discussions also provide learning opportunities for future planning and advisory work. Cooperation and joint visits by government agencies also help familiarise landowners with the work of the administration, build trust in the actions of administrative organisations, clarify the roles of different organisations to landowners, and provide an opportunity to discuss land use and conservation issues more broadly.

Cooperation between two government agencies and joint visits are particularly effective for flying squirrel sites. The representative of the Forest Centre can advise on forest nature management, forest law, and related matters. The representative of the ELY Centre's nature conservation unit can address issues related to Natura, species protection, and nature conservation law. Both organisations can offer various nature management subsidies and opportunities for voluntary conservation. Cooperation also helped in selecting contact sites, as sites were reviewed more broadly. Some landowners expressed that they found this type of guidance important and that it should be available. Face-to-face discussions on the landowner's real estate were also seen as a good way to explain various processes and laws that may affect land use, and the backgrounds and justifications related to them.

Organisational cooperation was also educational for employees. Cooperation continued naturally in other project activities, such as training organised by the Forest Centre, where the ELY Centre representative participated in several training sessions held in the Southwest Finland area.

Guidance in Rekijoki area

The planning and guidance service offered to landowners was carried out during 2021–2022 in cooperation with the Centre for Economic Development, Transport and the Environment of Southwest Finland (ELY Centre) and the Finnish Forest Centre.

The planning and guidance service included a field visit to the forest real estate and a real estate specific forest management plan that takes the flying squirrel into account, delivered to the landowner.

The process is quite labour-intensive and time-consuming when landowners are contacted directly by email and phone. Contact information is not always available, which is generally a challenge in contacting landowners. Land ownership is also very diverse. The real estate owner may be a multi-member estate, the landowner may live far away in another municipality or abroad, making planning services seem untimely, or the landowner's life situation may require attention to other matters, making the timing unfavourable. The process is quite labour-intensive, and essential sites may still be completely unreachable. On the other hand, a landowner's personal positive experience can lower the threshold for other landowners to get involved in future contacts. The lessons learned from this process will be shared whenever possible in future projects and by developing landowner processes in government organisations.



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Flying Squirrel LIFE (LIFE17 NAT/FI/000469)

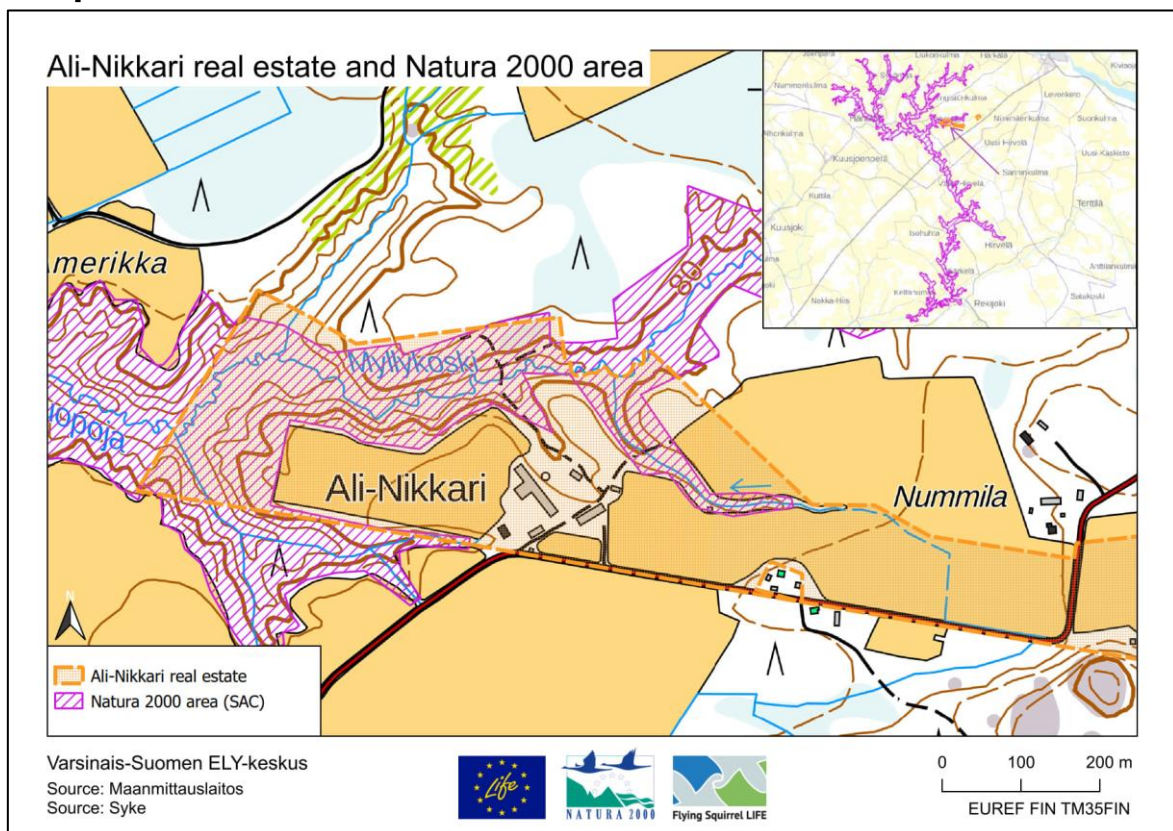
Example Project site: Ali-Nikkari

Summary of the following actions:

A.6 Forest management plan and guidance to maintain flying squirrel habitat network within private forest.

Project site:	Ali-Nikkari
Municipality:	Somero
Natura 2000 area:	Rekijokilaakso
Country:	Finland
Size of the project area (ha):	9,6
Responsible organisations:	Suomen metsäkeskus (SMK) and Varsinais-Suomen ELY-keskus (VARELY)

Site map



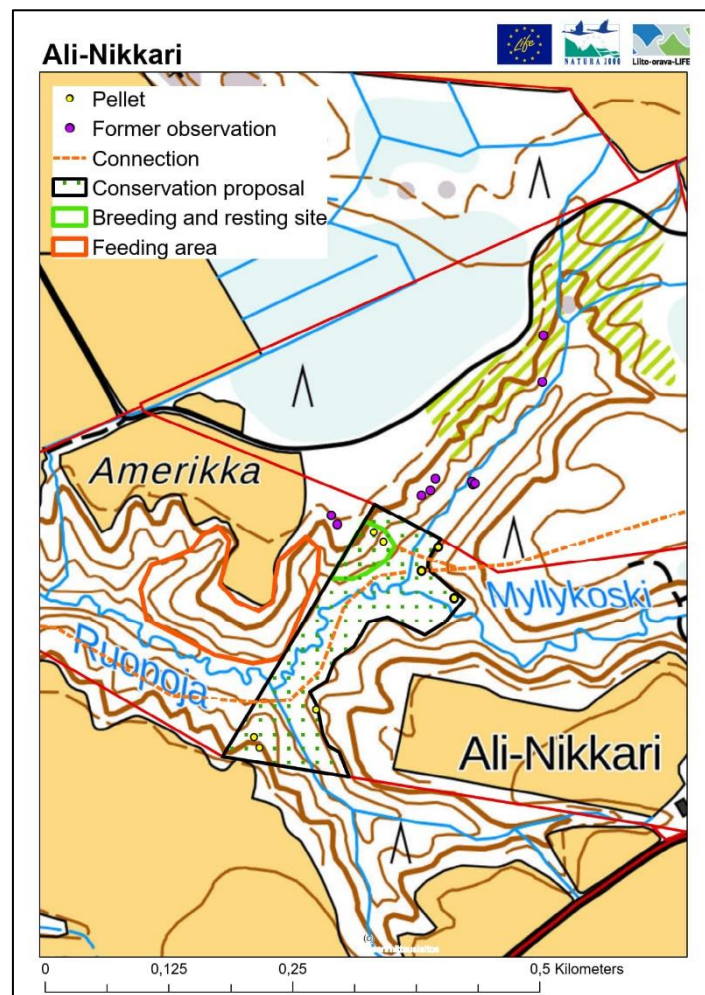
General description of the area

The project site is located in the region of southwest Finland in Somero municipality. The site is mainly in Natura 2000 area and there have been several flying squirrel observations in 2012-2013 and 2019-2020. The 2019-2020 inventories were completed as a part of the project (action A.2). There were no observations of flying squirrel in spring 2022. The forest has patterns that are in



different development stages. Two of them are seedling stands, one middle-aged forest stands and one layered old-growth forest. All patterns are mainly mixed forest, and the real estate has several small streams in it. Old forests are Norway spruce (*Picea abies*) dominated with aspen (*Populus tremula*), birch (*Betula pendula*, *Betula pubescens*), and alder (*Alnus glutinosa*). There is one pattern that is the habitat of special importance (Forest Act) pattern, flood meadow brook. Two streams are connected to the Forest Act pattern.

The forest is suitable for flying squirrel, and it has old cavity aspens and sturdy spruces. Former observations are the potential breeding and resting site, and those are mainly in Natura 2000 area. In the western parts the real estate has deciduous tree dominated area which is suitable as a feeding area. The potential feeding area is in the west side of the real estate in the neighbouring real estate, and it has a good connection to the site. There are four neighbour sites next to the real estate. Three of them are in the north and one is further south. Moving connection to the southern neighbour area is weakened.



Action A.6

The aim of the forest management plans, and guidance is to both maintain and improve the habitat network of the flying squirrel in the Rekijoki area. The landowner wants to regenerate the two areas in the forest. The other area is in the Natura 2000 area and the other one is partly



outside the Natura 2000 area. Both areas have restrictions, and renewing the whole areas is not possible. The management has to take account the flying squirrel and the Natura habitat type values. It is mandatory to do either notification of forest use to SMK or notification of Natura 2000 area use to VARELY, depending which area is planned to manage. Some areas outside the proposed conservation area can be managed by saving birches, aspens, and other deciduous trees. It is recommended to prefer the deciduous trees in the forest management actions. One option is to protect the forest partly or totally under the Forest Biodiversity Programme METSO.

After the project

Monitoring is the responsibility of the landowner. SMK and VARELY have made the forest plan and guided the landowner, but neither SMK nor VARELY will monitor the site. These plans will be taken into account if the landowner decides to manage the forest and make the notification of forest use and/or notification of Natura 2000 area use.

The landowner offered the Natura 2000 area for conservation in summer 2023. Negotiations of the conservation area was held during the autumn 2023 and ended in establishing a private conservation area, total 7,40 ha in autumn 2023. The conservation area includes the flying squirrel breeding and resting site, Natura 2000 area and the habitats of special importance (Forest Act).

Outcomes of the actions

Management and/or establishing new conservation areas aims to maintain ecologically functional areas for the flying squirrels as long-term conservation effects in the Rekijokilaakso Natura 2000 area. Ecological functions are categorised to breeding and resting sites, feeding areas, moving connections and in some real estates protected areas.

Project site, real estate name	Total project site area (ha)	Natura 2000 area (ha)	Breeding and resting sites (nr)	Feeding areas (nr)	Moving connections to neighbours' sites and/or feeding areas (nr)	Neighbour sites (nr)	Protected area (ha) if protected after the plan and before December 2023
Ali-Nikkari	9,6	8,3	1	0	2	4	7,40
TOTAL	9,6	8,3	1	0	2	4	7,40

* **Breeding and resting sites** = management and/or establishing new conservation areas saves breeding sites and resting places. This is based on Nature Conservation Act.

** **Feeding areas** = management and/or establishing new conservation areas saves feeding areas. Feeding areas contain deciduous trees, and some selective cuttings can be done in these areas without changing the ecological function. Saving these areas for long term are based on present conservation legislation or on landowner's own decision.

*** **Moving connections to neighbours' sites and/or feeding areas** = management and/or establishing new conservation areas saves forest cover so that flying squirrel can use area for moving.

**** **Protected area** = guidance and management plan can lead to volunteer protection, either private conservation site as land lease compensation or land purchase. Protected area includes breeding and resting sites, moving connections and/or feeding areas.

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Flying Squirrel LIFE (LIFE17 NAT/FI/000469)

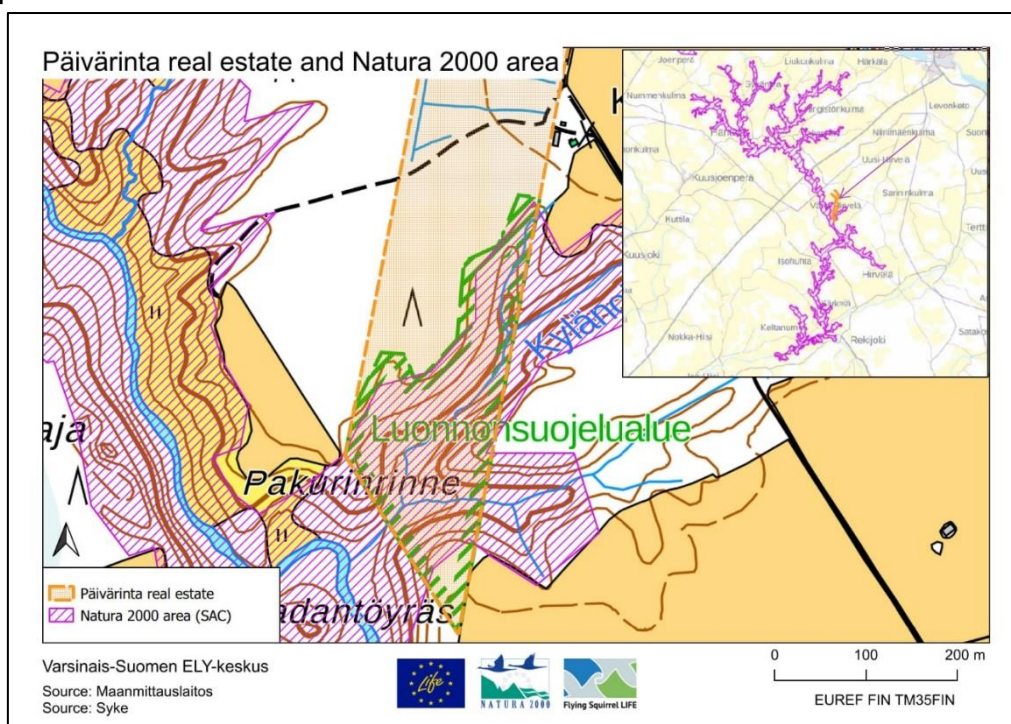
Example Project site: Päivärinta

Summary of the following actions:

A.6 Forest management plan and guidance to maintain flying squirrel habitat network within private forest.

Project site:	Päivärinta
Municipality:	Salo
Natura 2000 area:	Rekijokilaakso
Country:	Finland
Size of the project area (ha):	18,3
Responsible organisation(s):	Suomen metsäkeskus (SMK) and Varsinais-Suomen ELY-keskus (VARELY)

Site map



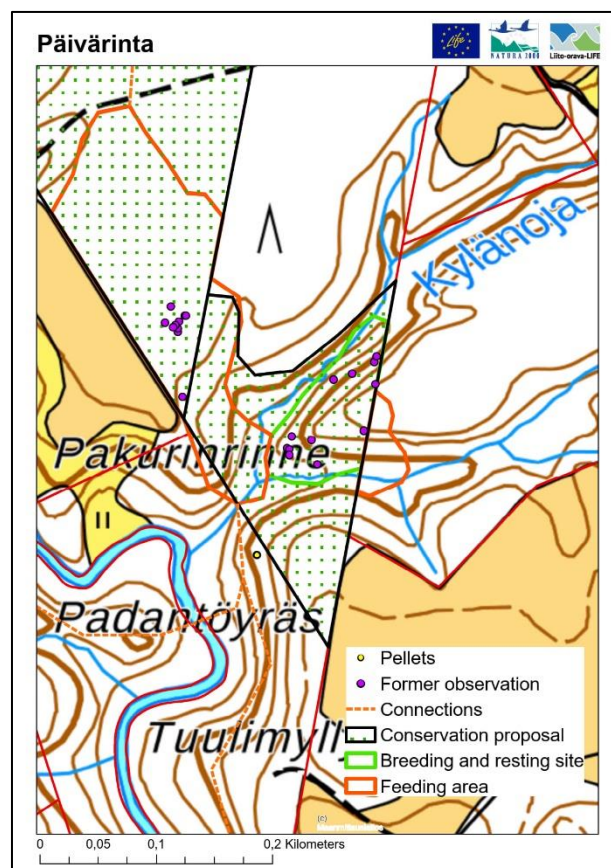
General description of the area

The project site is located in the region of southwest Finland in Salo municipality. The southern part of the real estate is in Natura 2000 area. There have been several flying squirrel observations in 2012-2013 and 2020. The 2020 inventory was completed as a part of the project (action A.2). There were observations of flying squirrel also in spring 2022 and one active breeding and resting site. There is also one feeding area in the southwest part of the real estate. The real estate is mainly

young and middle-aged forest, and it is Norway spruce (*Picea abies*) dominated with mixed deciduous trees. There have been cuttings previously and there have been saved some old aspens (*Populus tremula*). These aspens have cavities and are used by flying squirrel. There is one habitat of special importance (Forest Act); the brook in the northern part of the real estate.

There are three flying squirrel neighbour sites. One is next to the border in the west and middle of the feeding area. Moving connections are relatively in good condition, but the connection on the southern part can be easily weakened due the strong wind exposure since there are open treeless parts next to the brook.

The Natura 2000 area is Fennoscandian herb-rich forests with *Picea abies* and it was also inventoried (national Natura IX inventories) in the summer 2022 and it is evaluated as in a good condition.



Action A.6

The aim of the forest management plans, and guidance is to both maintain and improve the habitat network of the flying squirrel in the Rekijoki area. There are several restrictions on commercial forest management: Natura 2000 area, flying squirrel breeding and resting site, feeding site and habitats of special importance (Forest Act). Most of the restriction are in the Natura 2000 area. The landowner does not have any specific management plans in the coming years. The management has to take account the flying squirrel and the Natura habitat type values. It is



mandatory to do either notification of forest use to SMK or notification of Natura 2000 area use to VARELY, depending which area is planned to manage. Outside the Natura 2000 area it is recommended to support the mixed forest structure and save and prefer the deciduous trees in the forest management actions. The Natura 2000 area meets all the criteria of the Forest Biodiversity Programme METSO, and it is recommended to protect the Natura 2000 area.

Monitoring after the project

Monitoring is the responsibility of the landowner. SMK and VARELY have made the forest plan and guided the landowner, but neither SMK nor VARELY will monitor the site. These plans will be taken into account if the landowner decides to manage the forest and make the notification of forest use and/or notification of Natura 2000 area use.

The landowner offered part of the forest real estate to conservation in the spring of 2023. The southern part was established as a private and permanent conservation area in autumn 2023. The area (4,17 ha) includes the flying squirrel breeding and resting site, feeding area, Natura 2000 area and habitats of special importance (Forest Act).

Outcomes of the actions

Management and/or establishing new conservation areas aims to maintain ecologically functional areas for the flying squirrels as long-term conservation effects in the Rekijokilaakso Natura 2000 area. Ecological functions may be categorised to breeding and resting sites, feeding areas, moving connections and in some real estates protected areas.

Project site, real estate name	Total project site area (ha)	Natura 2000 area (ha)	Breeding and resting sites (nr)	Feeding areas (nr)	Moving connections to neighbours' sites and/or feeding areas (nr)	Protected area (ha) if protected after the plan and before December 2023
Päivärinta	18,3	4,17	1	1	2	4,17
TOTAL	18,3	4,17	1	1	2	4,17

* **Breeding and resting sites** = management and/or establishing new conservation areas saves breeding sites and resting places. This is based on Nature Conservation Act.

** **Feeding areas** = management and/or establishing new conservation areas saves feeding areas. Feeding areas contain deciduous trees, and some selective cuttings can be done in these areas without changing the ecological function. Saving these areas for long term are based on present conservation legislation or on organisation's own decision.

*** **Moving connections to neighbours' sites and/or feeding areas** = management and/or establishing new conservation areas saves forest cover so that flying squirrel can use area for moving.

**** **Protected area** = guidance and management plan can lead to volunteer protection, either private conservation site as land lease compensation or land purchase. Protected area includes breeding and resting sites, moving connections and/or feeding areas.



Flying Squirrel LIFE (LIFE17 NAT/FI/000469)

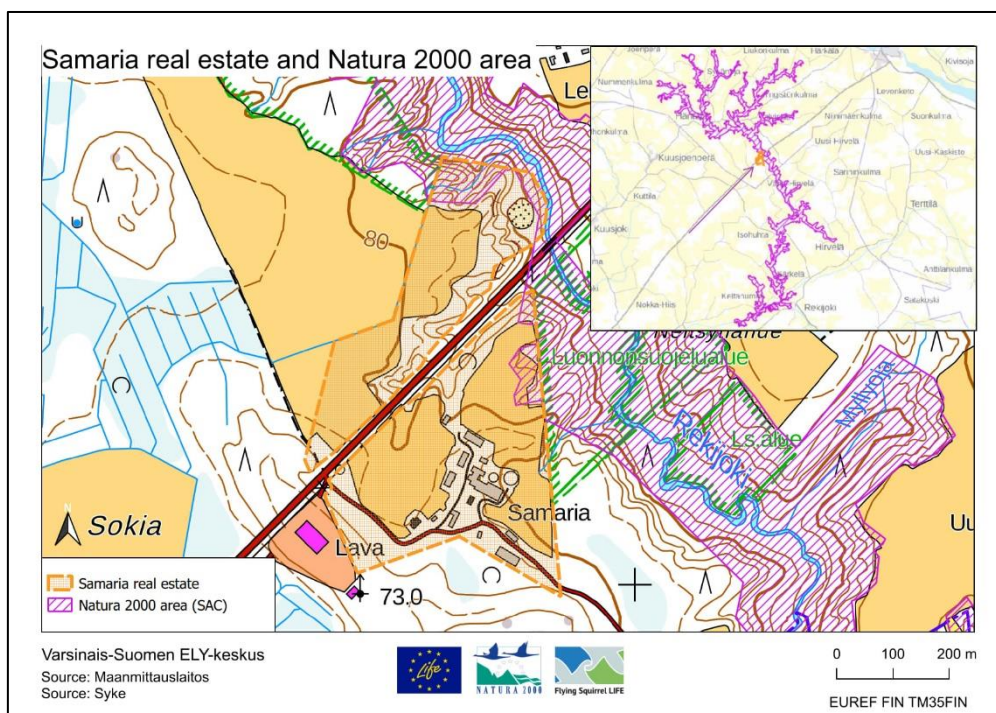
Example Project site: Samaria

Summary of the following actions:

A.6 Forest management plan and guidance to maintain flying squirrel habitat network within private forest.

Project site:	Samaria
Municipality:	Somero
Natura 2000 area:	Rekijokilaakso
Country:	Finland
Size of the project area (ha):	4,9
Responsible organisation(s):	Suomen metsäkeskus (SMK) and Varsinais-Suomen ELY-keskus (VARELY)

Site map



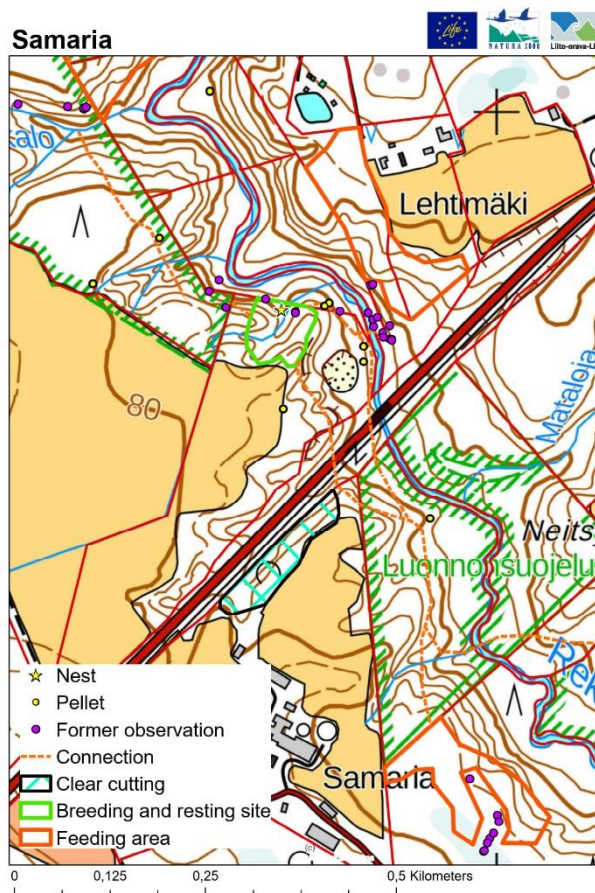
General description of the area

The project site is located in the region of southwest Finland in Somero municipality. There are some parts that are in Natura 2000 area. There have been several flying squirrel inventories in 2012-2013 and 2020. The 2020 inventories were completed as a part of the project (action A.2). There have been observations in 2012 and 2013, but not in 2020. There were observations of flying squirrel again in spring 2022. There is one breeding and resting site in northern part of the real estate. There are also important moving connections that allows the flying squirrel to cross the road. The mixed forest provides feeding tree species for the flying squirrel and there is one bigger



feeding area on the other side of the brook in the neighbouring forest site. There are several flying squirrel observations in the neighbouring real estates, especially in the conservation sites.

The site is mature mixed forest dominated by Norway spruces (*Picea abies*). Site is bordered by fields, motorway, nature conservation areas and other forest estates. Terrain is hilly and the site includes three streams: one brook and two rills. Streams are located in the herb-rich forest valleys. The Natura 2000 area is Fennoscandian herb-rich forests with *Picea abies* and it was also inventoried (national Natura IX inventories) in the summer 2022 and it is evaluated as in a good condition.



Action A.6

The aim of the forest management plans, and guidance is to both maintain and improve the habitat network flying squirrel in the Rekijoki area.

The landowner has been cutting tree for household use, for woodchip. The landowner is planning to regenerate one area next to the road (southern site of the real estate) which is now Norway spruce dominated pattern with some mature aspens (*Populus tremula*) and the northern part is in Natura 2000 area.

There are several restrictions on commercial forest management: Natura 2000 area, flying squirrel breeding and resting site and habitats of special importance (Forest Act). The breeding and resting site is in Natura 2000 area and one of the habitat special importance is next to the site. In this area



it is not possible to do any management. The moving connections have to be maintained in the other parts of the forest real estate and only cautious selective cutting is possible to do next to the rills.

It is possible to regenerate one area, but it has to be left a buffer zone to the Natura 2000 area, and it is advised to leave retention trees there. Instead of regenerating the area with Norway spruce it is advised to regenerate it with birch (*Betula pendula*). This can also improve the feeding situation for the flying squirrel in the future.

If it is wanted to cut trees in the habitats of special importance (the rills), it is required to do the notification of forest use, even if the cuttings are only for household use. It is possible to apply the environmental forestry subsidy for the habitats of special importance for ten years.

The areas in the Natura 2000 area and its vicinity meets the criteria of the Forest Biodiversity Programme METSO.

After the project

Monitoring is the responsibility of the landowner. SMK and VARELY have made the forest plan and guided the landowner, but neither SMK nor VARELY will monitor the site. These plans will be taken into account if the landowner decides to manage the forest and make the notification of forest use and/or notification of Natura 2000 area use.

Outcomes of the actions

Management and/or establishing new conservation areas aims to maintain ecologically functional areas for the flying squirrels as long-term conservation effects in the Rekijokilaakso Natura 2000 area. Ecological functions are categorised to breeding and resting sites, feeding areas, moving connections and in some real estates protected areas.

Project site, real estate name	Total project site area (ha)	Natura 2000 area (ha)	Breeding and resting sites (nr)	Feeding areas (nr)	Moving connections to neighbours' sites and/or feeding areas (nr)	Protected area (ha) if protected after the plan and before December 2023
Samaria	4,9	1,16	1	0	3	0
TOTAL	4,9	1,16	1	0	3	0

* **Breeding and resting sites** = management and/or establishing new conservation areas saves breeding sites and resting places. This is based on Nature Conservation Act.

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*** **Moving connections to neighbours' sites and/or feeding areas** = management and/or establishing new conservation areas saves forest cover so that flying squirrel can use area for moving.

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