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Management Effectiveness Evaluation of Finland's Protected Areas 2023

Sue Stolton, Petri Ahlroth, Ari-Pekka Auvinen, Naira Dehmel, Nigel Dudley, Michael Hošek, Kari Lahti, Ben Ross and Yu-Fai Leung

Cover: Migrating cranes (*Grus grus*) above the vast open mire of Torronsuo National Park. Photo: Vesa Nikkanen.

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Management Effectiveness Evaluation of Finland's Protected Areas 2023

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Title Management Effectiveness Evaluation of Finland's Protected Areas 2023

Abstract

A comprehensive international assessment of the management effectiveness of Finland's protected areas was commissioned by Metsähallitus Parks & Wildlife Finland (PWF) and carried out by an independent expert group in 2023. The assessment was based on the framework developed by the IUCN World Commission for Protected Areas (WCPA). The assessment themes were operating context and the state of protected areas, planning, inputs/resources, process, outputs, and outcomes. The current management of the network was evaluated and compared with the results of the previous evaluation carried out in 2004.

PWF produced extensive thematic background material and answers to a series of network-level questions based on the framework, which formed the core of the actual evaluation and report. In addition, an assessment based on the Management Effectiveness Tracking Tool (METT) was carried out in five protected areas; Summaries of these are annexed to the report. The evaluation also included a field trip, with visits to the assessed sites and meetings with representatives of Metsähallitus, organisations and stakeholders.

Management of Finland's protected areas was assessed as good by international standards. Despite the general decline in biodiversity, PWF was considered to have achieved its objectives in protecting the conservation values for which it is responsible in protected areas. However, the evaluation team made a number of recommendations to improve effectiveness: These are summarised by theme and spelled out question by question.

Vision and alignment: Strengthen the vision on biodiversity and emphasis in communications concerning protected areas. Develop strategies to address wicked problems such as the impacts of climate change, reindeer grazing and invasive alien species. Further develop prioritised habitat and species conservation programmes and indicators to monitor state of protected areas and nature values. Consider wider variety of protected area types to achieve international conservation objectives, with an emphasis on improving the network in southern Finland. Continue the adaptive development of PWF operations, taking care to involve staff. Explore opportunities to broaden the funding base and increase volunteering.

International links: Strengthen the link between PWF activities and global/regional goals and reporting on the role of protected areas against these goals. Participate actively in the development of reporting methods, e.g. concerning protected area management effectiveness.

Collaboration and integration: Develop links with research institutions and systematically ensure the use of new research results to improve the management of protected areas. Strengthen focus on nature and ecosystems in environmental education. Develop cooperation and participation with communities operating in the vicinity of protected areas.

Management: Ensure strategic operational steering and staff support in a changing operating environment. Streamline protected area planning processes, aiming for an adaptive approach. Develop strategies for integrating climate issues into management planning at site and network level. In planning and communication, place more emphasis on the ecosystem services and societal benefits provided by protected areas. Develop tourism cooperation and sustainability management.

Data and management links: Continue to develop internal data systems and knowledge-based management, as well as interactive external web-based systems, involving staff and customers. Develop a holistic approach to reporting on the state of protected areas. Integrate the monitoring of biodiversity in protected areas more closely into the broader long-term monitoring framework in Finland.

Public and key stakeholder engagement: Develop procedures to strengthen the consultation, participation and custodianship of local communities in protected areas. Monitor the expectations of visitors to protected areas, in order to maintain satisfaction and anticipate changing pressures. Translate management principles into visitor and resource management actions on the ground and communicate them effectively.

Keywords	protected areas, management, evaluation, effectiveness, biodiversity, development of operations		
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Julkaisun nimi Suomen suojelualueiden hoidon tehokkuuden arviointi 2023

Tiivistelmä

Kansainvälinen arviointi Suomen suojelualueiden hoidon tehokkuudesta ja vaikuttavuudesta toteutettiin Metsähallituksen Luontopalvelujen tilauksesta ja riippumattoman asiantuntijaryhmän toimesta vuonna 2023. Arviointi perustui Maailman luonnonsuojeluliiton suojelualuekomission (IUCN WCPA) kehittämään viitekehykseen. Arvioinnin kohteina olivat toimintaympäristö ja suojelualueiden tila, suunnittelu, voimavarat, toimintatavat, tulokset ja vaikuttavuus. Verkoston nykyistä hoitoa arvioitiin ja verrattiin vuonna 2004 tehdyn edellisen arvioinnin tuloksiin.

Luontopalvelut tuotti laajan teemakohtaisen tausta-aineiston ja vastaukset viitekehykseen perustuvaan kysymyssarjaan. Nämä muodostivat varsinaisen arvioinnin ja raportin ytimen. Lisäksi toteutettiin viidellä suojelualueella Management Effectiveness Tracking Tool (METT) -menetelmään perustuva tila-arviointi; näiden yhteenvedot esitetään liitteenä. Arviointiin kuului myös kenttäosuus, johon sisältyi vierailuja mm. arvioiduilla suojelualueilla sekä tapaamisia Metsähallituksen, sidosryhmien ja järjestöjen edustajien kanssa.

Suojelualueiden hoidon taso arvioitiin kansainvälisesti verraten hyväksi. Luonnon monimuotoisuuden yleisestä heikkenemisestä huolimatta Luontopalvelujen katsottiin päässeen suojelualueilla tavoitteisiinsa vastuullaan olevien suojeluarvojen suojelussa. Arviointiryhmä esitti kuitenkin tehokkuuden parantamiseksi joukon suosituksia, jotka on tiivistetty yhteenvedoksi teemoittain ja täsmennetty kysymyskohtaisesti.

Visio ja toiminnan linjaukset: Vahvistetaan luonnonsuojelullista näkemystä ja luonnon monimuotoisuuden painotusta suojelualueita koskevassa viestinnässä. Laaditaan strategioita vastata hankaliin ongelmiin, kuten ilmastonmuutoksen ja porojen ylilaidunnuksen sekä vieraslajien vaikutuksiin. Kehitetään edelleen priorisoituja luontotyyppien ja lajien suojeluohjelmia ja indikaattoreita suojelualueiden ja luonnon tilan seuraamiseksi. Laajennetaan kansallisella tasolla suojelun keinoja kansainvälisiin aluesuojelun tavoitteisiin pääsemiseksi, painottaen verkoston parantamista eteläisillä alueilla. Jatketaan Luontopalvelujen toimintojen sopeuttavaa kehittämistä, henkilöstöä entistä paremmin osallistaen. Tutkitaan mahdollisuuksia rahoituspohjan laajentamiseksi ja vapaaehtoistyön lisäämiseksi.

Kansainvälinen toiminta ja yhteistyö: Vahvistetaan Luontopalvelujen toiminnan yhteyttä maailmanlaajuisiin ja EU:n tavoitteisiin sekä suojelualueiden roolin raportointia näitä tavoitteita vasten. Osallistutaan aktiivisesti raportointimenetelmien kehittämiseen, esimerkiksi suojelualueiden hoidon tuloksellisuutta koskien.

Tutkimusyhteistyö ja integraatio: Kehitetään yhteyksiä tutkimuslaitoksiin ja varmistetaan järjestelmällisesti uusien tutkimustulosten hyödyntäminen suojelualueiden hoidon parantamiseksi. Vahvistetaan luontoon ja ekosysteemeihin keskittyvää ympäristökasvatusta. Kehitetään yhteistyötä ja osallistamista suojelualueiden läheisyydessä toimivien yhteisöjen kanssa.

Johtaminen ja alueiden hoito: Varmistetaan strateginen toiminnan ohjaus ja henkilöstön tuki muuttuvassa toimintaympäristössä. Tehostetaan suojelualueiden suunnittelun prosesseja, tavoitteena mukautuva toimintatapa. Kehitetään strategioita ilmastokysymysten sisällyttämiseksi suunnitteluun alue- ja verkostotasolla. Painotetaan suunnittelussa ja viestinnässä laajemmin suojelualueiden tarjoamia ekosysteemipalveluita ja yhteiskunnallisia hyötyjä. Kehitetään matkailun yhteistyötä ja virkistyskäytön kestävyyden hallintaa.

Tiedon ja johtamisen linkit: Kehitetään edelleen sisäistä tiedonhallintaa ja tiedolla johtamista sekä interaktiivisia ulkoisia verkkopohjaisia järjestelmiä, henkilöstöä ja asiakaskuntaa osallistaen. Kehitetään kokonaisvaltainen lähestymistapa suojelualueiden tilaa koskevaan raportointiin. Integroidaan suojelualueiden luonnon monimuotoisuuden seuranta tiiviimmin laajempaan pitkän aikavälin seurannan kehykseen Suomessa.

Sidosryhmätyö ja osallistaminen: Kehitetään menettelyjä, joiden avulla paikallisten yhteisöjen kuulemista, osallistumista ja omistajuutta suojelualueita koskevissa asioissa voidaan vahvistaa. Tehostetaan suojelualueiden kävijöiden odotuksiin liittyvää seurantaa tyytyväisyyden ylläpitämiseksi ja paineiden ennakoimiseksi.

Avainsanat	suojelualueet, hoito, arviointi, vaikuttavuus, luonnon monimuotoisuus, toiminnan kehittäminen		
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Publikation: Utvärdering av effektiviteten i skötseln av Finlands skyddsområden 2023

Sammandrag

En internationell utvärdering av effektiviteten och inverkan på skötseln av Finlands skyddsområden genomfördes på beställning av Forststyrelsens Naturtjänster och av en oberoende expertgrupp 2023. Utvärderingen baserade sig på en referensram som utarbetats av Internationella naturvårdsunionens kommission för naturskyddsområden (IUCN WCPA). Utvärderingen gällde verksamhetsmiljön och skyddsområdenas tillstånd, planering, resurser, verksamhetssätt, resultat och inverkan. Nätverkets nuvarande skötsel utvärderades och jämfördes med resultaten från den föregående utvärderingen från 2004.

Naturtjänsterna producerade ett omfattande temaspecifikt bakgrundsmaterial och svar på en frågeserie som grundade sig på referensramen. Dessa utgjorde kärnan i den egentliga utvärderingen och rapporten. Dessutom genomfördes en statusbedömning baserad på Management Effectiveness Tracking Tool (METT)-metoden i fem skyddsområden; sammandragen av dessa presenteras som bilaga. I utvärderingen ingick också ett fältavsnitt som innehöll besök i bl.a. uppskattade skyddsområden samt möten med representanter för Forststyrelsen, intressentgrupper och organisationer.

Nivån på skötseln av skyddsområdena bedömdes vara relativt god internationellt sett. Trots den allmänna försämringen av den biologiska mångfalden ansågs Naturtjänsterna ha uppnått sina mål för skyddet av de skyddsvärden som de ansvarar för i skyddsområdena. För att förbättra effektiviteten presenterade utvärderingsgruppen dock ett antal rekommendationer som sammanfattats enligt tema och preciserats enligt fråga.

Vision och riktlinjer för verksamheten: Stärka den naturvårdsmässiga synen och betoningen av den biologiska mångfalden i kommunikationen om skyddsområdena. Utarbeta strategier för att svara på svåra problem, såsom effekterna av klimatförändringen och överbetning av renar samt främmande arter. Vidareutveckla prioriterade skyddsprogram och indikatorer för naturtyper och arter för att följa upp skyddsområdenas och naturens tillstånd. Utvidga skyddsmetoderna på nationell nivå för att uppnå de internationella målen för områdesskydd med betoning på att förbättra nätverket i de sydliga områdena. Fortsätta att utveckla Naturtjänsternas funktioner så att de anpassas till och engagerar personalen bättre än tidigare. Undersöka möjligheterna att utvidga finansieringsbasen och öka frivilligarbetet.

Internationell verksamhet och samarbete: Stärka kopplingen mellan Naturtjänsternas verksamhet och de globala målen och EU:s mål samt skyddsområdenas roll i rapporteringen i förhållande till dessa mål. Aktivt delta i utvecklingen av rapporteringsmodeller, till exempel i fråga om resultaten av skötseln av skyddsområdena.

Forskningssamarbete och integration: Utveckla kontakterna till forskningsinstituten och systematiskt säkerställa att nya forskningsresultat utnyttjas för att förbättra skötseln av skyddsområdena. Förstärka miljöfostran med fokus på natur och ekosystem. Utveckla samarbetet och delaktigheten med sammanslutningar som verkar i närheten av skyddsområdena.

Ledning och områdesförvaltning: Säkerställa den strategiska styrningen av verksamheten och personalen i en föränderlig verksamhetsmiljö. Effektivera processerna för planering av skyddsområden, med ett anpassat verksamhetssätt som mål. Utveckla strategier för att inkludera klimatfrågor i planeringen på region- och nätverksnivå. I större utsträckning betona de ekosystemtjänster och samhälleliga fördelar som skyddsområdena erbjuder i planeringen och kommunikationen. Utveckla samarbetet inom turismen och hanteringen av hållbarheten i rekreationsanvändningen.

Information och ledning: Ytterligare utveckla den interna informationshanteringen och informationsledningen samt de interaktiva externa webbaserade systemen, personalen och kundkretsen. Utveckla rapporteringen om skyddsområdenas tillstånd med ett övergripande tillvägagångssätt. Närmare integrera uppföljningen av den biologiska mångfalden i skyddsområdena i den mer omfattande långsiktiga uppföljningsramen i Finland.

Intressentgruppsarbete och delaktighet: Utveckla förfaranden för att stärka samarbetet med, deltagandet i och ägnande av lokala samhällen i frågor som gäller skyddsområden. Effektivera uppföljningen i anslutning till besökarnas förväntningar i skyddsområdena för att upprätthålla tillfredsställelsen och förutse belastningen.

Nyckelord	skyddsområden, skötsel, utvärdering, inverkan, biologisk mångfald, utveckling av verksamheten		
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Almmustuhttima namma Suoma suodjalanguovlluid dikšuma beaktilvuođa árvvoštallan 2023

Čoahkkáigeassu

Riikkaidgaskasaš árvvoštallan Suoma suodjalanguovlluid dikšuma beaktilvuođas ja mot dat váikkuha ollahuhttojuvvui Meahciráđđehusa Luonddubálvalusaid diŋgoma vuođul ja sorjjasmeahttun áššedovdijoavkku doaimmas jagi 2023. Árvvoštallan vuođđuduvai lei Máilmmi luonddusuodjalanlihtu suodjalankomišuvnna (IUCN WCPA) ovdánahttin refereansarápmii. Árvvoštallama čuozáhahkan ledje doaibmanbiras ja suodjalanguovlluid dilli, plánen, resurssat, doaibmavuogit, bohtosat ja makkár lea váikkuhus. Fierpmádaga dálá dikšun árvvoštallojuvvui ja buohtastahttojuvvui jagi 2004 dahkkon ovddit árvvoštallama bohtosiidda.

Luonddubálvalusat buvttadii viiddes fáddáguovdasaš duogášmateriála ja vástádusaid gažaldatráidui, man vuođđun lei refereansarápma. Dát ráhkadii aitosaš árvvoštallama ja raportta váibmosa. Dasa lassin ollahuhttojuvvui viđa suodjalanguovllus dilleárvvoštallan, man vuođđun lei Management Effectiveness Tracking Tool (METT) -metoda; dáid čoahkkáigeasut buktojuvvojit ovdan čuovusin. Árvvoštallamii gulai maid gieddeoassi, masa gulle guossástallamat ee. árvvoštallojuvvon suodjalanguovlluin sihke deaivvadeamit Meahciráđđehusa, čanusjoavkkuid ja organisašuvnnaid ovddasteddjiiguin.

Suodjalanguovlluid dikšundássi árvvoštallojuvvui riikkaidgaskasaččat oalle buorrin. Luonddu máŋggahápmásašvuođa oppalaš hedjoneamis fuolakeahttá Luonddubálvalusat gehččojuvvui beassan suodjalanguovlluin ulbmiliiddásis iežas ovddasvástádussii gullevaš suodjalanárvvuid suodjaleamis. Árvvoštallanjoavku buvttii ovdan dattetge beaktilvuođa buorideami várás joavkku ávžžuhusaid, mat leat deahtistuvvon čoahkkáigeassun fáttáid mielde ja aiddostahtton gažaldagaid mielde.

Višuvdna ja doaimma linnjemat: Váfistuvvo luonddusuodjalanoaidnu ja luonddu máŋggahápmásašvuođa deattuheapmi kommunikašuvnnas, mii guoská suodjalanguovlluid. Ráhkaduvvojit strategiijat dávistit váttes čuolmmaide, dego dálkkádatrievdama ja badjelmeare guođoheami sihke vierrošlájaid váikkuhusaide. Ovdánuhttojuvvojit ein vuoruhuvvon luonddutiippaid ja šlájaid suodjalanprográmmat ja indikáhtorat suodjalanguovlluid ja luonddu dili čuovvuma várás. Viiddiduvvojit álbmotlaš dásis suodjalanvuogit riikkaidgaskasaččat ulbmiliidda beassama várás, deattuhettiin fierpmádaga buorideami lulliguovlluin. Jotkojuvvo Luonddubálvalusaid doaimmaid vuogáiduhtti ovdánahttin, nu ahte bargoveahka váldojuvvo oassálastit ovddeža buorebut. Dutkojuvvojit vejolašvuođat ruhtadanvuođu viiddideami várás ja eaktodáhtolaš barggu lasiheami várás.

Riikkaidgaskasaš bargu ja ovttasbargu: Váfistuvvo Luonddubálvalusaid doaimma oktavuohta máilmmiviidosaš ja EU ulbmiliidda sihke suodjalanguovlluid rolla raporteren dáid ulbmiliid ektui. Oassálastojuvvo aktiivvalaččat raporterenvugiid ovdánahttimii, ovdamearkka dihte dan dáfus, mii guoská suodjalanguovlluid dikšuma boađuslašvuođa.

Dutkanovttasbargu ja integrašuvdna: Ovdánahttojuvvojit oktavuođat dutkaninstitušuvnnaide ja sihkkarastojuvvo systemáhtalaččat ođđa dutkanbohtosiiguin ávkkástallan suodjalanguovlluid dikšuma buorideami várás. Váfistuvvo birasbajásgeassin, mii vuojulduvvá lundui ja ekosystemaide. Ovdánahttojuvvo ovttasbargu ja oassálastin servošiiguin, mat doibmet suodjalanguovlluid lagasvuođas.

Jođiheapmi ja guovlluid dikšun: Sihkkarastojuvvo strategalaš doaimma stivren ja bargoveaga doarjja earáhuvvi doaibmabirrasis. Beavttálnuhttojuvvojit suodjalanguovlluid plánema resurssat, ulbmilin vuogáiduvvi doaibmavuohki. Ovdánahttojuvvojit strategiijat dálkkádatgažaldagaid čáhkadeami plánemii guovlo- ja fierpmádatdásis. Plánemis ja kommunikašuvnnas deattuhuvvojit viidáseappot suodjalandoaimma fállan ekosystemabálvalusat ja servodatlaš ávkkit. Ovdánahttojuvvo turismma ovttasbargu ja áhpásnuvvangeavahusa suvdilvuođa hálddašeapmi.

Dieđu ja jođiheami liŋkkat: Ovdánahttojuvvojit ein siskkáldas diehtohálddašeapmi ja dieđuin jođiheapmi sihke interaktiivvalaš olgguldas fierbmevuđđosaš vuogádagat, nu ahte bargoveahka ja áššehasat váldojuvvojit oassálastimii mielde. Ovdánahttojuvvo holisttalaš lahkonanvuohki raporteremii, mii guoská suodjalanguovlluid dili. Integrerejuvvo suodjalanguovlluid luonddu máŋggahápmásašvuođa čuovvun deahttáseappot viiddit guhkit áigegaskka čuovvuma rápmii Suomas.

Čanusjoavkobargu ja oassálastimii mielde váldin: Ovdánahttojuvvojit vuogit, maiguin báikkálaš servošiid gullan, oassálastin ja eaiggátvuohta suodjalanguovlluid áššin sáhttá váfistuvvot. Beavttálnuhttojuvvo suodjalanguovlluid gallededdjiid vuordámušaid čuovvun duhtavašvuođa bajášdoallama várás ja deattuid noahkuma várás.

Čoavddasáni	suodjalanguovllut, dikšun, árvvoštallan, makkár váikkuhus, luonddu máŋggahápmásašvuohta, doaimma ovdánahttin		
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Information boxes

Foreword

Conservation agencies worldwide require transparent and comprehensive information to efficiently manage their national parks and nature reserves. This is particularly crucial during a global ecological crisis when we must operate with limited resources. We have to ensure our work is effective and maximises impact. In addition to fundamental data on ecological, cultural, social, and economic values of protected areas, there is a growing interest in monitoring trends and predicting future changes. The need to assess and enhance management effectiveness is also acknowledged in the Kunming-Montreal Global Biodiversity Framework. This framework aims to ensure that by 2030, at least 30% of terrestrial and inland water areas, as well as coastal and marine areas—especially those of significant importance for biodiversity and ecosystem functions—are effectively conserved and managed. Regional and national biodiversity strategies play a pivotal role in achieving this ambitious goal.

Protected Area Management Effectiveness (PAME) Assessments are valuable tools for organising vast amounts of information and gaining fresh insights from external evaluators. Balancing various pressures within the protected area network can be challenging without compelling performance measures. In 2004, Finland became the world's first country to commission an independent review of the management effectiveness of its entire protected area network. The key recommendations then received have been meticulously implemented over the past two decades.

Metsähallitus Parks & Wildlife Finland (PWF) has now repeated this process. The commissioned PAME Evaluation Team comprised of well-known experts with diverse backgrounds, including international conservation consulting, peer conservation agency, tourism management and conservation governance, as well as national ministry and biodiversity research. As previously, the completed evaluation is based on a questionnaire developed by the Team, PWF's self-assessment at network and site-levels, and a nation-wide field tour by the Team in Finland, arranged in June 2023.

In their comprehensive final report, the evaluators present an overview of recommendations, highlighting main themes for development and finally, looking to the future, visualise how at best collaborative and collective conservation efforts might lead to a more balanced and connected, well-manged network of protected and conserved areas. Detailed findings and recommendations provide further insight, addressing each question individually. The network-level questionnaire and assessment criteria are listed in Appendix 1 of the report. Results of five site-level assessments are summarised in Appendix 2. Evaluation tour route and programme are presented in Appendices 3 and 4.

The evaluation has been part of a two-year reflection about adapting protected area management to changes in funding, creating a lean and agile organisation based around value streams, working with a focus on customer-based management. This PAME evaluation report provides an excellent roadmap for PWF to further enhance management and to meet ambitious conservation goals of the future.

Parks & Wildlife Finland is very grateful to the truly professional and constructive Evaluation Team – Sue Stolton (team leader), Petri Ahlroth, Ari-Pekka Auvinen, Naira Dehmel, Nigel Dudley, Michael Hošek, Kari Lahti, Ben Ross and Yu-Fai Leung – for their outstanding services to the management of the Finnish protected area system. My acknowledge-

ments are also due to the members of our own PWF Core Team: senior specialists Matti Tapaninen, Mervi Heinonen and Sanna-Kaisa Juvonen.

I can sincerely recommend organising such an evaluation to other park agencies and services, as well as individual parks. If one is striving for excellence or even improvement in current management, the process itself and the evaluation results can have a significant role in showing the way forward.

Henrik Jansson
Executive Director, Parks & Wildlife Finland
Metsähallitus

Henrik Jansson. Photo: Mikael Ahlfors.

Editorial notice

The final report drafted by the PAME evaluation team was received and approved by Parks & Wildlife Finland in November/December 2023. PWF has finalised several of the report's information boxes, added photos and done some technical editing for this publication, in agreement with the evaluators.

The recommendations overview included in the report has been translated into Finnish, as the evaluation group has hoped, to be used in the implementation of the evaluation's findings. This translation *Suomen suojelualueiden hoidon tehokkuuden arviointi 2023. Suositukset: Yleiskatsaus* is available at the Julkaisut.metsa.fi web site.

This protected area management effectiveness evaluation was based on a questionnaire developed in the IUCN WCPA PAME framework for a network-level assessment. The individual questions with evaluation criteria are presented in Appendix 1. The complete methodology Finland PAME 2005–2023 system assessment is available as a separate document (pdf, 4 MB, julkaisut.metsa.fi).

Evaluation team visiting fortress island Vallisaari. Long closed for military use, the site has remained one of the most diverse nature destinations in the archipelago of capital city Helsinki. From the left: Ben Ross, Nigel Dudley, Sue Stolton (team leader), Michael Hošek, Kari Lahti, Petri Ahlroth, Yu-Fai Leung. Team members absent: Ari-Pekka Auvinen and Naira Dehmel. Photo: Mervi Heinonen.

Glossary

Assessment: the measurement or estimation of an aspect of management (Hockings et al. 2006).

Ecological network: network of nature areas, with protected areas as the core, supported by OECMs and green/blue infrastructure.

Effective protected area management should achieve positive and sustained conservation outcomes (Jonas et al. 2021).

Evaluation: the judgement of the status/condition or performance of some aspect of management against predetermined criteria (usually a set of standards or objectives) (Hockings et al. 2006).

Evaluation team: for this assessment an international team of independent reviewers supported by independent experts from Finland made up the evaluation team.

Kunming-Montreal Global Biodiversity Framework (GBF): A plan to 2030, adopted by Parties to the Convention on Biological Diversity (CBD) in December 2022. The Framework includes a set of goals and targets intended to halt and reverse the steep decline of biodiversity worldwide, as a step towards the 2050 objective of "people living in harmony with nature". Target 3, known as the "30x30" target, is focused on protected areas and OECMs (although it should be implemented with all other goals and targets) and asks Parties to: *Ensure and enable that by 2030 at least 30% of terrestrial and inland water areas, and of coastal and marine areas, especially areas of particular importance for biodiversity and ecosystem functions and services, are effectively conserved and managed through ecologically representative, well-connected and equitably governed systems of protected areas and other effective area-based conservation measures, recognizing indigenous and traditional territories, where applicable, and integrated into wider landscapes, seascapes and the ocean, while ensuring that any sustainable use, where appropriate in such areas, is fully consistent with conservation outcomes, recognizing and respecting the rights of indigenous peoples and local communities, including over their traditional territories.* (Convention on Biological Diversity 2022)

Natura 2000 network: EU-wide system of protected areas, based on the Habitats and Birds Directives.

Nature reserve: established statutory protected area, based on the Nature Conservation Act.

Other effective area-based conservation measure (OECM): in 2018 the CBD defined an OECM as "a geographically defined area other than a Protected Area, which is governed and managed in ways that achieve positive and sustained long-term outcomes for the in situ conservation of biodiversity, with associated ecosystem functions and services and where applicable, cultural, spiritual, socio-economic, and other locally relevant values" (IUCN-WCPA Task Force on OECMs 2019). A national proposal for the designation of OECMs in Finland has been published (Heinonen & Alanen 2022). Examples of potential OECMs include:

- Landscape management areas of municipalities and possibly private landowners, based on the Nature Conservation Act;
- Forest and agricultural sites of private landowners, based on legislation and government budget compensated contracts for conservation measures;

- Biodiversity value and/or ecosystem service based areas of Metsähallitus Forestry Ltd and other forestry companies, based on legislation and/or forest certification criteria.

Privately protected area (PPA): is a protected area, as defined by IUCN, under private governance (i.e., individuals and groups of individuals; non-governmental organisations (NGOs); corporations – both existing commercial companies and sometimes corporations set up by groups of private owners to manage groups of PPAs; for-profit owners; research entities (e.g., universities, field stations) or religious entities) (Stolton et al. 2014). In Finland, this includes private nature reserves and habitat/species protection sites under the Nature Conservation Act.

Protected area (PA): the CBD defines a protected area as: "a geographically defined area which is designated or regulated and managed to achieve specific conservation objectives" (Convention on Biological Diversity 2006). IUCN has another definition: "A clearly defined geographical space, recognised, dedicated and managed, through legal or other effective means, to achieve the long-term conservation of nature with associated ecosystem services and cultural values" (Dudley 2008, Stolton et al. 2013). There is tacit agreement that the two are equivalent (Lopoukhine & Ferreira de Souza 2012). An approved Finnish translation of the IUCN definition exists and forms the basis of the national protected area system (Heinonen 2013).

Protected area management effectiveness (PAME) assessment: is defined by the IUCN World Commission on Protected Areas (WCPA) as the assessment of how well the protected area is being managed – primarily the extent to which it is protecting values and achieving goals and objectives. The term management effectiveness reflects three main themes:

- design issues relating to both individual sites and protected area systems;
- adequacy and appropriateness of management systems and processes; and
- delivery of protected area objectives including conservation of values (Hockings et al. 2006).

Protected area management types: areas which fit the IUCN management categories (Dudley 2008) in Finland include:

- Nature reserves on state-owned lands and waters (managed by PWF);
- Nature reserves and habitats/species protection areas owned by other landowners (management coordinated by regional ELY Centres, often planning and operative measures done by PWF in cooperation with private landowners);
- Wilderness reserves on state-owned lands (managed by PWF).

Protected area network indicates the range of protected areas that can fall into different IUCN categories and governance types as defined by IUCN (Dudley 2008). For this assessment the network of protected areas being assessed covers ONLY those operated by Parks & Wildlife Finland.

Protected area system: relates to the whole system of protected areas in Finland. In addition to the above, includes area types not in IUCN categories:

- Areas designated for nature conservation by Government resolution, not yet statutorily enacted as nature reserves (IUCN categories applied after enactment);
- Other state protected areas (protected state forests and other sites);
- Natura 2000 on state and private lands and waters (including areas not overlapping with the areas above).

Many people now talk about the system including other effective area-based conservation measures (OECMs) within this terminology. Together these are often referred to as "protected and conserved areas".

Self-assessment: Is defined as a performance review that offers employees an opportunity to self-reflect and consider what their strengths and weaknesses are. In this case PWF carried out a network level self-assessment using a methodology adapted from previous assessments and several site-specific assessments using METT.

Wilderness reserve: established statutory protected area, based on the Wilderness Act.

Pöyrisjärvi Wlderness Reserve in northern Lapland. Photo: Jaska Vepsäläinen.

Abbreviations and acronyms

ASTA: Visitor information database system
CBD: Convention on Biological Diversity
CDDA: Common Database on Nationally Designated Areas (Note: Since January 2024 called Nationally Designated Areas, NatDA)
CLAP: Climate change communication and adaptation in Arctic protected areas
EEA: European Environment Agency
EC: European Commission
ELY: Centres for Economic Development, Transport and the Environment
EMMA: The Finnish ecologically significant marine underwater areas
FEO: Finnish Ecosystem Observatory
FPIC: Free, Prior and Informed Consent, an obligation under international law for projects/actions on the territories of Indigenous peoples
GBF: Global Biodiversity Framework of the CBD, running 2022-2030
HELCOM: Baltic marine environment protection commission
HELMI: Habitat restoration programme
IUCN: International Union for Conservation of Nature
LIFE: The LIFE Programme is the EU's funding instrument for the environment and climate action
Luke: Natural Resources Institute Finland
LUOMUS: Natural History Museum
MAF: Ministry of Agriculture and Forestry
MEA: Multilateral Environmental Agreement
METSO: Forest Biodiversity Programme for Southern Finland
METT: Management Effectiveness Tracking Tool
MoE: Ministry of Environment
NCA: Nature Conservation Act
NATA: Finnish Natura 2000 site condition assessment
NBSAP: National Biodiversity Strategy and Action Plan, to be renewed as a result of the 2022 GBF
OECM: Other effective area-based conservation measure
PAME: Protected Area Management Effectiveness
PAVE: GIS system on structures, trails and archaeological sites
PPA: Privately protected area
PWF: Metsähallitus Parks & Wildlife Finland
SUMI: Protected areas in a changing climate project
Syke: Finnish Environment Institute
ULJAS: Integrated protected area GIS information system
WCPA: World Commission on Protected Areas under IUCN
WDPA: World Database on Protected Areas

Evaluation team

Sue Stolton (team leader) and **Nigel Dudley** are partners in Equilibrium Research (equilibriumresearch.com). Set up over 30 years ago, they have worked on a wide range of issues in many countries, finding unifying themes in environmental and social issues. Protected area management effectiveness (PAME) has been a major theme of Equilibrium's work since the 1990s. Working with multiple partners they helped develop the IUCN WCPA best practice on PAME; PAME tools, such as the METT or Management Effectiveness Tracking Tool; and the Enhancing our Heritage (EoH) assessment system for UNESCO natural World Heritage. Sue worked with UNESCO to help develop the World Heritage Periodic Reporting Format and with IUCN as an adviser on the World Heritage Outlook. Equilibrium has undertaken PAME in Finland (in the original assessment in 2004), South Korea, Colombia and Bhutan; assessed all biosphere reserves in Viet Nam; assessed or built capacity in PAME globally including in Cambodia, Kazakhstan, Kenya, Malawi, Myanmar, Tanzania and Turkmenistan.

Petri Ahlroth has worked for nearly three decades in the field of nature conservation. He is the former director of the Biodiversity Center at the Finnish Environment Institute (Syke) and has worked at both the Ministry of Forestry and Agriculture and at the Ministry of Environment in Finland. He is currently a Senior Environmental Advisor at the Ministry of Environment with special responsibility for species protection. Most recently he has been leading projects concerning capacity building for nature conservation administration in four countries in the Balkan peninsula, Caucasus and the Near East.

Ari-Pekka Auvinen is a researcher at the Finnish Environment Institute (Syke) and a conservation officer for the biggest national area-based conservation NGO, the Finnish Natural Heritage Foundation. He is a committed voluntary worker in the field, especially monitoring bird populations. He has helped develop national biodiversity indicators for Finland, is the Expert secretary of the National Biodiversity Working Group and has been a member of Finland's delegation in the CBD negotiations.

Naira Dehmel is a PhD researcher in conservation governance at King's College London. Alongside her research, she works with the International Institute for Environment and Development on supporting governance and equity assessments in conservation areas around the world, using a tool called SAGE (Site level assessment of governance and equity) (International Institute for Environment and Development 2023).

Michael Hošek is an expert on nature conservation with a special focus on protected areas. In 2005–2013, he was Deputy Director of the Czech Nature Conservation Agency responsible for the nation-wide Natura 2000 designation. From 2014, he runs a consultancy company INTEGRA Group (weareintegragroup.com) and works in the EU and its candidate and associated countries on capacity development projects related to natural resources use. Michael served as IUCN Councillor (2012–2021). From 2021, he is President of the EUROPARC Federation (europarc.org).

Kari Lahti is a biodiversity informatics professional and is currently Digitalisation Director at the Finnish Environment Institute (Syke). Kari's working history has been quite diverse moving from protected area practitioner at PWF, to being director of the Biodiversity Informatics Unit at the Finnish Museum of Natural History LUOMUS at the University of Helsinki. He was previously a secondee at the IUCN headquarters

in Switzerland under the protected areas programme and is currently a member of the steering group of EUROPARC Federation's transboundary certification 'Following Nature's Design'.

Ben Ross is the Head of Protected Areas, Innovation and Data for NatureScot, Scotland's Nature Agency. Ben has worked on a number of different conservation projects and initiatives in the United Kingdom and overseas before and during his 20+ year career with NatureScot. His key areas of expertise include protected areas, protected species, wildlife management and conflict, innovative technologies and strategic approaches to the capture, management and effective use of environmental data.

Yu-Fai Leung is a full professor in the Department of Parks, Recreation and Tourism Management at North Carolina State University in the USA. His research over the past 25 years has focused on the sustainability challenges of visitor use in national parks, protected and conserved spaces, and wilderness areas, from local to global scales. He is the co-lead of Antarctic Tourism Action Group, Scientific Committee on Antarctic Research, was the Editor-in-Chief of the *IUCN WCPA Best Practice Guidelines for Tourism and Visitor Management* and Coordinator of the Biodiversity Working Group for the IUCN WCPA Tourism and Protected Areas Specialist Group (TAPAS).

Assessment aims

In 2004, Finland was the first country in the world to commission an independent review of the management effectiveness of the whole government-managed protected area system. Almost twenty years later, an international team worked with Metsähallitus Parks & Wildlife Finland (PWF) to repeat the process – an assessment of the state-owned protected area system managed by PWF.

The Metsähallitus Annual Report of 2022 (Metsähallitus 2023a) notes: "One of the objectives of enhancing biodiversity is achieving world-class management of the protected area network in order to improve its ecological status". The current evaluation is part of the response to this objective; how do PWF staff show they are running a world class system? The evaluation is also part of a journey of change for PWF, including organisational restructuring, a turn-over in staff as many long-term staff retire, a response to likely cuts in funding and international developments in thinking about and targets for conservation.

The team's terms of reference were to carry out a comprehensive, nation-wide, agency-level evaluation of the state-owned protected area system (which includes the Natura 2000 network) operated by PWF.

The basic aim of the PAME is to assess:

- How the protected area system is managed and governed by Parks & Wildlife Finland;
- How the system is meeting obligations to the European Union Natura 2000 network and other international obligations;
- How effective PWF conservation objectives are;
- How effective the system is in protecting Finnish biological and cultural values;
- How well social objectives are met by providing:
  - visitor services in support of tourism and outdoor recreation opportunities;
  - infrastructure for regional sustainable development.

After several months of preparatory work, the team travelled the length of the country, visiting selected protected areas, wilderness reserves and hiking areas and talking to over 70 staff and stakeholders.

The evaluation team have digested an enormous amount of information along the way, learning and sharing ideas. The team were hugely impressed with the energy and dedication of Metsähallitus / Parks and Wildlife staff and the warmth of the welcome we received. The following report summarises much of this information, primarily with a wider audience than PWF in mind, and then focuses on specific recommendations to the PWF team.

The headlines: What has changed since 2004

- **An improving picture:** The assessment system for Finland has been tailor-made to suit a highly developed, well-managed and fairly well-resourced European protected area system. The scoring should thus only be seen in relation to comparing this assessment with the previous version. The overall picture is of improving management. The only static score is in relation to outcomes; which is a concern as it would have been hoped that the impact of conservation actions would have increased over the last 20 years. Advances have been made in the conservation of several emblematic species that have received special attention. On the whole, however, biodiversity is still decreasing in Finland. The percentage of threatened species of all evaluated species increased from 10.5% in 2010 to 11.9% in 2019. As conservationists know, many of the pressures affecting biodiversity operate at spatial scales far beyond individual protected areas, or even protected area systems. The protected area network alone is not sufficient to sustain viable populations of many or even most native species. Increasing knowledge through more effective and sophisticated monitoring also often leads to more concern over species and habitat survival.
- **An expanding national protected area system:** In 2004, about 10% of the total area of Finland was protected under the Nature Conservation Act or the Wilderness Act. Between January 2004 and 2023 state protected areas have expanded by almost 7,000 km^2. 750 new state nature reserves have been established and a net total of almost 1,000 sites have been designated through several nature conservation programmes and acquired and/or transferred to PWF, to be enacted as statutory nature reserves. In addition, more than 11,000 new private nature reserves and other protected sites have been established since 2004. By January 2023 total area of Finland was protected under the Nature Conservation Act or the Wilderness Act, had thus expanded to 14,3% (see Table 1)
- **Natura 2000:** In 2004, the European Union network of protected areas, Natura 2000, was in the process of implementation throughout Europe, and aspects were still being clarified. By 2023, Natura 2000 is a substantially complete system in most countries. In Finland, the Natura 2000 network has been modestly extended since 2004 and currently covers 12.6% of the country's territory. Much of this network expansion is in marine and freshwater areas, where conservation is implemented by other means than establishing nature reserves. 80% of the network overlaps with the national protected area network. Finland has made significant progress in monitoring and reporting on the status of Natura 2000 sites: it has created and is actively populating the NATA database, which is also a major resource for management planning (see Box 14).

Today, according to the data on Protected Planet (2022), the combined protected surface area of national and Natura 2000 networks equals 13.4% terrestrial coverage and 12% marine coverage. However, these data, based on the World Database on Protected Areas (WDPA), do not present an accurate picture of state versus private

land protected as the data on European protected areas provided by the European Environment Agency (CDDA) categorises all sites under Natura 2000 as governance by government. Also, only statutorily established national protected areas have been reported by Finland to CDDA and to WDPA.

Botnian Sea National Park was established in 2011. The park is characterised by a long string of barren islets and islands in the outermost archipelago. Photo: Timo Nieminen.

Recommendations: An overview

The evaluation team has provided detailed recommendations throughout the evaluation report (see section Findings and recommendations of the 2023 evaluation). Here recommendations are summarised into specific management themes. They are summarised in some detail as it is hoped this section of the report will be translated into Finnish and widely used in the implementation of the evaluation's findings.

Finland's protected area management effectiveness: Observations from the evaluation team

Overall, the protected area system is very strong, with highly trained and dedicated staff. The Evaluation team was impressed by what it saw. In the following, we are necessarily focusing on things that might be done in addition, or differently, but this should not detract from the overall positive impression. Indeed, many of the observations made below came from suggestions from Parks & Wildlife Finland (PWF) staff and collaborators, which is an indication of the openness, friendliness and constructiveness that was a constant throughout this whole assessment process.

The evaluation team identified several overarching themes; the following is both a comment on what is being done and looking beyond the current scope at what more could be done in the future. While the assessment was conducted using the framework developed by the IUCN World Commission on Protected Areas (WCPA) and the results are laid out in that order in the following report, these overview reflections are grouped to reflect the main issues that were observed during the research and assessment.

Vision and alignment

The Evaluation team's overall impression is that PWF has a strong vision of how to manage its estate but less so for how it engages in the wider landscape and seascape to tackle broader issues of biodiversity loss, including with associated institutions and initiatives and with wider stakeholders.

A stronger biodiversity vision: The evaluation team's overarching impression from websites, communication material, presentations and the field trip is that the protected area system is presented primarily from the point of view of nature-based tourism rather than biodiversity. While many values are important, there is a need for higher profile, clear and communicable goals for biodiversity conservation at a system level linked to current management and the future strategic development of the system and the work of PWF. This includes an articulation of the role of tourism and outdoor recreation in biodiversity conservation. The evaluation team recognises that the distinction is sometimes subtle and that the issue may be partly one of communication but nonetheless identifies an important gap. Helping decision-makers and the public recognise the value of protected areas and PWF's work would help situate protected area benefits more centrally in Finnish society. Specific recommendations are:

- Develop a clear biodiversity vision for PWF, supported by a robust communication plan, ensuring that this vision relates closely with Finland's national and international commitments.
- Undertake capacity building with Metsähallitus staff to ensure deep understanding of this vision throughout the organisation.

Halt and reverse the decline of biodiversity: PWF has a major role in ensuring Finland's biodiversity does not decline further. Specific recommendations related to this include:

- Perform a strategic review of restoration activities, their impact on species recovery, and the lessons learned from these programmes that could be replicated in other habitats with high numbers of endangered species.
- Develop strategies to deal with issues related primarily to reindeer grazing. Without such strategies the biodiversity indicators will continue to show declines, considering the fact that the most threatened species are in alpine areas and the decline is directly linked to the "wicked problems" (noted in detail below).
- Develop a ranking system for species of concern, drawing on Natura 2000 targets and species, global and national Red List data and input from specialists (particularly on species groups that have not been comprehensively assessed) to identify national-level conservation priorities. Such a system is already well developed for habitats and species of EU importance, but not for all habitats and species of national importance.
- Revise the lists of species used as protected area indicator species in broad consultation with experts.
- Use indicators based on species groups or assemblages rather than single species indicators.
- Use, where possible, the same indicators that are used in the wider national framework of biodiversity monitoring.
- Consider better monitoring of lesser-known taxa.

Photographing red-listed Fairy slipper (Calypso bulbosa) in Oulanka National Park. Visitors are attracted by the park's natural features, and need to understand their vulnerability. Photo: Ismo Pekkarinen.

The sustainable use dilemma: There is a potential internal conflict in Metsähallitus' present strategy (2021–2024) which runs through the way PWF approaches its work. Whilst biodiversity protection is noted under the environment objectives, societal objectives include four objectives, three of which are based on sustainable extractive use of biodiversity. These potentially conflicting objectives have already reportedly caused some tension, with local people in wilderness reserves raising concerns over the growing fishing pressure from tourists, impacts on reindeer husbandry and issues related to the climate change impact on water temperature and fish stocks leading to locals being banned from fishing (Metsähallitus 2023a). All of these problems highlight the difficulties faced with the potentially conflicting objectives of halting biodiversity loss and the sustainable use of biodiversity, particularly given the likely impacts of climate change and potentially perverse incentives for activities that do not support conservation. It is recommended therefore that:

- A discussion about the wider role of PWF and Metsähallitus in conserving biodiversity in Finland is needed, specifically in relation to the 30x30 targets (i.e. to reach 30% coverage in area conservation by 2030) and, for example, designations of OECMs (other area-based conservation measures) which could significantly contribute to ecosystem functionality and health.

More innovation in approaches to conservation: The overall network is strong at the legal level and in the field, but a wider variety of protected area types could perhaps be adopted without losing consistency of approach. The exclusion of people living in any protected area can lead to challenges to developing partnerships and to the connectivity of the protected area network within the wider landscape. IUCN protected area management category V protected landscapes/seascapes might be a way of expanding the system, as could the strategic use of OECMs, allowing for a greater involvement of people and more innovative approaches in conservation, and could, for example, demonstrate best practice / sustainable or nature-friendly forestry or agricultural practices. Several people mentioned that only having protected areas without human settlement tended to reduce interactions with the wider ecosystem and could limit conservation options. Recommendations include:

- Establish a working group within PWF and related bodies to examine options for a broader approach to area-based conservation including, for example, landscape/seascape approaches (IUCN PA management category V) that include some human settlements and judicious use of OECMs.
- There is possibly a need for a national park strategy – focusing on issues relating to expanding the national parks across the country. At present, "new" national parks are often "created" by the re-designation hiking areas and/or extension of protected areas. As "National Parks" are an international brand, this tends to lead to more visitors, which are not always welcome if capacity to deal with visitors is not available.
- Reconsider the role of hiking areas and multiple-use forests, which could have potential to increase tourism, take the pressure off national parks and offer renewed opportunities to engage with tourism and volunteer networks.
- Consider developing a new protected area type beside national parks (e.g., regional parks) that would take some visitor pressure off from national parks and create opportunities for more cooperation with municipalities and local actors.
- Expand the METSO Forest Biodiversity Programme with increased resources and ambition.

More clarity on roles and responsibilities: There is some confusion about the role of PWF with respect to privately protected areas (PPAs), where PWF has official responsibilities for management that it is not always able to implement. More generally, there is uncertainty about whether PWF is a conservation agency for Finland (using a wide definition, including public health) or a narrower body focused on management of protected areas on public land. This confusion extends to the potential future development of OECMs. Greater clarity is needed on the national role of the organisation and its role within Metsähallitus, and this needs to be better communicated to staff. The recommendations are therefore to:

- Seek government clarification of the role of PWF in PPAs concerning, for example, on monitoring, restoration and management of recreation of these areas.
- Bring OECMs and PPAs into systematic conservation planning exercises in the south of the country to assess opportunities for expanding area-based conservation in these areas (this will also allow more consideration of connectivity between protected areas).

System planning and geographical inconsistency: There is clearly a strong emphasis on systematic conservation planning, which is welcome. Nonetheless, the sharp discrepancy between the total protected area coverage in northern and southern Finland is of concern and was noted already in the 2004 evaluation. The evaluation team recognise the reasons for this, including land ownership patterns and the high economic value of land, but this is an area where PPAs and OECMs and other softer tools could help improve conservation cover on private lands in the south. Furthermore, as the targets of the CBD's Kunming-Montreal Global Biodiversity Framework (GBF) (CBD Secretariat) and EU's Biodiversity Strategy for 2030 (European Commission 2023a) for an expanded and diversified conservation network are addressed, planning will increasingly need to consider OECMs, PPAs and connectivity corridors, necessitating changes to the criteria used in site selection. Prioritised pledges for area conservation until 2030 will be submitted to the European Commission in 2023 [in practice 2024], these should build on:

- Filling gaps in the system specifically in the south.
- Implementing the roadmap to develop the network of protected areas identified by the Biodiversea LIFE IP project to locate the most valuable underwater habitats with the highest levels of biodiversity (Metsähallitus 2023a).
- Encouraging an expansion of PPAs and OECMs.
- Clarifying the role of PWF and the ELY Centres with respect to management planning in PPAs.
- Ensuring all areas "reserved" for protection are enacted as quickly as possible (at present this has taken up to 20 years from original designation by Government resolution).

Wicked problems: The evaluation team notes a tendency to avoid or write off some of the most intractable and significant problems – e.g., overgrazing linked to reindeer herding in northern Finland, invasive species such as white-tailed deer in southern Finland, climate change and eutrophication – which impact on PWF's activities. These are so called "wicked problems" and pose some of the most severe pressures on protected areas, the wider countryside and biodiversity in Finland. It is not clear that any one institution is addressing these effectively yet the need to do so is clear and urgent. The skills, experience and knowledge within PWF means the organisation could lead, in partnership with others, bold, evidence-based actions to address these issues. This should include developing the requisite conflict management and

Reindeer grazing in Kaldoaivi Wilderness Reserve. Photo Petteri Polojärvi.

mediation skills and combining these with a clear strategy for research and co-design. It is recommended therefore to initiate, with partners, time-limited task forces to investigate and make recommendations on a series of wicked problems threatening biodiversity in Finland, with an initial focus on:

- Managing biodiversity under climate change;
- Managing biodiversity on a catchment scale surpassing the borders of protected areas;
- Controlling invasive and problem species;
- Integrating reindeer herding more harmoniously into biodiversity conservation.

Leading the debate and showcasing good practice: As the major conservation management agency in Finland, there is also a role for PWF to lead a national discussion on key conservation issues, such as managing for resilience against climate change, ensuring connectivity and nature restoration. Much of this work already occurs but the public – and possibly some PWF staff – are unaware. Part of this wider role could be for PWF (and Metsähallitus more generally) deliberately to showcase, innovate and lead the way in sustainable management, e.g., nature-friendly forestry in hiking areas, managed use of burning and delivery of other sustainable land-management practices and thus to increase skills in the public and private sector in this respect. This would include stronger day-to-day management cooperation with Metsähallitus Forestry Ltd and to investigate the potential for PWF to play a more central role in the national discussion on conservation management policy, in close collaboration with the Ministry of Environment, Syke and other partners.

Focus and prioritisation: PWF needs to be lean, agile and resilient. It also needs to be able to adapt to change easily. This means ensuring work focuses on objectives and that there is a clear line of sight for staff so that they can understand what is expected from them and how this work fits with those objectives. This also requires a strategic view

that enables effective prioritisation of key initiatives, where to rationalise approaches and what to drop. The major challenge for PWF is how to adapt to fluctuating budgets and the continuous push for cost-efficiency, along with an increase in responsibilities (e.g., management of heritage buildings). Recommendations:

- The evaluation team suggests three types of actions: (i) prioritisation of key initiatives that need continued funding; (ii) reducing other areas of work to lower-cost approaches; and (iii) dropping some initiatives altogether. Prior planning to identify what fits where in this scenario will be important.
- PWF should also continue to improve linkages between budget and core objectives and conservation outcomes.

Take care to take staff with you: Change is necessary for any organisation, but the evaluation team was concerned that many PWF staff felt somewhat alienated from the ongoing process. The anticipated shift to a flatter decision-making structure has left some people confused or feeling left out of the process. This may be inevitable and perhaps particularly noticeable amongst older staff who have spent their careers working under a different structure but nonetheless needs careful consideration. PWF staff are the organisation's key asset. They need to be able to embrace change, understand the reasons for it and help inform how adaptation happens. It is therefore important that the necessary reorganisation does not take too long, and that staff are kept fully informed along the way. Recommendations include:

- Ensure that field staff are aware of and able to contribute to the development of national level strategies and decisions, particularly as these relate to their own work, for example:
    - Review the system of regular updates on key policy issues to staff to understand why they are not being as effective as they could be.
    - Identify one or more central office staff who have a specific mandate as part of their job to monitor and respond to questions from staff.
    - Arrange occasional webinars or in-person meetings to explain important changes, developments or challenges.

Cultural sites: For a nature conservation organisation to be the main manager of cultural historical sites on state land, is unusual. Although this is in line with the strategy nationally agreed in 2010 – updated in 2021 – to concentrate management of property on state land under Metsähallitus, there is a need for an overall strategy to manage these assets. Responsibility for three castles and many other historic sites, with a big potential budgetary implication, seems particularly problematic and is not linked to PWF's vision and mission statement. In addition, the evaluation team recommends that:

- While built cultural heritage is generally being addressed carefully, some of the living cultural heritage of Finland could be made more of in terms of interpretation, special events and attention, such as aspects of the Sámi culture, other traditional reindeer herding, some traditional fishing activities, etc.

Voluntary fees and donations: Protected area budgets fluctuate with political and financial realities. To insure against sudden financial downturns the evaluation team recommends that PWF investigates options for more voluntary fees and donations including for individual projects. However, it is noted that to do this without opposition there would need to be liaison with several NGO groups opposed to this development for fears that it could develop over time into mandatory fees. This is a realistic concern. Steps to review this option could include:

Raseborg Castle Ruin was transferred to Metsähallitus in 2014. The castle served as an administrative centre under the Swedish Crown in the Middle Ages. Photo: Johanna Hellman.

- Ensure strategies are in place for dealing with budget fluctuations and the ever-increasing calls for efficiency whilst responsibilities increase, including:
  - Investigate the potential and practical aspects of seeking greater contributions from the public through voluntary fees or donations, including for individual projects (e.g., through crowdfunding).
  - Investigate options for expanding volunteer support for PWF sites (possibly linked to a Friends of the Park or National Park Board processes), perhaps to a national network, by (i) assessing lessons from existing volunteer networks (e.g., work for the endangered Saimaa ringed seal); (ii) examining successes and failures of volunteer networks in other countries; and (iii) through strategic surveys of potential volunteers and use this information to draw up a comprehensive plan.

International links

PWF has had a high international standing compared to the size of the country, but this does seem to have declined over the past decade. While such engagement takes time and resources it also has implications for the way that staff and public perceive the organisation's role. There are several steps that could be taken in the short term in this regard.

Links to global and regional goals and commitments: The evaluation team noted that at park and regional staff level there was minimal reference to goals set out in EU and global agreements (e.g., the GBF, UN Decade on Ecosystem Restoration, EU Nature Restoration Law, EU Biodiversity Strategy for 2030). Staff should be aware of the role of PWF in relation to international obligations and future strategies to fulfil them. Although the GBF is complex, the simple idea to halt

and reverse the steep decline of biodiversity worldwide should be a central message in explanatory material for PWF staff, policy makers and for civil society.

Reporting against international goals: Similarly, PWF is missing an opportunity to report to government and other key stakeholders, including the wider public, about the wider role of the protected area system, and therefore the value of the organisation's work, in meeting a range of international obligations – many of the sustainable development goals (SDGs), the UN Decade on Ecosystem Restoration, UNFCCC aims in terms of carbon, UNCCD Land Degradation Neutrality, etc. Recommendations thus include:

- Undertake an analysis of key global and regional instruments to provide an overview of how PWF contributes.
- Linked to capacity building, ensure that field and central office staff have a clear idea about the most important of these, e.g., key aims of the Global Biodiversity Framework.
- Institute regular reporting to the government and public about the contribution (quantitative where possible, qualitative where not) of protected areas to international environmental and social obligations.
- Include the objectives of the recently negotiated EU Nature Restoration Law in the Finnish Biodiversity Strategy (NBSAP) and integrate with other targets.

Natura 2000 network: The Priority Action Framework (PAF) is a strategic planning document approved at the national level. It is not used directly in the planning process [of Natura 2000 sites] but provides a solid base for setting priorities in implementing conservation measures. Care is needed to ensure that, in the future, habitats and species of EU interest are not automatically considered more important than those of national importance. PWF also needs to continue engagement with the EU, and specifically:

- PWF staff should be active participants in ongoing EU methodological development for example on management effectiveness evaluation and thus ensure the high quality of relevant results through Directive reporting exercises (the next review is due in June 2025).

Collaboration and integration

In line with the statement under the overall vision above, the evaluation team felt that PWF was in some cases more isolated from other institutions than necessary and was seen by some stakeholders as "wanting to go it alone" in some areas of work. As a result, there is a risk of not being able to capitalise on the many benefits of collaboration, including from the perspective of increased knowledge and expertise, more efficient ways of working and being able to work at scale. Some suggestions follow.

Links between ministries and related institutions: In several cases, comparative roles between PWF, Metsähallitus Forestry Ltd, the regional ELY Centres, etc. need further clarification. There may be a need for a stronger central steering process for the whole of the conservation sector.

Linking research to conservation: PWF is in an excellent position to facilitate and gain from high-quality scientific research (both ecological and social sciences). At present there are links with research institutions and facilities, but these are often loose and ad hoc and tend to be process rather than learning focused. There are opportunities for greater collaboration with institutions towards shared research and management objectives, which could include identifying research priorities. This should work both ways: helping to answer the 'big questions' but also to enable collaboration with researchers and site managers (e.g., through annual meetings). PWF should actively encourage collaboration (including PhD and MSc programmes) as well as utilising citizen science programmes

to support monitoring and research. Recommendations include:

- Develop a targeted research programme (as was the case previously) across the system to facilitate collaboration between researchers and managers at the local level to answer local questions.
- Better publicise the existing research "wish list" and prioritise permits for research related to the list.
- Review current processes for sharing research results, options to consider include:
  - Ensure with research agreements that results are shared with managers in a timely manner.
  - Produce research results in a way that managers can use the results, where applicable.
  - Consider holding conferences which bring together researchers and park managers to share findings and develop strategies to use the results.

Education programmes focused on nature and ecosystems: The current site-based infrastructure is very focused on visitor use and general nature enjoyment rather than building a picture of the protected areas' benefits, both in terms of biodiversity and ecosystem services (or bioeconomy); perhaps a long-term vision is needed on parks being for "nature first". It is not clear if PWF should be facilitating education or leading education. The latter option, if done well, would help solve many other issues (perhaps eventually allowing parks to showcase nature at the same level as education). This should be linked to the overall PWF education vision and guidelines which can then be adapted at a regional or PA level. Recommendations thus include:

- Revise guidelines on education, with emphasis on the need to halt and reverse the steep decline of biodiversity worldwide.
- Include the preceding emphasis in the communication strategy, through the new web-based system and in visitor centres, to ensure that biodiversity, carbon offset benefits and other ecosystem services maintained by protected areas are fully understood.

Integrated approaches to participation: The Geoparks model, where partnerships formed by a range of stakeholders at the landscape scale are integral to establishment, was seen as a useful way of getting wider discussions with stakeholders on a landscape scale to investigate more general coherence in the conservation system. The evaluation team heard similar comments about large Natura 2000 sites and the need for wider system planning particularly in marine and freshwater systems. An integrated approach to participation is necessary across the whole country and that PWF could be playing a leadership role in such a process. Recommendations thus include to:

- Review experiences with landscape-level conservation models such as the Kvarken Archipelago World Heritage site, Geoparks and Biosphere Reserves to understand better their experience and good practices in relation to participation.
- A period of reflection and evaluation would better identify the challenges and barriers to effective participation and potential areas of tension. The "wicked problems" referred to above are examples. These will enable leverage of funds, sharing of resources and acquisition of new skills and viewpoints.
- Actively seek out partnership approaches to solve problems that are either shared with other stakeholders or that act at spatial levels beyond individual protected areas.
- As noted elsewhere, establishing volunteer networks has multiple advantages from sharing workloads to conservation

education and building up constituencies of supporters of PWF.
- Showcase innovations to land management (e.g., nature friendly techniques, prescribed burning) in hiking areas, working in close cooperation with Metsähallitus Forestry Ltd.

Management

The evaluation team was impressed by the enthusiasm and openness of the staff it met. Nonetheless, several issues were raised about management (at site and senior management level) and in particular a feeling amongst field and operational staff of confusion about organisational changes and a perceived lack of direction. This may be inevitable at a time of major political changes in the country, but some steps could nonetheless be taken.

Management direction and support: A clear connection is needed between corporate objectives and everyday action on the ground that staff undertake – so that they know what they are expected to do and why they are expected to do it. Several staff expressed dedication to the work coupled with frustration that they didn't understand quite how their work fitted into the (present) bigger picture.

Site management plans: Strategic management plans are statutory for national parks and some other specific nature reserves, as well as wilderness reserves and national hiking areas. These tend to be detailed and complex, with a very long development time and are sometimes hard for stakeholders to input and review. At worst, some elements have become dated before the plan is complete and stakeholders are alienated by lack of progress. An alternative could be for plans to become living (web-based) documents, with specific sections updated only when needed, making plans more fit for purpose and easier to adapt in times of increased management challenges due to, for example, climate change. Recommendations include:

- Review the effectiveness of the management planning process, including the period of validity of management plans.
  - Streamlining the process of management planning to avoid overly long lead times whilst ensuring stakeholder opportunities to inform management remain high.
  - Transforming management plans into living (web-based) documents that can be updated or added to as necessary rather than entirely redone.
  - Routinely using mid-term monitoring of management plans and Natura 2000 site assessments (NATA) to highlight areas where "living documents" need adapting.
  - More consistency in core budget allocations would also allow a smoother planning process.
- Note that planning must also consider how to address landscape-scale pressures such as climate change, invasive species and threats to priority species.

Climate change management: Strategies are needed on how to manage expected changes at several levels: on management activities, regarding the psychological impacts on staff (e.g., how to combat the feeling that climate change could negate all the good management taking place in protected areas, and that it is a huge and unresolvable issue from an individual's perspective presenting multiple barriers to effective management), using the data from Metsähallitus to review adaptive management needs, etc. Research should in some cases be focused more on things that can be addressed by adaptive management rather than simply charting rates of change. Recommendations include:

- Work with partners in the research community to develop and implement an adaptive management policy to

address climate change impacts within the protected area system.

- Redirect research and monitoring emphasis on climate change more towards adaptive management and improving resilience rather than charting the rate of change. Noting that in some areas research and monitoring inventories may need more frequent updating as a result of climate change impacts on species and management.
- Establish formal links with the Sámi Climate Council and investigate joint actions to adapt to climate change in the far north, including reindeer grazing issues.
- Identify potential steps that can be taken within protected areas to mitigate climate change, without undermining biodiversity conservation objectives, to increase carbon storage (e.g., such as the successful rewetting of peat bogs).
- At a governmental or Metsähallitus level a "carbon code" could be developed, i.e., ethical and technical codes ensuring that activities promoted as carbon offsetting are not in contradiction with biodiversity conservation.
- Consider options for reducing the greenhouse gas emissions from protected area operations, from use of public transport, visitor impacts and PWF management actions.
- Develop strategies to integrate climate issues into spatial planning with respect to the network of protected areas, considering the irreplaceability of sites.

(It is noted that these measures may have been included in the "Climate change communication and adaptation in Arctic protected areas" (CLAP) project and that the "Protected areas in a changing climate project" (SUMI) programme should also help deliver these recommendations.)

Managing for ecosystem services: Management actions outlined in management plans often promote ecosystem service provisioning. However, linking ecosystem services and the protected area network is generally not explicit. These issues need to be better defined in management plans and more effort put into awareness raising and communications around the multiple benefits (not just economic) that protected areas bring to Finland. The CBD's GBF stresses the role of ecosystem provision in protected and conserved areas, and this may be an area which requires further reporting in the future. Recommendations cover both the delivery of ecosystem services and the communication of those services.

- Shift or extend the emphasis of displays in nature centres, and material on the website, to give a greater emphasis on nature conservation generally and biodiversity conservation in particular, explaining what the protected areas provide and why this is important.
- Put greater emphasis on the ecosystem services provided by the protected area network.
- Provide more clarity around management restrictions (and why for example some areas are more important for biodiversity than others) to contribute to this conservation emphasis.

Tourism businesses in protected areas: Compared to other industries in Finland, tourism is the same size as the forest industry and is larger than the food industry. Much of this is based in or around protected areas, and tourism should be making a major contribution to Finland's conservation. Tourism companies and entrepreneurs are required to have an agreement with PWF to operate in protected areas. With increasing trends of nature tourism and sporting events, PWF should expect commercial tourism activities to increase, accompanied with potential impacts on the environment, infrastructure and other visitors in protected areas. These trends will likely interact with the fundamental Finnish philosophy of "everyone's

rights to nature", resulting in potential abuse of protected area resources and infrastructure that are treated as "commons". Recommendations include:

- PWF should consider developing and articulating a strategy for managing commercial tourism. Elements include mandatory agreements (which may include location and time of activities, group size, codes of conduct, fees, security deposit for non-compliance, liability insurance, etc.), as well as preferred partnership with tourism businesses with Sustainable Travel Finland or other sustainable tourism certifications, recognition of good-performing tourism companies.
- The system of fee paying for entrepreneurs should be clarified, simplified and possibly expanded.
- Monitor changes in the tourism business and its source markets, especially from beyond Finland, to determine if and what additional policies for international companies and entrepreneurs are warranted.

Best practice by partners: Guidance is needed for contractors, tourism enterprises, etc. on conservation and biodiversity (e.g., care regarding invasive species, which may become more of an issue with climate change). The main recommendation here is thus to:

- Revise guidance for contractors, entrepreneurs, etc. to focus on minimising environmental damage through e.g., preventing introduction of invasive species in waterways, non-native weed species through maintenance work, etc.

Development of capacity: Responsibilities are increasing, but not necessarily competencies; competency assessments of staff are an excellent way to understand both potential and gaps. Continual capacity building and training is needed, much of which can be done online. The key recommendation is therefore to:

- Develop a programme of online capacity building for PWF staff on emerging issues (e.g., resilience to climate change, management of invasive species, participatory approaches, perhaps also managing under a tighter budget).

Project management: Projects make a very different contribution to funding. In some years they have made up approximately 25% of the overall budget (including PWF self-funded projects), but currently less than 10% of the budget is for project funding. There is no clear strategy in terms of the benefits that projects bring or how to harmonise them with the overall operational workload of PWF. This is particularly important at a time when lower budgets will make co-funding more difficult to achieve, so each project must be judged against potential costs. The recommendation is to:

- Develop a more strategic approach to projects and programmes that are clearly linked to PWF objectives.

Data and management links

Data management is critical and has associations with several of the headings above.

Digital information: Whilst the evaluation team understands that there is a company datastrategy in place, this has not been translated. Implementation of it must be user focused, with staff, stakeholders and appropriate user research and business analyst skills. PWF and Metsähallitus should be at the forefront of delivering open data, applying FAIR data principles (GO FAIR 2023) (promoting Findability, Accessibility, Interoperability and Reuse of data) and maximising the value of data to support all decision-makers.

Staff need to be clear and well-informed of the programme of digital transforma-

tion and the implications on their work. For instance, it was not clear from those developing the new customer web system whether this would replace or be additional to existing online resources. The key recommendation is to:

- Reduce confusion about the future of digital systems in PWF by clarifying whether the new web system will replace some or all of the current local, regional- or park-specific systems, and if not, how the various systems will interact. Specifically, there is a need to ensure that there is clarity over how this is implemented and that it is aligned with a wider data strategy.

Interactive systems: As noted in the discussion about vision, biodiversity is not particularly well stressed in the online material. The evaluation team suggest therefore more interactive systems, where for instance visitors can ask questions about what they have seen, post pictures, etc. This is an area where volunteers can help and where members of the group provide answers and support each other; in other words, it should not take any significant resources to maintain. Self-guided nature trails are another option that could be better developed. The key recommendations are therefore:

- Encourage more interactive services, mainly through social media, where visitors to national parks can exchange views and information about nature, including asking questions.
- Although there is a well-developed strategy for understanding public attitudes towards PWF, there should be more emphasis on the overall vision and on how wonderful nature is.

Condition reporting: Efforts should be made to develop further key national indicators on the status/condition of protected areas. As part of this, it is important to ensure that monitoring programmes are adequately and quantitatively assessing key threats and directly informing management interventions, not simply documenting change, as mentioned under climate change above. Greater use of material collected by volunteers would be helpful; the evaluation team was impressed by the material already available monitoring biodiversity by civil society. Recommendations include:

- Develop a more considered approach to State of the parks reporting, particularly for national parks, as the Natura 2000 network already has an established system (NATA), with regular (every five years?) internal reporting and periodic assessments from outside the country, possibly using METT-4.
- Linked to the above (or perhaps even an alternative option) would be to develop a better interface to make far more accessible the vast amount of data available and utilise it for the purpose of communication with the wider public. This could also increase support for nature conservation by enabling a better understanding of PWF goals.
- Integrate monitoring of biodiversity in protected areas more with the wider framework for long-term biodiversity monitoring in Finland.
- Develop a consolidated set of key national indicators on the status of national parks and other protected areas to provide stronger evidence about national status and regional trends and to inform management interventions.

Limits of Acceptable Change: Limits of Acceptable Change (LAC) is an effective way to address specific visitor use problems with selected indicators that can be efficiently monitored, are tied to protected values, and responsive to management actions. Some of the LAC examples reviewed by the evaluation team had more indicators than necessary, including some not directly linked to visitor

use or amenable to management actions. Recommendations are:

- Review the LAC programme to critically evaluate the current indicators and identify ways to potentially streamline the suite of LAC indicators based on other application experiences. The guidance for indicator development in the more recent Visitor Use Management (VUM) framework (Interagency Council 2022) should be consulted as part of this review. Indicators deemed not suitable for LAC may still be valuable for other purposes such as biodiversity and social monitoring.
- Maintain the rigour of the visitor use and impact monitoring programme while identifying ways to increase cost efficiency, such as sampling coordination, monitoring partnership and application of technologies.
- Besides the established set of indicators, potentially new outcome-based indicators could be considered that directly capture desired outcomes from tourist activities and programmes, such as nature learning, biodiversity knowledge, level of support for impact/conservation management, etc.
- Consider a tiered monitoring strategy in which some simple vital signs are monitored more frequently (e.g., annually) at selected protected areas to detect fast changes in the character of visitor use and impacts. Significant changes on these vital signs may trigger more involved monitoring and management actions.
- In times of rapid change, such as the changes in visitor numbers and use of protected areas after the Covid pandemic, more flexibility may be needed around visitor monitoring (at least in the parks most impacted).

Public and key-stakeholder engagement

Results were mixed here: there have obviously been serious attempts to build stakeholder relations and participation, but this seems to have stalled over the pandemic and in some cases not restarted again. There is probably a need for a post-COVID period of reflection and restarting several engagement processes that previously were working well and appreciated. The following points relate both to stakeholder involvement and wider engagement of civil society. It is vital to ensure that the new arrangements being developed in the organisational review reinforce rather than hinder engagement and partnerships across PWF.

Local accountability: The one clear agreement on the management of protected areas across the global community over the last 20 years is the importance of working with and engaging local people. Protected area agencies need to be accountable at the local level and they need to ensure the structures are in place to do this. PWF's regional organisation is a good starting point for this local engagement, but PWF should ensure this decentralisation continues as a broad strategy, with a leaner national governance and more focus at regional and local level. Ways this could be achieved include:

- Locally run National Park Boards (as opposed to the statutory advisory boards) are worth serious consideration and could help systemise communication. The argument that stakeholders are not interested in many technical issues is valid, but there is also evidence of increased engagement by certain sectors of society who could be encouraged to take part more in management. Such boards could be expanded into other types of protected area if the model is successful.

Understanding governance issues: The results to the questions related to governance and equity suggest that PWF has put a lot of effort into information sharing, visitor services, stakeholder engagement, and participatory processes in decision-making and management and in particular into relations with the Sámi people. The self-assessment was generally very positive with little discussion over remaining challenges. In comparison, whilst the interviews with Sámi representatives showed that they generally have a positive relationship with Metsähallitus and PWF, they nonetheless highlighted several important limitations, such as the wish for more of a co-management approach. This highlights the importance of conducting governance and equity assessments at the site and system levels that consult and give a voice to the diverse perspectives of all important actors involved. The main recommendation is therefore to:

- Consider conducting independent governance and equity assessments at the site and system levels that consult and give a voice to the diverse perspectives of all important actors involved.

Information and consultation: Clearly agreed protocols for stakeholder involvement (inform, consult, participate) are needed; there were differing opinions on the frequency and effectiveness of consultation and consultation periods, the methods and formats used, and lack of clarity about what was involved in "participatory approaches" to site planning. This is perhaps particularly noticeable (and important) in the case of the Sámi. Recommendations include:

- Develop agreed PWF-wide protocols for stakeholder engagement, including ensuring representativeness of participants, types of engagement, expectations, frequency of engagement, etc. Whilst details will vary, broad standardisation of approach is needed.
- It was also suggested that many visitors do not understand the reasons for zoning within protected areas, e.g., why certain areas might be off-limits, and that more explanation might help to prevent rule breaking.

Friends of the Parks: In line with the above, volunteers are obviously important in some parks (e.g., in Saimaa seal protection, restoration or setting up ski trails), but volunteering has not been developed more systematically. Participation of volunteers and local communities in management could both build support for protected areas and, if carefully managed, help with some management tasks. Establishing volunteer networks and clarity of planning around these takes time, but at a period of reduced funding could take pressure off overworked field staff.

Custodianship: Encouraging the feeling of custodianship in Sámi areas and with other major stakeholders, such as reindeer herders, could help increase cooperation and eventually a long-term biodiversity vision. The

Working as a voluntary shepherd during summer holidays is very popular. Sheep help keep the traditional landscapes open in Koli National Park. Photo: Kirsti Hassinen.

first step would be a strategy for increasing custodianship, ideally in cooperation with Sámi and other relevant stakeholder representatives, built on an understanding, and agreement of shared goals.

Conflict management: Conflicts emerging in the future are always a possibility. Responses to these include implementation of conflict management processes to examine tricky issues and identify opportunities for resolution. Recommended approaches include:

- An objective identification of key areas of conflict in relation to PWF objectives and wider aspiration of other land use sectors and Metsähallitus in general, noting the goals and commitments of the GBF and EU Biodiversity Strategy.
- PWF should benchmark and develop training processes for conflict resolution with identified staff.
- Establish a public and an internal compliance system.

Visitor satisfaction: Providing outdoor recreation and tourism is one of the major roles of PWF, specific recommendations are thus given for ensuring visitor satisfaction.

- Besides monitoring visitor satisfaction, which is important, visitor expectations themselves should be monitored and evaluated periodically since they may evolve with changing visitor profiles (e.g., international tourists), activity preferences, and technologies. An understanding of how and why expectations change would help PWF maintain a high level of satisfaction while addressing emerging expectations that are inconsistent with or inappropriate given PWF's goals.
- Consider more effective ways to communicate and translate management principles into specific visitor and resource management actions on the ground using trusted communication channels. This is especially important for new tourism/recreation companies and partners.

The Ruka–Oulanka area is an important tourism area, especially in winter time. Photo: Tuuli Turunen.

Looking to the future

It is twenty years since the first independent assessment of Finland's protected areas – the first such study in the world. As the second assessment was drawing to a close, the evaluation team spent some time discussing hopes and expectations for the future. If a similar group were invited back to assess Finland's protected areas again in 2043, what might they find?

This report confirms that Finland has a world class protected area system. But it has significant challenges – as do such networks globally. An increasing number of species are threatened, resources for management are limited and climate change as well as land use outside of protected areas make the preservation of biodiversity ever more difficult. All these challenges require careful and collective strategic reconsideration and action within and beyond protected areas.

The evaluation team were pleased to see that many recommendations made in 2004 have been implemented. This time, more than ever before, national conservation choices should be influenced by wider commitments of the global community, including particularly the Kunming-Montreal GBF, approved in 2022, and of course the EU Biodiversity Strategy for 2030. These policies provide a touchstone for the next decade – and a pathway towards halting and reversing the steep decline of biodiversity worldwide to achieve a more positive outcome. Achieving the 30 percent protected areas target (including OECMs) will inevitably be a benchmark against which progress in Finland is measured. We look forward to seeing a more robust and balanced network of protected areas where the present imbalance between the southern and northern parts of the country is no longer so strong, and where the increased connectivity of the network enables species to move in the face of changing climate.

It needs to be remembered that the Kunming-Montreal GBF Target 3 (the "30x30" target) as well as the EU Biodiversity Strategy, are not only about the area under protection. In twenty years, we hope to see even more effective management, a deeper consideration of social impacts, increased provision of ecosystem services and more nature-based measures to mitigate climate change.

So, in twenty years' time the evaluation team expect to see PWF as a showcased leader in protected area management, both domestically and worldwide, looking beyond the boundaries of its reserves towards a wider and more holistic landscape and seascape approach to conservation. A far closer and more collaborative partnership with Metsähallitus Forestry Ltd will be an important component. Protected areas will be much more connected to the surrounding landscape, part of it and not a separate tool. In the north, the Sámi will be working with PWF as vital partners, with shared goals and an increased role in decision-making, drawing on the power of collaboration.

More generally, the evaluation team see a change away from biodiversity conservation as the sole preserve of professionals and enthusiasts to one more fully embracing other stakeholders, like businesses and regional councils. A critical element of success is encouraging a feeling of custodianship. While this is already explored in Sámi areas, it can and should involve many other stakeholders such as reindeer herders, tourism enterprises, forest owners and civil society. This is particularly essential if PWF is to play a leading role, as it should, in facilitating responses to some of the "wicked problems" identified, including overgrazing

Salla National Park, established in 2022, became the 41st park in the national network. In the past decade, the national park concept has gained popularity among politicians and citizens alike. Photo: Harri Tarvainen.

by reindeer. A first step might be a strategy for increasing "local ownership" of protected areas, itself developed through a cooperative process, and crucially, far more focus on the role of protected areas as vital for conservation, not just nice places for outdoor recreation.

Finland already has high and widely supported ambitions towards addressing climate change and we look forward to a similar societal momentum behind biodiversity conservation and a higher profile for nature in the protected areas network, and a more informed public on the role of protected areas in securing ecosystem services.

Tourism and local outdoor recreation are clearly both positive forces supporting conservation. But they require care; a disproportionate emphasis on the needs of visitors and on extracting economic benefits risks underemphasising biodiversity. Tourism is an important communications tool, and the driver behind expansion of the national park system, but it is important to tap into this energy without losing the wider vision.

Finally, Finland, including PWF, continues to play a role on the world stage and North/South cooperation. Finland has much to teach, and to learn, in more fully working with conservation agencies in other countries.

As for the evaluation itself, while external evaluations should be occasional, a decadal commitment is probably worth considering, with some rolling indicators linked to trigger points for action and more systematic identification and measurement of vital signs, all linked to adaptive management of protected areas.

Introduction to government-managed protected areas in Finland

Finland's protected area system

Finland's present system of protected areas consists primarily of nature reserves established on state-owned land and of areas designated for nature conservation that have not yet been statutorily established as nature reserves under the Nature Conservation Act (NCA), as well as wilderness reserves established under the Wilderness Act. Together these form the core of the national protected area system. They are complemented by numerous privately owned nature reserves. In Finland, the national designations also form the main part of the Natura 2000 network, that is based on Habitats Directive (Council Directive 92/43/EEC) and Birds Directive (amended directive 2009/147/EC) of the European Community.

State nature reserves are strictly protected areas, with no permanent inhabitants and no extractive use of natural resources (timber, minerals, etc.) allowed. National parks and sites with cultural heritage features cater for outdoor recreation with visitor facilities, but most nature reserves offer no facilities such as marked trails and campfire sites. With the exception of strict nature reserves, hiking and collecting natural products, such as berries and mushrooms, is possible in most protected areas, unless these are restricted site-specifically – this is linked to Finland's legal concept of everyone's right (Metsähallitus 2023b). Wilderness reserves are established to preserve nature, safeguard the culture of the Indigenous Sámi and subsistence livelihoods in northern Finland. Hunting and fishing, as well as reindeer herding (see Box 7), are statutorily allowed for local residents in these extensive sites of the sparsely populated north. The northernmost part of Lapland is defined in and protected by the Finnish constitution as the Sámi Homeland (see Box 11).

The national protected area system has expanded by almost 7,000 km^2 in the past two decades (see Table 1). Between January 2004 and 2023 the network was extended by 750 established state nature reserves, including six new and two extended national parks, adding some 2,000 km^2 to national parks. A net total of almost 1,000 supplementary sites, covering c. 5,000 km^2, have been designated in several nature conservation programmes and acquired and/or transferred to the state (Parks and Wildlife Finland) since 2004. These are to be enacted as statutory nature reserves with site-specific provisions. In addition, a net total of 240 other new protected areas (covering c. 1,000 km^2) have been designated on state land. To comple-

Common wild berries and mushrooms may be collected in most protected areas. This is allowed by the Nature Conservation Act and is part of the traditional Nordic concept of everyone's right. Photo: Jussi Kirmanen.

ment the state protected area network, a total of more than 11,000 new private nature reserves and other protected sites have been established since 2004, covering almost 3,000 km^2. (In this report these are referred to as privately protected areas, PPAs.)

Since 2004, the Natura 2000 network in Finland has been modestly extended (by Government resolutions in 2005, 2012 and 2018). Much of this network expansion is in marine and freshwater areas, where conservation is implemented by other means than establishing nature reserves. 80% of the Natura network now overlaps with the national protected area network, about half of which are nature reserves and a third wilderness reserves. Some 8% of the Natura network is state-owned (and another 13% privately owned) but situated outside of the national protected area network. Of the national protected areas only 14% are outside of the Natura 2000 network, mostly consisting of recently designated nature reserves and protected forests.

Table 1. A growing system: protected area number and area compared between the first assessment in 2004 and the second in 2023.

Protected area	January 2004 Number	January 2004 Area (km^2)	January 2023 Number	January 2023 Area (km^2)
National parks	35	8,170	41	10,146
Strict nature reserves	19	1,540	19	1,540
Mire reserves*	173	4,490	163	4,876
Herb-rich forest reserves*	53	13	45	10
Old-growth forest reserves*	92	100	74	80
Other state nature reserves	125	922	905	4,280
Statutory state nature reserves, total	**497**	**15,122**	**1,247**	**20,932**
Protected sites reserved for nature conservation (Designated by Government resolution, not yet statutorily enacted as nature reserves)	1,429	7,777	2,419	5,029
Protected state forests	101	118	329	548
Other protected sites on state land	188	2,103	200	2,655
Wilderness reserves	12	14,898	12	14,893
Other protected areas on state land, total	**1,730**	**24,896**	**2,960**	**23,125**
STATE PROTECTED AREAS, TOTAL	**2,227**	**40,018**	**4,207**	**44,057**
Private nature reserves	3,398	1,258	13,311	4,155
Fixed-term nature reserves (Compensated conservation contract, valid 20 years)	79	11	233	18
Statutory habitat protection areas	397	7.6	1,205	22
Statutory species protection areas	34	0.8	286	8
Protected areas on private land, total	**3,908**	**1,227**	**15,035**	**4,203**
NATIONAL PROTECTED AREAS, TOTAL	**6,135**	**41,295**	**19,242**	**48,260**

***** Mire, herb-rich forest and old-growth forest reserves were established before designation of Natura 2000 and some had outdated site enactments. After re-enactment, these sites are now included as "other state nature reserves".

Role of government authorities in nature conservation and protected area management

Parks and Wildlife Finland (PWF) manages all of Finland's state-owned protected areas and part of the PPA estate in cooperation with regional environment authorities (ELY Centres) and landowners. PWF is part of state enterprise Metsähallitus and is steered by the Ministry of the Environment and the Ministry of Agriculture and Forestry. The organisation and tasks of Metsähallitus and PWF are described in detail below.

Centres for Economic Development, Transport and the Environment (ELY Centres) are responsible for the regional implementation and development tasks of the central government. Finland has a total of 15 ELY Centres, which are tasked with promoting regional competitiveness, well-being and sustainable development and curbing climate change.

ELY Centres have three areas of responsibility:

- Business and industry, labour force, competence and cultural activities
- Transport and infrastructure
- Environment and natural resources.

ELY Centres include regional environment authorities since 2010, earlier these were independent Regional Environment Centres. They promote and supervise nature conservation and landscape protection in their respective regions. There are 13 ELY Centres performing environmental tasks. They safeguard biodiversity, for example, by:

- acquiring areas for the state, for the purpose of nature conservation;
- establishing nature reserves on privately owned lands;
- approving proposals for other privately protected areas and management plans for these areas;
- safeguarding and advocating natural values in land use planning;
- coordinating planning and management of Natura 2000 network areas.

The Ministry of the Environment (MoE), among other tasks, guides and monitors nature conservation in Finland. It prepares legislation to maintain biodiversity and is responsible for the general monitoring of the implementation of this legislation. The ministry also prepares nature conservation programmes and (legally) establishes nature reserves under these programmes. Furthermore, it consults on the strategic management plans of nature and wilderness reserves. MoE is leading implementation of the National Biodiversity Strategy and Action Plan (NBSAP) to 2030 and National Nature Recreation Strategy 2030. The ministry is also responsible for matters related to the cultural environment. It oversees implementation of the cultural environment strategy in cooperation with the Ministry of Education and Culture.

The Finnish Environment Institute (Syke) researches and assesses biodiversity, serving various public bodies and agencies, businesses and communities. It assesses the endangered status of species and habitats (maintaining national Red Lists), conducts research on the management and restoration of different habitats, and on the importance of ecosystem services and their interaction with biodiversity. Syke is steered and partly financed by MoE.

The Ministry of Agriculture and Forestry (MAF) steers policies on sustainable use of natural resources and agrees performance targets with related state authorities. Policies include sectors of forestry and bioenergy, game and fisheries as well as water resource management. MAF also steers sectors of agriculture, food security and rural development, including industries such as reindeer husbandry. In addition, MAF is leader of national policy and strategies on adaptation

to climate change as well as on invasive alien species.

The Finnish Natural Resource Institute (Luke) is a research organisation operating under MAF and its research activities cover all the related sectors. Luke also produces official statistics on natural resource assets and their use. Research themes include trends in outdoor recreation and nature tourism.

The Ministry of Education and Culture (MEC) is responsible, in addition to the educational sector, for overseeing policy and legislation concerning culture and state-owned cultural heritage. The National Board of Antiquities serves as an advisory authority under MEC in matters related to the protection of cultural heritage and environments.

PWF works in close cooperation with the ministries, research institutes and the National Board of Antiquities at national level and with each of the ELY Centres regionally.

Metsähallitus

Finnish state lands and privately owned lands were separated in 1840, as part of a general parcelling of land. Metsähallitus was established in 1859 as a forest management institute, governing most of Finland's state-owned lands. As a state enterprise since 1991, it still owns/governs most state land and waters covering one third of the country, in total some 125,760 km^2 (see Figure 1). Three quarters of this area is land holdings, mostly in eastern and northern Finland; one quarter in the coastal and marine area of the Baltic Sea.

In 2016 the reformed Metsähallitus Act legislated a clear separation of business operations and public administration duties. Today the company has two distinct roles:

Business activities:

- Metsähallitus Forestry Ltd governs state multi-use forests and operates as a commercial forest company.
- Metsähallitus Property Development sells and leases state properties and, e.g., develops wind power projects on state-owned areas.

Public administration duties and services:

- Metsähallitus Parks & Wildlife Finland manages state protected areas and cultural heritage sites and provides free services for hikers. It also sells fishing and hunting permits and manages hunting and fishing on state-owned lands.

The responsibility of Metsähallitus, according to its vision statement, is to:

- Achieve a more responsible, sustainable, fair and equal future.
- Harmonise the wide variety of use needs relating to state lands sustainably and responsibly, balancing their ecological, cultural, social and economic impacts, so that they will benefit people, society and nature as much as possible.
- Create added value for nature, people and society across generations.

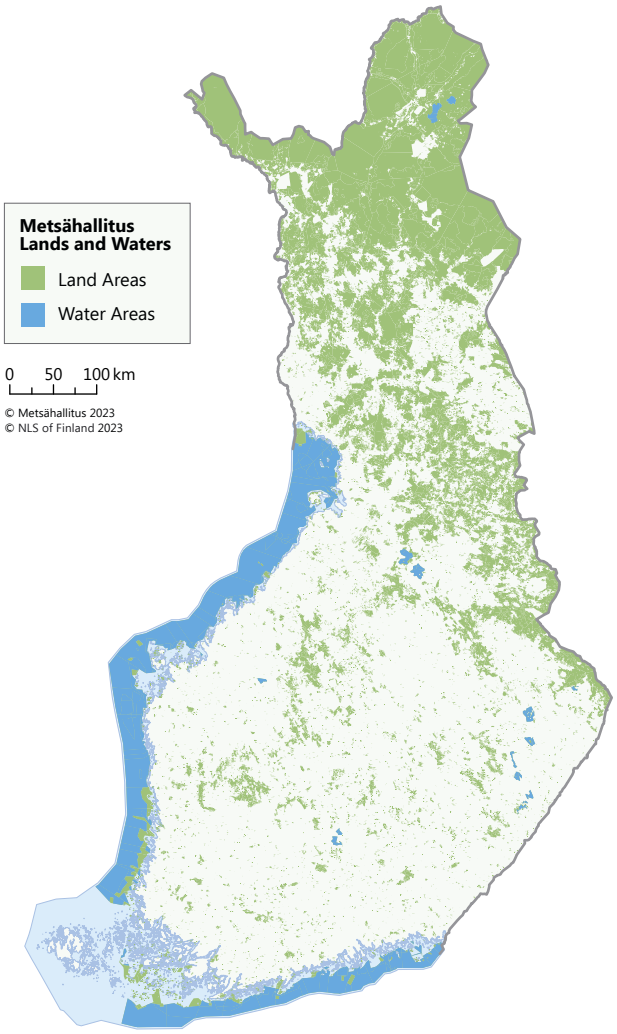
The strategy of Metsähallitus is updated every four years with the Government programme of each Government period and considers the new ownership policy for Metsähallitus set by Parliament. The present strategy is valid until 2024. The Government programme 2023–2027 was approved by the newly elected Parliament in June 2023 and Metsähallitus' ownership policy and strategy updates will be subsequently agreed in 2024.

As part of the Metsähallitus Group, Parks & Wildlife Finland is implementing the enterprise strategy within its own operative sector. Objectives set by PWF aim to add value to environment and society, but impacts may be variable (Box 1).

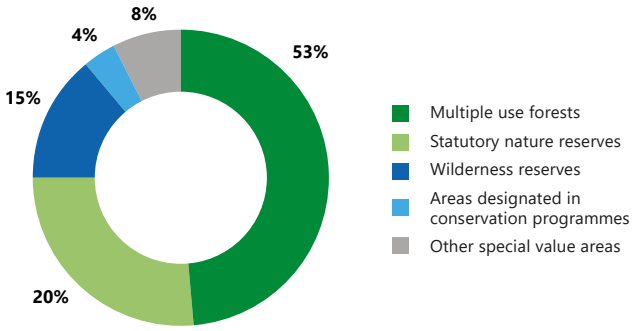
Metsähallitus operations are based on internationally recognised responsibility guidelines and principles, such as the UN Agenda for Sustainable Development (2030 Agenda) and UN Guiding Principles on Busi-

ness and Human Rights. Metsähallitus' work is guided by a responsibility policy, responsibility programme and Code of Conduct, which together specify key principles, duties, guidelines, objectives and actions. This also outlines principles related to environmental and human rights. All staff need to pass a course on Responsibility and Code of Conduct Training. Stakeholders are encouraged to take responsibility into account and promote it. Suppliers to Metsähallitus are required to pledge their commitment to the Code of Conduct. Metsähallitus has an ISO 14001 certified environmental system and Responsibility and Environment Policy and Climate Programme.

A State land and water areas
Total state owned area 125,760 km²



B State land areas
Total land area 91,570 km²



C State water areas
Total water area 34,190 km²

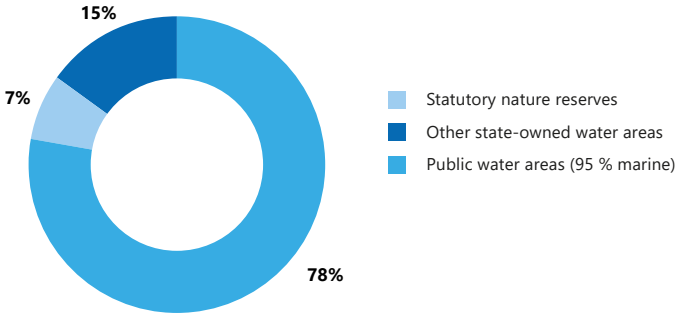


Figure 1. State land and water areas governed by Metsähallitus.
Alternative text of the figures.
A. Map of areas governed by Metsähallitus show that most of land areas are concentrated in eastern and northern parts of the country, with scattered land areas in the south.
B. Proportions of state land areas are shown as percentages: 20% statutory nature reserves, 15% wilderness reserves, 4% areas designated in conservation programmes, 8% other special value areas, 53% multiple use forests. Total land area is 91,570 km2.
C. Proportions of state water areas are shown as percentages: 7% statutory nature reserves, 15% other state-owned water areas, 78% public water areas, 95% of these are marine. Total water area is 34,190 km².

Box 1. Fostering our Future – Metsähallitus' strategy 2021–2024

Metsähallitus' strategy "Fostering our Future" for the period 2021–2024 defines the key objectives and policies for Metsähallitus operations. Metsähallitus' vision consists of five themes: bioeconomy, biodiversity, climate change, responsibility and cooperation, and well-being. Each vision theme includes strategic promises. Though biodiversity is one focal theme, bioeconomy is the mainstay and main source of business income. Metsähallitus' contribution to state revenue was 110 million euros in 2022.

Parks & Wildlife Finland (PWF) is implementing the enterprise strategy within its own operative sector.

PWF objectives impacting biodiversity include:

Environment:

- Improving the status of biodiversity and halting biodiversity loss.

Society:

- Sustainable growth in nature, fishing and hunting visits and their well-being impacts.
- Passing fishing and hunting culture and cultural heritage on to the next generation and reinforcing the principles of sustainable growth.
- Improving possibilities for sustainable nature, hunting and fishing tourism.

Parks & Wildlife Finland

The protected area arm of Metsähallitus was established as an independent unit in 1992 as Natural Heritage Services (NHS). Reorganised and renamed in 2014 as Parks & Wildlife Finland (PWF), this now consists of two units, National Parks Finland and Wildlife Service Finland. The focus of this evaluation report is on National Parks Finland's operations and effectiveness of protected area management. However, as issues of fishing and hunting are also relevant in certain protected areas, operations of Wildlife Service Finland are also introduced.

As noted above, Metsähallitus is guided by state ownership policy and PWF performance by two ministries: Ministry of the Environment for nature conservation and protected areas and Ministry of Agriculture and Forestry for outdoor recreation and wildlife management operations. The PWF organisation consists of two main units, with an overseeing Director: 1) National Parks Finland with four regional units (from north to south): Lapland, Ostrobotnia and Kainuu, Lakeland and Costal and Metropolitan Area 2) Wildlife Service Finland with two regional units: northern and southern district and its own unit Director (see Figure 2).

The main roles of **National Parks Finland** are to:

- Manage state-owned protected areas and cultural historic sites.
- Compile and maintain data on conservation features and measures.
- Maintain and restore valuable habitats.
- Protect species and their habitats.
- Provide free hiking routes and facilities for visitors in protected areas.
- Maintain snowmobile routes in state-owned areas (mainly outside protected areas).
- Participate in international collaboration on nature conservation.

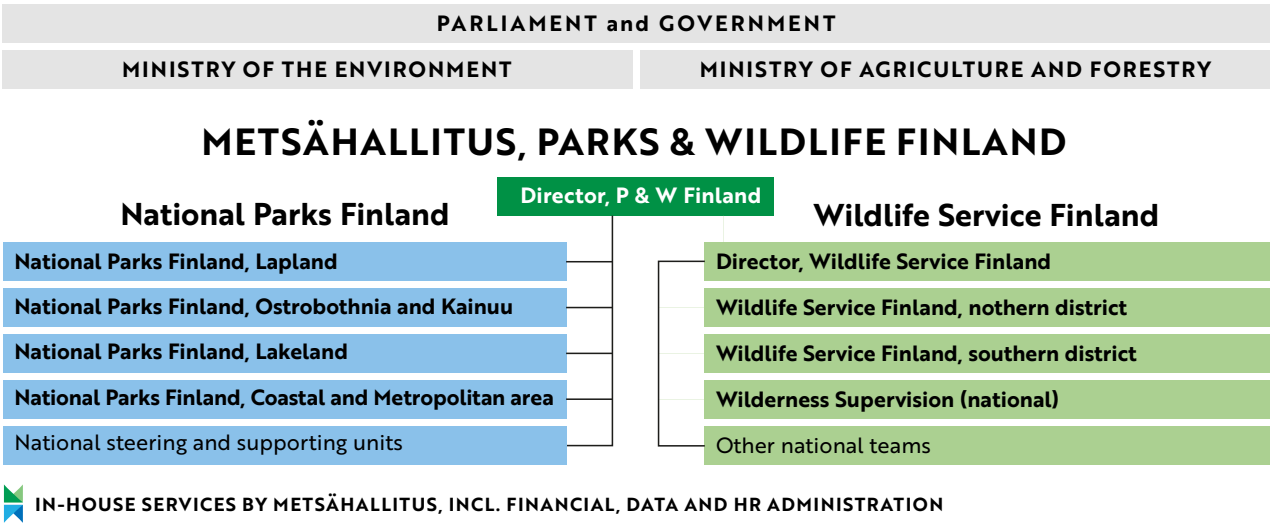


Figure 2. Organisation of Parks & Wildlife Finland (2023).

National Parks Finland is presently (in 2023) is organised into four regional units and eight park districts (see Figure 3), operating in three main teams:

- Land use planning and protected area management.
- Conservation of natural and cultural heritage.
- Outdoor recreation and tourism.

The main roles of **Wildlife Service Finland** are to:

- Sell fishing and hunting permits for state-owned areas.
- Manage hunting grounds and fishing waters.
- Supervise all wilderness activities on state-owned lands by game and fisheries wardens.

PWF manages all state-owned protected areas and hiking areas covering (Figure 4):

- 41 National Parks
- 19 Strict Nature Reserves
- 1,100 other State Nature Reserves
- 12 Wilderness Reserves
- 5 National Hiking Areas
- 1 UNESCO Natural World Heritage Site
- over 3,000 sites designated in conservation programmes.

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Figure 3. National Parks Finland's four regional units (2023).

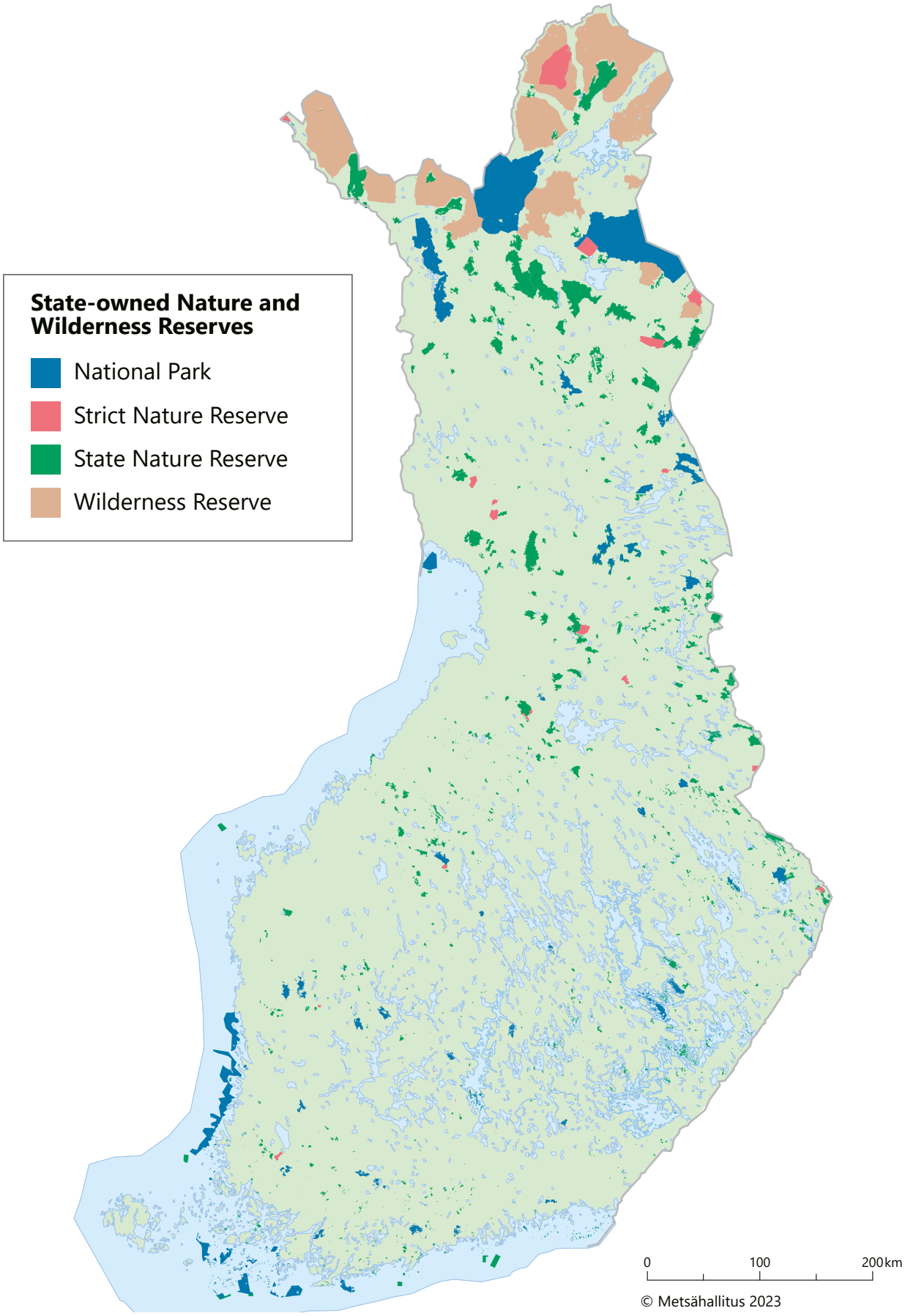


Figure 4. Protected areas managed by Parks & Wildlife Finland (2023).

All the wilderness reserves and largest national parks are situated in northern Finland. National parks and strict nature reserves and other state nature reserves are found throughout the country. In southern Finland, sites are smaller and scattered.

PWF also manages cultural heritage sites on state-owned lands:

- ca. 500 buildings protected by legislation
- ca. 3,000 ancient monuments.

PWF is financed from the state budget under four Ministries: M. of the Environment, M. of Agriculture and Forestry, M. of Justice, M. of Economic Affairs and Employment. Additional funding comes from EU funds, game and fishing permit fees and some other sources. National Parks Finland's funding for protected area work totalled €79.8 million in 2023 (see Figure 5). However, funding is declining, as the new government elected in 2023 is planning to cut €6 billion from its overall budget and this will feed down to public services like those of PWF, which will face major cuts in total annual funding in the coming years.

PWF has employed an equivalent of about 500 full-time people per year over the past four years (2019–2023), which covered a period of major government investment for nature restoration and for construction and renovation of recreational facilities.

PWF performance targets are set both nationally and regionally and performance is reported to the Metsähallitus Board of Directors, steering Ministries, and ultimately to the EU Commission and the Secretariats of relevant global Conventions as part of national reporting.

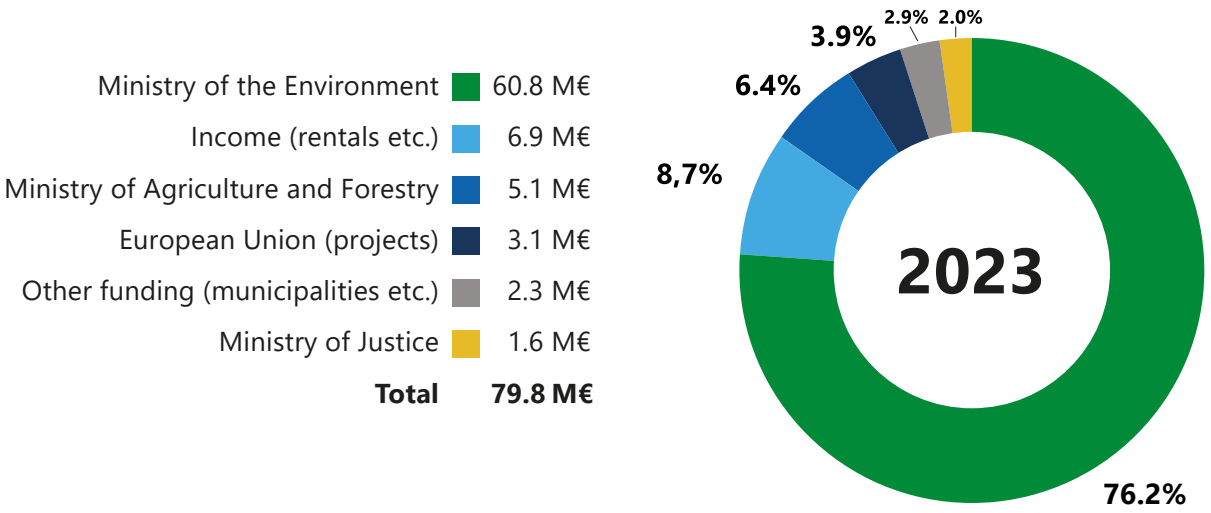


Figure 5. PWF/ National Parks Finland funding (2023).

Protected area management

Management of state-owned protected areas is guided by the *Principles of Protected Area Management in Finland* (Heinonen 2016). These have been used by PWF since 1992, and a completely updated version in Finnish has been published in 2023 (Metsähallitus 2023c). The structure and focal points of the guidelines have been substantially changed since the previous version published in 2014 (in Finnish, and in English in 2016). The guidelines are based, and the publication is organised within the Protected area management framework. The framework (see Figure 6) and content headlines are presented in Box 2.

PWF's operates in a changing environment. Objectives and goals are set by international and national strategies and policies; performance targets for everyday work are agreed annually. Obligations for management and limitations to use are dictated by national legislation and EU nature regulation. Operative protected area management - maintenance and restoration of natural and cultural heritage, site administration, ensuring sustainable land use – this all requires a good information base and interaction with local communities and stakeholders. Ecosystem based and participatory site and broader scale planning and advocating ecosystem services helps in connecting protected areas into the wider landscape, mitigating impacts of pressures and in tackling potential conflicts of interest. Building resilience and adapting to changing climate, growing tourism and fluctuating resources, requires foresight and proactive planning, as well as monitoring and reactive capacity. The *Principles of Protected Area Management* are complemented by a range of other guidelines and supported by an integrated protected area information system (see Box 7).

The guidelines publication describes Finland's protected areas and their objectives, and the role of protected area networks in promoting the objectives of nature conservation and sustainable use. The basis of adaptive planning and management principles for protected areas are also presented. The practices and principles for the conservation and management of natural habitats, species and cultural heritage are reviewed, as well as the steering and control of all kinds of recreational use, wildlife management and other forms of land use in protected areas (e.g., roads and off-road traffic, technical structures, mineral prospecting and mining, leasing and granting rights of use, etc.) to ensure their sustainability.

A significant part of the principles of protected area management is derived directly from national statutes, while some are best practices defined by PWF as the owner and manager of the areas. In connection with the update, the guiding principles have been revised to correspond to the

Box 2. Principles of protected area management in Finland

The *Principles of Protected Area Management* guidelines have been used by Parks and Wildlife Finland (PWF) since 1992. A completely updated version in Finnish has been published in 2023. The latest available version in English is from 2016. Translation of the new guidelines is currently not yet available (to be published in 2024).

The guidelines content is organised according to the PWF protected area management framework (see Figure 6) and updated headlines are:

1. Introduction
2. Finland's protected areas and their objectives
3. Framework for protected area management
4. International and national context of protected area management
5. State-owned protected areas as part of Metsähallitus
6. Nature Conservation Act and other legislation pertaining to protected area management
7. Ecosystem approach and adaptive management model
8. Protected area management planning and monitoring
9. Protection and management of habitats and species
10. Preservation and management of cultural heritage
11. Research and environmental education in protected areas
12. Nature recreation and tourism in protected areas
13. Wildlife management and subsistence livelihoods
14. Other use of protected areas
15. Protected area property administration and law enforcement
16. Protected areas in broad-scale planning of landscapes and seascapes
17. Influencing land use outside of protected areas.

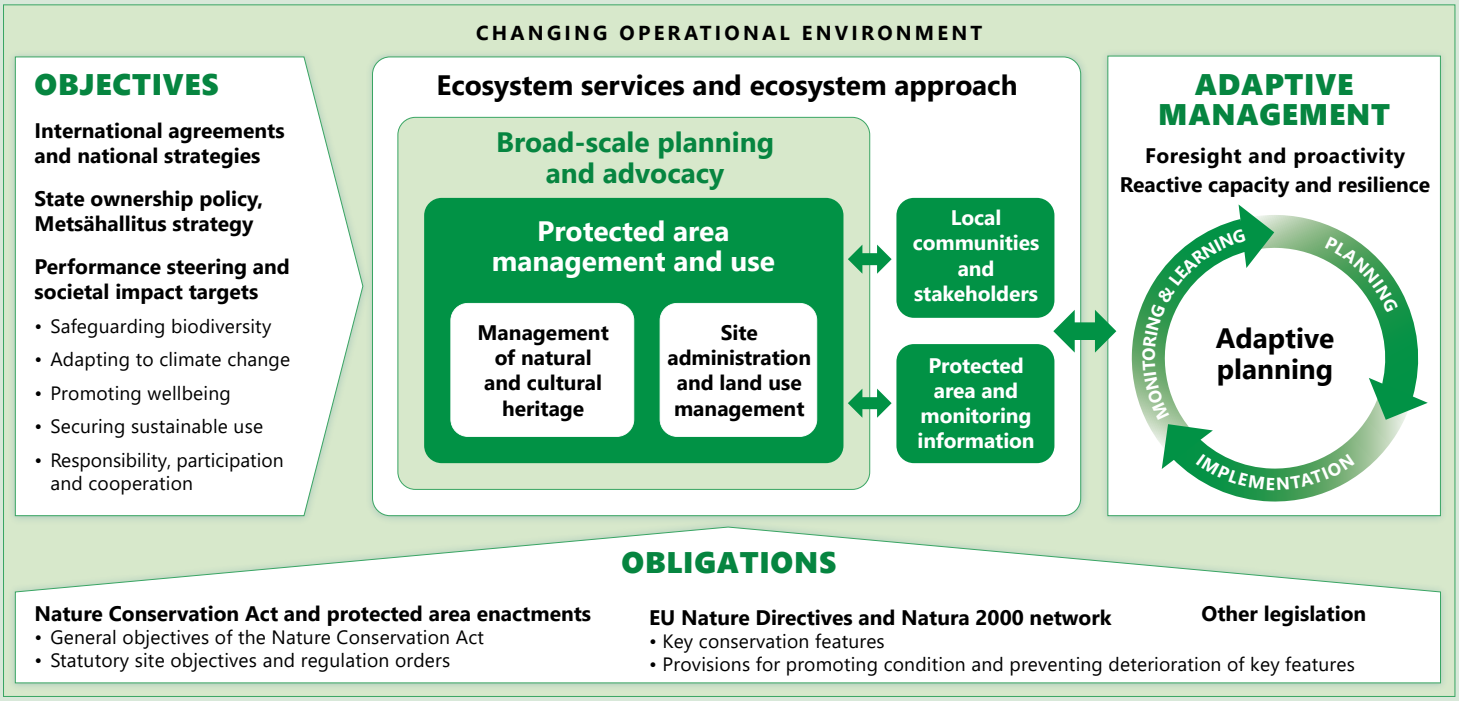


Figure 6. Protected area management framework (2023).

recently amended Nature Conservation Act (9/2023) and other up-to-date legislation as well as the European Commission guidance on the management of Natura 2000 sites.

The state's land and water areas are the focus of many types of needs and wishes regarding their use, from being the Sámi Homeland in upper Lapland to hunting/fishing, recreational use, biodiversity conservation, education and much more. For this, reconciling different needs is a prerequisite for sustainability. Adaptive planning requires participatory processes with stakeholders and citizens both in terms of accessing information needed for the planning area and in reconciling possible conflicts. Special attention needs to be taken in the Sámi Homeland and in the archipelago areas due to specific national legislation.

In addition to the state-owned protected areas, there are a large number of PPAs. These include around 15,000 nature reserves and habitat and species protected areas covering in total around 420,000 hectares (see Table 1). PWF directly manages over 90% of all Finnish protected areas by total area and takes part in operational management of many PPAs.

Ekenäs and Hangö Archipelago and Pojo Bay Natura 2000 site is also designated as a wetland protection site under the Ramsar Convention and a marine protected area under the Helsinki Convention. The site includes Ekenäs Archipelago National Park and several other state nature reserves, as well as private nature reserves. Management of the Natura 2000 site is planned in an integrated manner, in collaboration with regional authorities, landowners, local communities and stakeholders. Photo: Hannu Vallas.

Evaluation and assessment methodology overview 2004–2023

Methodology

In 2004, Finland was the first country in the world to commission an independent evaluation of the management effectiveness of the whole protected area system. The assessment (Gilligan et al. 2005) developed and implemented a methodology based on the IUCN World Commission on Protected Areas (WCPA) protected area management effectiveness (PAME) framework (see Box 3), adapted for the conditions in Finland.

In 2023, the PAME assessment methodology was reviewed by the evaluation team, assessed and adapted further to reflect the agreed evaluation terms of reference and the changes in protected area management and in global, European and national conservation goals, directives and legislation. The 2023 assessment methodology used the summary and recommendations from the 2004 assessment as the starting place for key points to consider when reviewing the criteria, with the previous evaluation results providing a benchmark for the 2023 exercise.

The updated methodology, *System-level evaluation of protected area management effectiveness for Parks & Wildlife Finland (PAME)* (Equilibrium Research 2023), followed the same format as in 2004. It is based on a set of questions organised around the IUCN WCPA PAME Framework. Each question has four assessment criteria (poor, fair, good, very good) which are specific to each question. Criteria from the previous assessment were amended where necessary to update the assessment, in addition:

- Key questions for PWF to consider were added to each question to ascertain whether the 2004 Recommendations had been implemented (and if not, why not) and update management issues where necessary.
- 11 additional questions were added (mainly related to context and processes), increasing the system level questions from 36 to 47 in total.

The PAME assessment questions with associated assessment criteria are listed in Appendix 1.

Box 3. Framework for effective protected area management

To understand Protected Area Management Effectiveness (PAME), IUCN WCPA developed a framework (Figure 7) to help guide the assessment of how well the protected area is being managed – primarily the extent to which areas are protecting values and achieving goals and objectives. The framework defines the term "management effectiveness" as reflecting three main management themes:

- design and planning issues relating to both individual sites and protected area systems;
- adequacy and appropriateness of management systems and processes; and
- delivery of protected area objectives including conservation of values (Hockings et al. 2006).

This means the effectiveness of individual protected areas is a sum of decisions taken at the time of establishment in relation to the design as well as subsequent management decisions (Rodrigues & Cazalis 2020).

The PAME framework has spurred a major body of work around PAME including systems and tools, research and development, implementation and adaptive management worldwide (Hockings et al. 2006).

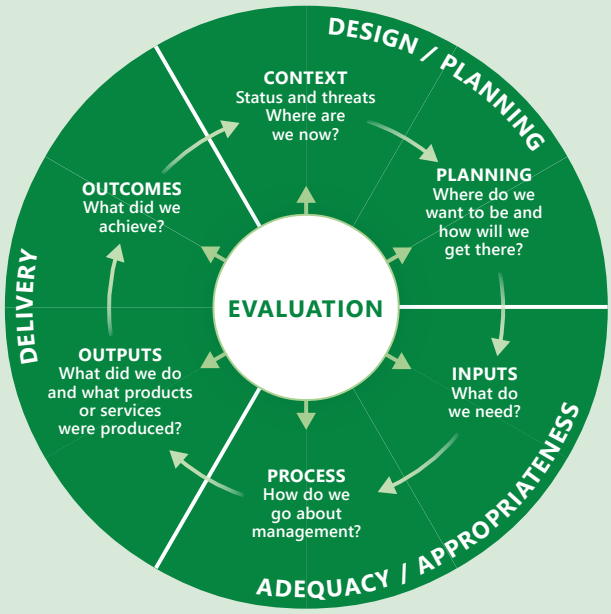


Figure 7. IUCN WCPA Framework on Protected Area Management Effectiveness (PAME). Alternative text of the figure. The framework is pictured as a pie divided into three sectors reflecting three main management themes: 1) design/planning, 2) adequacy/appropriateness and 3) delivery. Evaluation is in the centre; it involves six elements to which arrows point from the centre, two in each sector. In sector 1 are context (Status and threats. Where are we now?) and planning (Where do we want to ve and how will we get there?); sector 2 inputs (What do we need?) and process (How do we go about management?); sector 3 outputs (What did we do and what products or services were produced?) and outcomes (What did we achieve?).

Assessment process

The assessment questionnaire formed the basis of the evaluation. PWF formed a core team to gather all the necessary information to answer the questions as well as to respond to how the recommendations of the 2004 evaluation had been considered in PWF's work. The evaluation project, as well as the PWF core team, was led by Matti Tapaninen, Senior Specialist, Outdoor Recreation and Visitor Management; Mervi Heinonen, Senior Specialist, Nature Conservation and Sanna-Kaisa Juvonen, Senior Specialist, International Affairs, were the other two members of the core team. The senior management of PWF acted as a steering committee to the evaluation project.

To gather the information, the PWF core team consulted many PWF specialists and prepared thematic presentations for the evaluation team. Over several months, online presentations were delivered to the evaluation team on the range of topics outlined in the assessment questionnaire, coupled with presentations prepared for the field trip. In all, over 50 PowerPoint presentations were prepared to feed into the assessment, covering all aspects of the protected area system. A self-assessment was carried out using the assessment questionnaire by PWF staff.

In addition to the questionnaire for the whole protected area system, PWF also used the Management Effectiveness Tracking Tool (METT) methodology (Protected Planet 2024) to assess the management of five protected areas. For this exercise, a responsible person was appointed for each of the protected areas to be assessed. They then gathered a group of regional specialists to fill out the METT format of their protected area. The results of the site-specific self-assessments using the METT are presented in Appendix 2.

Additional information was gathered during a field trip organised by the PWF core team for the evaluation team through discussion and a wide range of formal and informal conversations and information requests. A map of the tour, including visited and METT-assessed sites, is shown in Appendix 3. Detailed information about the field trip in each four operational regions of PWF is in Appendix 4A. All in all, about 100 PWF specialists participated during the whole of the evaluation process. People met and interviewed during the evaluation tour are acknowledged in Appendix 4B.

All this information was then reviewed by the evaluation team to develop the current report and the recommendations contained herein. The PWF core team was given an opportunity to give comments on the draft report as well as the senior management of PWF. PWF was responsible for production and publishing of this report publication.

Figure 8 provides an overview of the entire protected area management effectiveness (PAME) assessment process.

In 2004, the assessment criteria were not converted into a numerical score as there were concerns about the relative weighting of different questions and the precise wording of assessment criteria. These concerns remain valid. However, for this repeat assessment numerical scores have been used to allow a quick overview of progress made in developing an effective system of protected areas across Finland. The criteria were converted into numerical scores as shown in Table 2 and provide an overview of the results for each of the IUCN WCPA Framework elements.

Regarding scoring, the evaluation team was generally in agreement with the PWF self-assessment. Scores differed on 11 occasions; in four of these cases (questions 1.5, 2.1, 3.2 and 6.6), the evaluation team increased the score and in seven the team agreed slightly lower scores than PWF (questions 1.8, 1.11, 2.2, 2.7, 3.4, 4.6 and 5.6). In the following report, self-assessment scores are only given if they differ from that of the evaluation team.

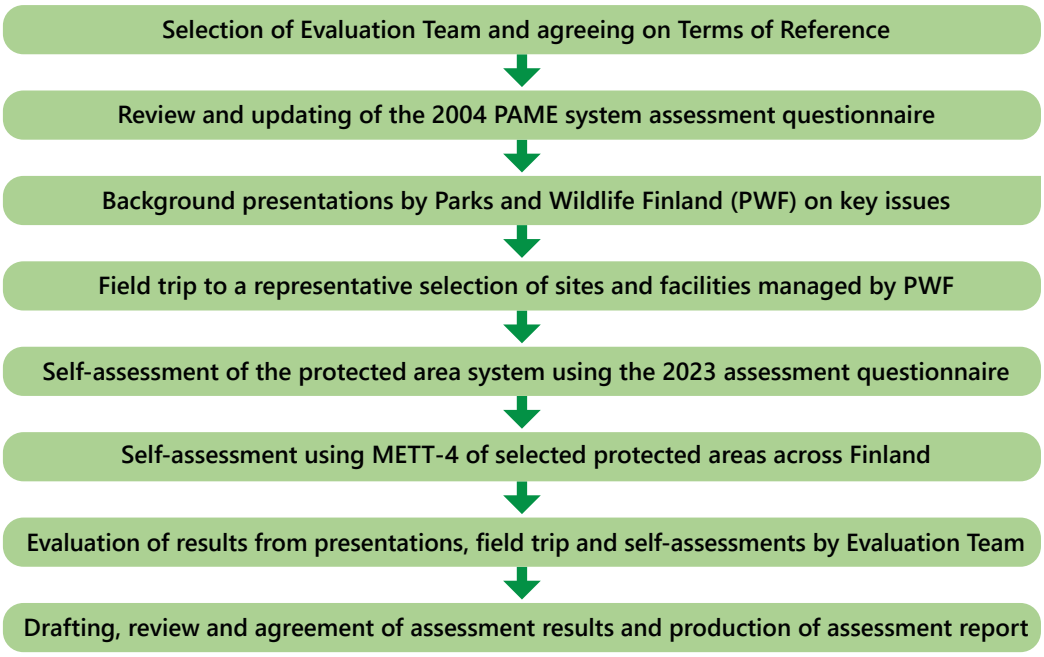


Figure 8. Schematic presentation of methodology used in the assessment of protected areas in Finland.

Table 2. Converting the PAME assessment criteria into numerical scores.

Criteria	Score
Poor	1
Poor to fair	1.5
Fair	2
Fair to good	2.5
Good	3
Good to very good	3.5
Very good	4

Findings and recommendations of the 2023 evaluation

Improving management: An overview of the assessment results

A comparison of the evaluation team's assessment of management effectiveness using the *System-level evaluation of protected area management effectiveness for Parks & Wildlife Finland (PAME)* (Equilibrium Research 2023) developed in 2004 and updated in 2023 shows an overall improvement, with the percentage scores from across the whole evaluation rising from 69% to 75%. It should be noted that in comparison with many protected areas systems across the world, the Finnish system is of a very high standard, so these figures should be viewed only in terms of a high standard evaluation with the multiple-choice questions used in the assessment laying out what could be considered exemplary management.

Figure 9 provides a more nuanced overview of the changes between the 2004/2005 assessment and 2023. The only static score is in relation to outcomes. This is perhaps more of a concern as it would have been hoped that improvements in conservation would have improved the status of species' communities and habitats. Although the populations of some threatened indicator species have increased, particularly those that have been the focus of specific conservation efforts (e.g., Saimaa ringed seal, white-backed woodpecker etc.), biodiversity overall is still declining. This indicates that the protected area network is not sufficient to sustain viable populations of many native species and overarching pressures such as climate change further challenge the survival of species within the network.

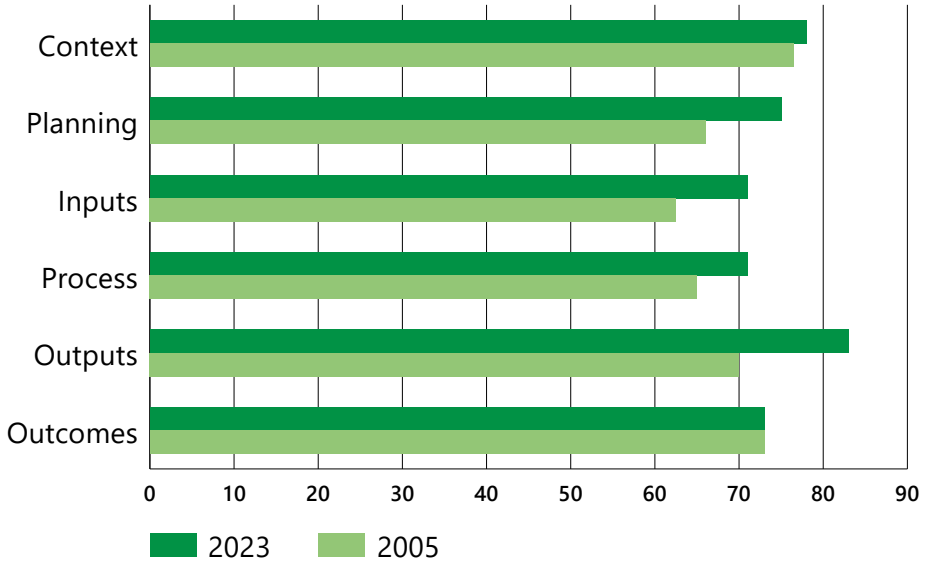


Figure 9. An improving picture: scores are represented as a percentage of the responses for all the questions in each evaluation element/category of the WCPA Framework (see Figure 7).

The clear conclusion is that the protected area network and its management alone cannot guarantee the survival of threatened species but requires the support of management actions outside the network. As conservationists know, many of the pressures affecting biodiversity operate at spatial scales beyond individual protected areas and even protected area systems, and increasing knowledge through more effective and sophisticated monitoring often leads to concern over species and habitat survival growing rather than diminishing. This is not to say that such issues should be ignored, and the evaluation recommendations focus on the need for a stronger emphasis on nature conservation throughout PWF work. This also emphasises the need for a holistic approach to conservation, where managers look beyond the boundaries of protected areas to both halt and reverse the steep decline of biodiversity and to also address landscape-scale pressures. This means collaboration, understanding and acting on pressures and delivering multiple benefits and efficiencies.

All other elements of the management focus, as expressed by the WCPA management effectiveness framework, have shown increases, the largest being in terms of outputs, e.g., actual work completed. This is a clear indication of the additional funding that in recent years has gone into the protected area network across Finland and also, and perhaps most importantly, the dedication of staff to deliver an effective, efficient and expanding conservation network. Obviously, scores vary from question to question, and these are discussed in detail in the sections below.

Appendix 2 includes a summary of the management effectiveness scores from the self-assessments using the Management Effectiveness Tracking Tool (METT-4); although only completed for five sites (representing a cross section of the protected areas in Finland), these results (see Figure 10) are similar to the network level results (Figure 9). All areas of management are strong, but at a site level planning is clearly extremely effective throughout the network (90%); all other elements are sound, but the weakest area compared with other management elements is outcomes (71%), as assessed against site objectives.

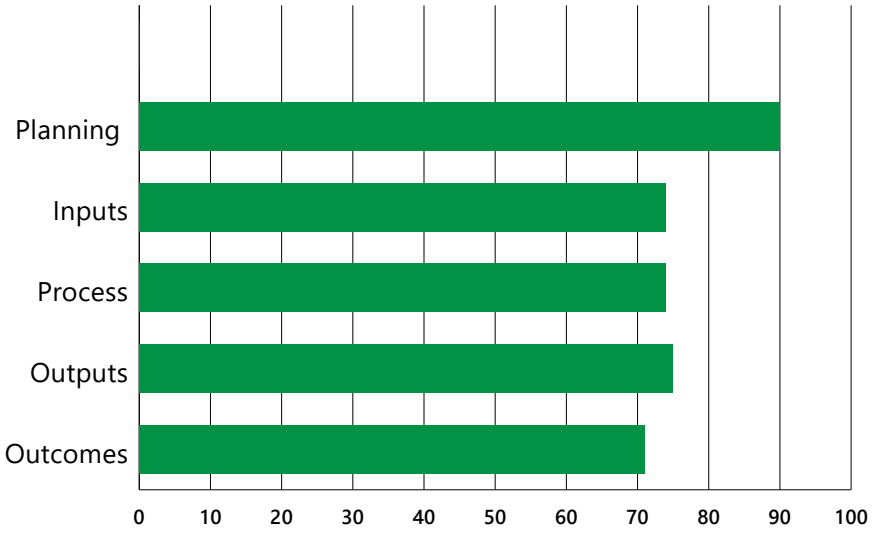


Figure 10. Thematic scores for METT assessments. Scores are represented as a percentage of the responses for all the questions in each category of the WCPA Framework for the five sites assessed (see Appendix 2).

Question by question discussion and recommendations

All of the 2023 PAME assessment questions with associated assessment criteria are listed in Appendix 1. Scoring for each question shows results of the assessments in 2004/2005 and 2023. Arrows further visualise the direction of development over time. For new questions added to the 2023 assessment, only the results of this assessment are shown.

1 Context

1.1 Is there a clearly articulated vision, plan and strategy for the ongoing development and management of the Finnish protected area system within Parks and Wildlife Finland?

↓	2004/5	Good / Very good	2023	Good

Overview: In 2023, the assessment stressed a focus on articulating the vision through a plan and strategy. Specific information was requested in relation to:

1. Has the vision been updated as recommended in 2004/5?
2. Does the vision cover the 30x30 targets?
3. Does the vision sit coherently within the broader national strategy for nature?
4. Have stakeholders been identified?
5. Is the vision explained and understood by stakeholders?
6. Has a monitoring system to understand staff attitudes been developed?

The Metsähallitus national vision, plan and strategy is articulated in the National Biodiversity Strategy and Action Plan (NBSAP). PWF strategy is then articulated in the performance agreement on public administration duties between the Ministry of the Environment (MoE), Ministry of Agriculture and Forestry (MAF) and Parks & Wildlife Finland (PWF). The current strategy and performance targets for 2023 and preliminary targets for the period 2024–2027 are given in Table 3. Each target has a set of actions and measurable indicators.

A National Biodiversity Strategy and Action Plan (NBSAP) until 2035 is being developed. A draft document was open for first consultation in January 2023. After extensive stakeholder feedback this is being finalised for resolution by the Council of State. The strategy considers international and EU obligations, includes key targets for area-based conservation and restoration measures in different habitat groups at national level with associated indicators and the main responsibilities of ministries/agencies.

The existing projects such as Forest Biodiversity Programme METSO and Habitat Restoration Programme HELMI will be the key implementation tools of the national strategy (see Boxes 4 and 5), involving protection and habitat management in both state-owned and private lands. These are the most important ongoing government funded programmes to implement conservation measures towards the CBD Global Biodiversity Framework (GBF) and EU Biodiversity Strategy 2030 targets of protected area extension and habitat restoration.

The overall vision and strategy for the Finnish national ecological network is visualised in Figure 11. State nature reserves and private nature reserves (PPAs), that are established on basis of the Nature Conservation Act, form the core of the system. These statutory sites are supplemented with Natura 2000 sites and other protected areas, and they are further supported by other areas of effective conservation measures (OECMs) and connective landscape elements (green and blue infrastructure).

Discussion: It seemed to the evaluation team (from websites, presentations and the

Table 3.The Parks & Wildlife Finland strategy and performance targets 2023–2027.

A Societal impact (society, customer, citizen, nature)
A1 Prioritised measures help to improve the conservation status of species and habitats.
A2 The status of nature values in the Natura 2000 network and the network of nature reserves will improve.
A3 The value of cultural and historic real property assets will be preserved.
A4 Hunting and fishing will remain on a sustainable, ethical and responsible basis.
A5 Comprehensive and customer-oriented wilderness services enhance wellbeing and create prerequisites for wilderness-based business.
A6 Hiking in nature will boost our wellbeing and help us to appreciate nature, and this will be supported with active communications.
B Operational performance (structures, processes, services, management)
B1 The activities are productive, customer-oriented and knowledge-based.
B2 The activities are climate-wise and responsible.
C Resources (personnel, expertise and competence, finances, working conditions)
C1 Staff members are competent and feel well.
C2 Financial outlook and profit targets will guide the work and the dimensioning of the operationsin a proactive manner.

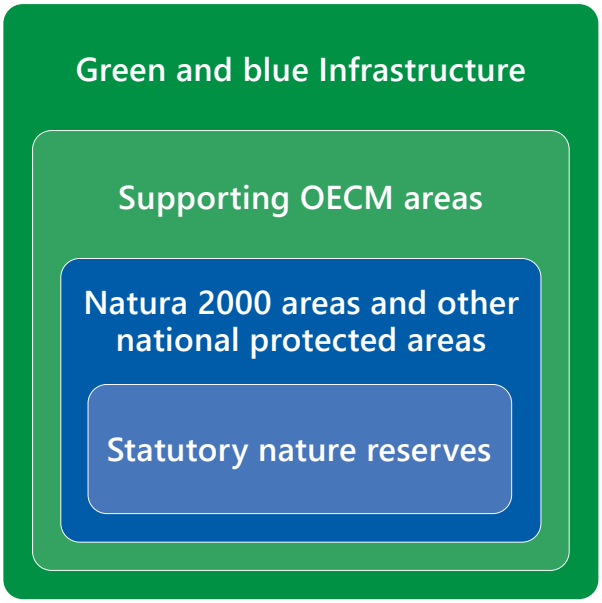


Figure 11. Vision and strategy for a national ecological network in Finland

field trip) that protected areas are communicated to the public, and in many cases managed, primarily for nature-based tourism rather than biodiversity.

The self-assessment concluded that as the NBSAP was being widely consulted on, stakeholders understand the international/EU context, similarly staff were aware of the vision and strategy, although it was noted that this is not monitored. It was also noted in the self-assessment that the protected areas system vision was incorporated into the *Principles of protected area management in Finland*, but that PWF's action plan has not been renewed since end of 2020.

The evaluation team was left with the impression that in some cases planning was more "project by project" rather than necessarily fitting individual projects within an overall strategy or multiple strategies into one comprehensive whole. Projects can make up anywhere between 10–25% of the overall PWF annual budget (including PWF self-funded projects). There is no clear strategy in terms of the benefits that projects bring or how to harmonise them with the overall operational workload of PWF, however more effort to "locate" projects within an overall strategy would avoid the risk of individual projects feeling isolated. This was the impression of the evaluation team, for example, regarding the work on Healthy Parks, Healthy People (see Box 22). This strategic approach needs to address biodiversity loss as a central theme, and should consider issues such as connectivity, adaptation and resilience.

The evaluation team applauded innovative programmes such as METSO and HELMI but noted the limited budget and sometimes a rather ad hoc approach to implementation. A more strategic approach could greatly increase effectiveness, and the team would advocate an expansion and greater resources/ambition for the programme, especially with the development of OECMs which are now being included in the programmes.

Finland is unusual in that there is public pressure for more national parks, although the reasons for this are largely economic due to the increased benefits to the local economy from visitor spending and new investments in the location. There are clear dangers here, both of establishing national parks in places where the biodiversity values do not justify such a move (and conversely missing areas that do) and also of exhausting the public's demand for such sites and thus weakening the "brand".

Recommendations: While many values are important, the evaluation team stressed the need for a higher profile, clear and communicable goal for biodiversity conservation at a system level linked to current management and the future strategic development of the system and the work of PWF. This includes an articulation of the role of tourism and outdoor recreation in biodiversity conservation.

- Develop a clear biodiversity vision for PWF, supported by a robust communication plan, ensuring that this vision relates closely with Finland's national and international commitments.
- Undertake capacity building with Metsähallitus staff to ensure deep understanding of this vision throughout the organisation.
- Expand the METSO Forest Biodiversity Programme with increased resources and ambition.
- There is possibly a need for a national park strategy – focusing on issues relating to expanding the national parks across the country. At present "new" national parks are often "created" by the re-designation of hiking areas and/or extension of protected areas. As "National Parks" are an international brand, this tends to lead to more visitors, which are not always welcome if capacity to deal with visitors is not available.
- Develop a more strategic approach to projects and programmes that are clearly linked to PWF objectives.

Box 4. Voluntary forest protection in the METSO Programme

Privately protected areas (PPAs) in Finland consist of private nature reserves, preserving ecological and cultural landscapes, and more recently also Habitat or Species Protection Areas targeting specific features. First designations can be traced back to the 1920s and 1930s, when PPAs were established to protect particular natural features, landscapes and especially valuable herb-rich forests and bird sites in the archipelagos of the Baltic Sea coast. Most PPAs have been established within the national nature conservation programmes, particularly from the 1990s, after several Government resolutions were enacted on financial programmes to support land acquisition and compensate landowners (see below) (Heinonen 2014).

Administrative responsibility for the development and management of PPAs is assigned to the regional ELY Centres. Operational responsibility is often taken over by the Parks & Wildlife Finland, but always in cooperation with the landowners. Funding for the management of PPAs mostly comes indirectly from the state through a variety of programmes (e.g., HELMI, see Box 5). The ELY Centres may also exceptionally make a resolution on protection of a private property without a landowner's consent, if the site is included in one of the nature conservation programmes approved by a Government resolution (Heinonen 2014).

PPAs are mostly scattered over the southern half of the country, with the larger PPAs concentrated mostly in the western parts. In the south, PPAs complement state protected areas, which tend to be small in the midst of more populated regions. Particularly significant is the complex mosaic of PPAs and state-owned areas in the Bothnian Sea, some of which are contained in the Kvarken Archipelago World Heritage Site. Similar complexes are found also in other parts of the coastal archipelagos (Heinonen 2014).

The **METSO Forest Biodiversity Programme** (2008–2015, 2016–2025) has promoted the establishment of new PPAs, and other protected areas, across Finland. Focused on enhancing the forest ecosystems in southern Finland by establishing new protected areas and by restoring forestland and wooded wetlands, the programme has:

- Encouraged voluntary conservation of privately owned forests and the establishment of private nature reserves based on biodiversity criteria, with compensation to landowners.
- Included transferred high biodiversity value sites from Metsähallitus Forestry Ltd to PWF, to be established as nature reserves.

Box 5. Restoring habitats in the HELMI Programme

The HELMI Habitats Programme 2021–2030 involves extensive restoration work within and around the Natura 2000 network. The programme focuses on the restoration of habitats (other than forest) on state and private lands, using a large-scale ecosystem approach and prioritising the most threatened features. Much of the work takes place in PPAs, especially in high biodiversity value mires (previously assessed and prioritised) and in sites with connectivity to protected areas, e.g., mire restoration in former forestry areas.

The main focus of the programme is within southern Finland and on areas where habitats and species are most threatened. Areas are chosen using biodiversity criteria and other criteria of the HELMI Programme. Measures are directed primarily at biodiversity hot-spot areas, such as herb-rich forest, coastal successional forests, semi-natural grassland landscapes with bird-rich wetlands, ridge areas with small waters, river valleys with varying forest and cultural habitats, and peat and wetland complexes with buffering forest areas.

The present protected area network and other area-based measures supporting biodiversity (e.g., environmental subsidy sites) are considered in the planning of HELMI areas and measures. HELMI areas may contain for example:

- State protected areas and multiple-use forest areas
- Private protected areas
- Private areas under forestry or other use
- Lands owned by municipalities and congregations
- Lands owned by (forestry or other) companies.

Monitoring and reporting implementation and impact in the HELMI Programme is extensive and the GIS-based system ULJAS (see Box 8) holds information on:

- Plans (complete/in progress)
- Proposed and completed measures by target, area type, number of sites/area covered
- Operational site status (implementation) by Park District and project
- Total area, impacting elements, condition data.

1.2 Does the legislative framework adequately support the effective functioning of the protected area system?

2004/5	Fair to Good	2023	Good

Overview: Assessment questions in 2023 focused on how the legislative framework is integrated with broader environmental policy and law and clarity around the Natura 2000 implementation. In 2004/5 it was noted that the potential impacts of some of the apparent anomalies in management, particularly the inability under (then) current legislation to effectively control some of the key activities in protected areas (such as hunting or mining) need to be explicitly monitored and reported upon with a view to changing legislation if necessary.

There are today more than 70 statutes listed that need to be considered regarding the effective functioning of the protected area system and integration into broader social and environmental policy and law of Finland (see Box 6), which in some cases can be, or can potentially be, conflicting. There is growing pressure, for example, regarding land use planning outside the protected areas including wind power projects, especially in the coastal areas, and associated power transmission lines. This development is taking place on both private and state-owned lands to promote the achievement of Finland's and Metsähallitus' climate targets.

Discussion: The 2023 self-assessment acknowledged that legislation remains conflicting on some land use issues, especially in relation to reindeer grazing (see Box 7). It also noted that although roles related to implementation of the Natura 2000 have been clarified at a legal level, they are still not fully implemented on private lands, i.e., whether it is PWF or the ELY Centres who are responsible for coordination, management and other work with landowners. It was noted that these are complex issues, not just a question of legislation.

Our overall impression is that PWF has a strong vision of how to manage its estate but less so for how it engages in the wider landscape and seascape, including with associated institutions and initiatives (ELY Centres, Metsähallitus Forestry Ltd, PPAs, etc.) and with wider stakeholders. PWF managers and staff mentioned that they felt this was an issue of not having a clear mandate on engagement, however the team felt that collaboration really does not need a mandate and is a critical issue that needs to be addressed to maximise the role of PWF's work in combating the biodiversity crisis, not just in protected areas but nationally.

Recommendations: A discussion about the wider role of PWF and Metsähallitus in conserving biodiversity in Finland is needed, specifically in relation to the 30x30 targets and, for example, designations of OECMs which could significantly contribute to ecosystem functionality and health.

1.3 Is there a cohesive and nationally coordinated approach to protected area management?

2004/5	Good to very good	2023	Good

Overview: The 2004/5 assessment's recommendations highlighted the need to integrate the Natura 2000 network into the Finnish protected area system; in 2023 the assessment focused on how management has changed in the last two decades, specifically how staff capacity has developed and how information sharing has improved between the primary organisations.

Discussion: The self-assessment noted that cohesion and coordination are sufficient to permit effective management of most sites. PWF and the ELY Centres work together especially on Natura 2000 network implementation (e.g., master planning and site

condition assessment, NATA) and information sharing is effective within conservation administration (PWF, Ministry of the Environment, ELY Centres, Finnish Environment Institute, Syke). Protected area information management, thanks to major government investment allocated in 2010–2015, is organised through an integrated GIS database system, ULJAS (see Box 8).

The *Principles of Protected Area Management* in Finland have been updated several times since 2004/5 (see Box 2). Staff capacity has grown, with training and experience, although there is a generational change in progress (retirement of old and hiring of new staff).

Nonetheless, the evaluation team felt that more overall direction on implementing management priorities is needed, this currently seems rather piecemeal across the network's activities. Clear lines of sight are needed from corporate objectives to everyday action on the ground that staff undertake – so that they know what they are expected to do and why they are expected to do it. Several staff expressed dedication to the work coupled with frustration that they didn't understand quite how their work fitted into the bigger picture. Linked to this, several people mentioned to the evaluation team that they felt out of touch with what is happening at a strategic level. Proliferation of emails means that even if information is available, busy field staff may miss this. Although there are monthly webinars and intranet, staff still do not seem to understand key issues, changes and developments, particularly during current period of reorganisation.

PWF is in an excellent position to facilitate and gain from high-quality scientific research (both ecological and social sciences) to aid protected area management. At the moment, there are links with research institutions and facilities, but these are often loose, site-based and ad hoc and tend to be process rather than learning focused. As was observed in the site-specific METT assessments, much stronger links between research and effective management could be made, and PWF should ensure the capacity to adapt research results to the relevant topics of management. The METT for Ekenäs Archipelago National Park specifically noted that a key objective and one of the reasons for the park being established was research and suggested that PWF should encourage more research to be conducted within the park. There are opportunities for greater collaboration with institutions towards shared research and management objectives, which could include identifying research priorities and ensuring the sharing of research outcomes. This should work synergistically: helping to answer the "big question" but also to enable collaboration between researchers and site managers (e.g., through annual meetings). PWF should actively encourage collaboration (including PhD and MSc programmes) as well as utilising citizen science programmes to support monitoring and research.

In some countries, e.g., Tanzania, annual conferences are held to discuss research results from protected areas. PWF noted that such conferences used to be arranged annually, but now managers often listen to webinars on results, and face-to-face/collaborative development must be arranged separately. However, these linkages were not evident from any other discussions held during the evaluation, and perhaps their utility as information sharing platforms needs to be reviewed. Having a nationally coordinated approach and making a research "wish list" publicly available, can also help encourage students and researchers to focus research linked to effective management. Although such a list does exist internally, there has been no public campaign to disseminate the list. PWF note that systematic collaboration with the research sector has been on hold for a while due to lack of capacity, despite a genuine intention for closer links.

Recommendations: PWF has taken many steps to ensure a cohesive and nationally

Box 6. Legislative framework for nature conservation and protected area land use

In Finland, the **Nature Conservation Act** (NCA) was first enacted in 1923. A major reform to the act came into force in 1997 due to the obligations for Natura 2000 sites. The most recent update to the NCA came into force in June 2023 with further specifications to habitat and species conservation in a Decree issued in December 2023. The NCA defines general preconditions for establishing nature reserves. The act stipulates general conservation provisions for national parks, strict nature reserves and other state nature reserves as well as privately owned protected areas. Site-specific enactments to establish nature reserves, stipulating specific conservation objectives and land use regulations, are based on the act. EU Habitats and Birds Directives are also mainly implemented through provisions of the NCA.

The **Wilderness Act** of 1991 covers 12 wilderness reserves established in northern Lapland. Their objective is to preserve wilderness ecosystems, safeguard Sámi culture and subsistence livelihoods. Wilderness reserves are part of the Natura 2000 network and thus are regulated also by the NCA.

Management of protected areas is also regulated indirectly by a large number of other legislation – pertaining, for example to land use, water management and environmental protection. The Land Use and Building Act and Mining Act have recently been partly amended, aiming for enhancement of green networks, and exclusion of mineral extraction in established nature reserves. Natura sites are integrated into statutory river basin management plans nationwide. Obligatory environmental impact assessment procedures are an important tool to mitigate biodiversity impacts of planned wind power developments.

The Hunting Act, Reindeer Husbandry Act, Skolt Act and Act on Structural Subsidies for Reindeer Husbandry and Natural Livelihoods are key legislation especially in northern Finland. Hunting and is allowed on state-owned lands for local residents of the northernmost municipalities (Hunting Act, section 8). Reindeer husbandry may be practised in the vast wilderness reserves and national parks of Lapland, also by non-Sámi residents (see Box 7). The indigenous Sámi communities have specified rights to land use in the Sámi Homeland Area (see Box 11). These statutes are observed in planning and management of protected areas.

Box 7. Reindeer herding in Finland

Reindeer herding is a traditional livelihood in northern Finland and protected under the Reindeer Husbandry Act. Reindeer may graze freely in the Reindeer Husbandry Area, which includes not only the region of Lapland but also parts of northern Ostrobothnia and Kainuu (see Figure 12). The area is divided into 54 reindeer herding cooperatives. Reindeer quotas for each of the cooperative areas are controlled by the Ministry of Agriculture and Forestry.

In Finland, any resident living within the Reindeer Husbandry Area has the right to own reindeer, in contrast to the situation in Norway and Sweden, where only Indigenous Sámi are legally permitted to own reindeer. A Reindeer owner must, however, be approved as a member by a reindeer herding cooperative and must permanently reside in the municipality to which the cooperative belongs.

Under the Reindeer Husbandry Act, when planning any measures concerning state land, that will have a substantial effect on the practice of reindeer herding, the state authorities must consult the representatives of the reindeer herding district in question. Within the Special Reindeer Herding Area, reindeer husbandry must not be hindered by other land use by the state. Furthermore, within the Sámi Homeland (see Box 11), the Sámi Parliament must be consulted on land use issues.

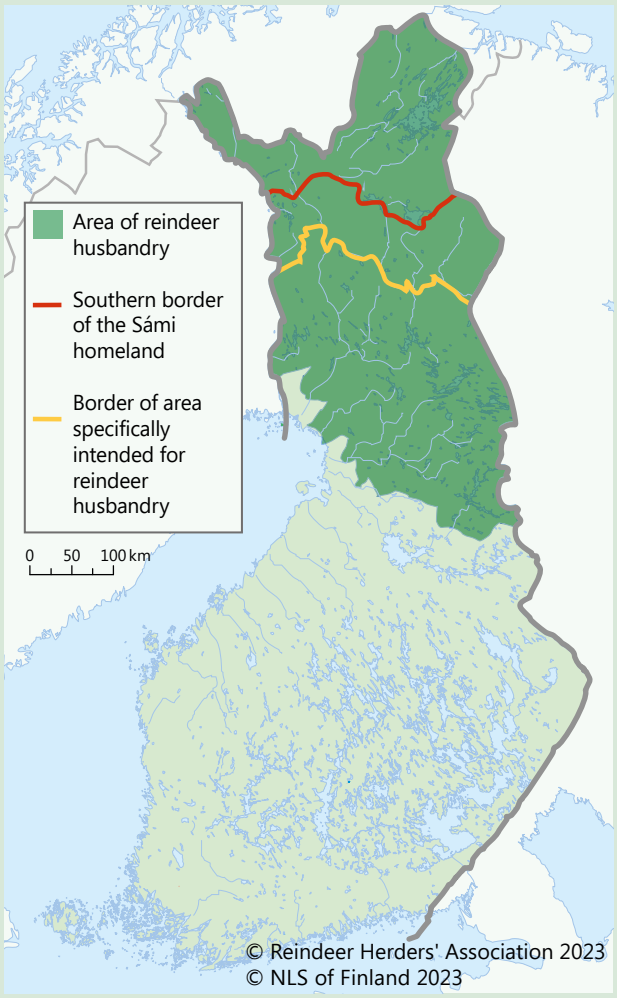


Figure 12. The Reindeer Husbandry Area. The total area where reindeer herding is allowed covers the northern third of Finland (in green). The Special Reindeer Herding Area is situated in the northern half (above the yellow line), and the Sámi Homelan in the northernmost part of the Reindeer Husbandry Area (north of the red line).

Box 8. Integrated protected area information system

The current geographic information system ULJAS, integrating information on protected areas, is made up of five subsystems launched 2015–2017:

- SATJ = Protected area information system
- SASS = Protected area management planning and monitoring system
- SAKTI = Protected area biotope management system
- LajiGIS = Species information management system
- PAVE = System for constructions, routes and archaeological sites.

These subsystems (see Figure 13) are built on top of the Property information system (OmaisuusGis), used for administrating Metsähallitus' real estate and land use data. These systems serve a range of purposes, from to establishing nature reserves and managing habitat and species data, as well as data on buildings, recreational facilities and cultural heritage features. They are complemented by the ASTA customer and visitor information system. Together these databases support the information management, planning and monitoring needs related specifically to protected areas.

The ULJAS system is managed by Parks & Wildlife Finland (PWF) and are used also by the ELY Centres, the Finnish Environment Institute and the Ministry of the Environment. With over 800 users, the shared use of the integrated system enhances productivity and quality of work and facilitates cooperation between the organisations.

The present ULJAS system is technically coming to the end of its lifetime in 2025 and the next generation system is now being developed with new earmarked financing from the Government. System development is closely integrated to the ongoing PWF reform, prioritisation of core tasks and leaning of working processes.

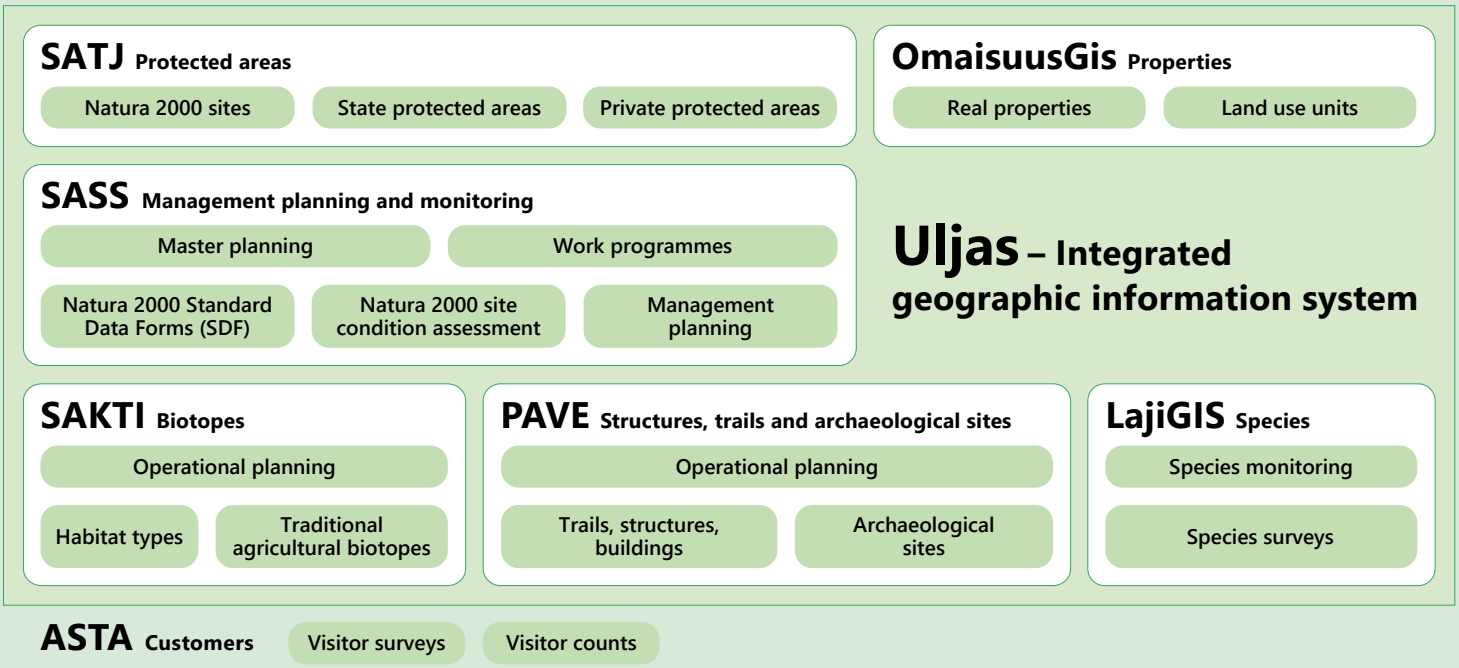


Figure 13. ULJAS integrated geographic information system for protected area management.
Information of the graph is mostly in the main text (Box 8).
Alternative supplementary text of the figure. ULJAS integrated GIS system consists of 5 subsystems with following modules: SATJ: state protected areas, private protected areas, Natura 2000 sites; SASS: master planning, management planning, Natura 2000 standard data forms, Natura 2000 site condition assessments, work programmes; SAKTI: habitat types, traditional agricultural biotopes, operational planning; LajiGIS: species surveys; species monitoring.

coordinated approach to protected area management, the evaluation team's recommendations thus focused specifically on staff and research.

- Ensure that field staff are aware of and able to comment on national level strategies and decisions, particularly as these relate to their own work, through for example:
  - Reviewing the system of regular updates on key policy issues to staff to understand why they are not being as effective as they could be.
  - Identification of one or more central office staff who have a specific mandate as part of their job to monitor and respond to questions from staff.
  - Occasional webinars or in-person meetings to explain important changes, developments or challenges.
- Linked to the recommendation above, developing a targeted research programme (as was the case previously) across the system will facilitate collaboration between researchers and managers at the local level to answer local questions.
- Better publicise the research "wish list" and prioritise permits for research related to the list.
- Review current processes for sharing research results, options to consider include:
  - Research agreements should ensure that results are shared with managers in a timely manner.
  - Research results should be produced in a way that managers can use the results, where applicable.
  - Consider holding conferences which bring together researchers and park managers to share findings and develop strategies to use the results.
- There is also a need to reduce confusion about the future of digital systems in PWF by clarifying whether the new web system will replace some or all of the current systems, and if not, how the various systems will interact. Specifically, there is a need to ensure that there is clarity over how this is implemented and that it is aligned with a wider data strategy.

1.4 Is transboundary and regional cooperation established and maintained in a manner which supports effective management of Finnish protected areas?

2004/5	Good to very good	2023	Very good

Overview: Transboundary and regional cooperation to support effective management of protected areas is well developed, but the war in Ukraine has ended all cooperation with Russia, which could have major implications on protected areas that are transboundary and those which have links (rivers, etc.) with Russia. Sharing best practices and knowledge exchange on protected area management is well developed.

PWF's international cooperation takes many forms, including regional and transboundary cooperation, bilateral partnership agreements and joint projects with international partners. PWF takes part at national and/or the European Union level in preparatory work for negotiations of Multilateral Environmental Agreements (especially Convention on Biological Diversity CBD, Ramsar Convention on Wetlands, World Heritage Convention, Convention on the Protection of the Marine Environment of the Baltic Sea Area, and others as needed) in relation to those issues that are PWF's field of work. PWF also participates in the negotiations of these conventions. PWF staff hold the national focal point position in the CBD for protected areas, in the Ramsar Convention and in the World Heritage Convention for Natural World Heritage. In addition, PWF is a member of international organisations such as the EUROPARC Federation and Interpret Europe. PWF actively participates in the

work of IUCN, especially through the World Commission on Protected Areas (WCPA) and in the IUCN National Committee of Finland.

International cooperation serves various purposes for PWF. International cooperation is a tool for organisational development and for improving management effectiveness. It also enables PWF to exchange best practices and knowledge with other organisations and experts in the field. Moreover, international cooperation is a means of capacity development for both the staff and the organisation as a whole. Actively engaging in international fora allows PWF to adapt current international trends and practices to its own work, by being informed and taking part in discussions on the latest developments of the field.

Over the past decades, PWF has benchmarked other peer agencies' work, and several international best practices have been adapted to Finnish context and incorporated in the core work of PWF. International benchmarking goes far back, as the national parks system was introduced to Finland in the late 1930s based on the example set by the United States and its National Park Service. As a more current example, Finnish Natura 2000 site condition assessment (see Box 14) is a practice that was introduced to Finland based on site condition monitoring process originally developed by NatureScot. PWF has also taken lessons learnt to enhance e.g., its visitor monitoring systems and Limits of Acceptable Change methodology (LAC, see Figure 26), as well as to develop its local economic impact calculation methodology. In addition, to promote and highlight health and well-being benefits of nature and outdoor recreation, PWF launched the Healthy Parks, Healthy People (HPHP) programme (see Box 22), which was inspired by the HPHP programme of Parks Victoria, Australia. With its own HPHP knowledge and experience, PWF has contributed to the EUROPARC Federation's HPHP work.

The IUCN is evidently a key forum for connecting PWF work with international frameworks and cutting-edge knowledge. IUCN Protected Area Management Categories were adapted nationally in Finland in 2013, and the category designation is now integrated in the PA designation process. IUCN methods for PAME evaluation have been applied in previous evaluations. Also, to assess the preconditions for practising the Sámi culture, Metsähallitus and the Sámi Parliament jointly developed operating model based on the voluntary Akwé: Kon Guidelines laid out in the CBD.

Given the global nature of biodiversity loss, PWF operates in a global context with international conventions and strategies guiding its work. Nationally, PWF's role and responsibilities in implementing global commitments are outlined in Finland's National Biodiversity Strategy and Action Plan, to be issued in 2024.

Key international strategies in PWF's work are the CBD Global Biodiversity Framework (GBF) Goals and Targets 2022–2030, Ramsar Strategic Plan 2016–2024, and the UNESCO World Heritage programme.

The EU legal framework for PWF's operations is set by the Birds and Habitats Directive, the Marine Framework Directive and the Water Framework Directive, which all also underpin the implementation of the EU Biodiversity Strategy 2030. PWF staff has taken part in the national preparation of the targets for EU pledges on protected areas and 30% conservation status improvement. EU Biodiversity Strategy 2030 calls on Member States to

- protect at least 30% of the EU's land area and 30% of its seas for nature by 2030. At least one third of this (10% of land and 10% of sea) should be strictly protected.
- ensure that, by 2030, there is no further deterioration in conservation trends and status of habitats and species protected by the EU Nature Directives.
- ensure that at least 30% of species and habitats, not currently in a favourable status, reach that category or show a strong positive trend by 2030.

In addition, PWF staff has participated in the preparations for the EU Nature Restoration Law in Finland.

Furthermore, PWF has a role in implementing the biodiversity goal of the HELCOM Baltic Sea Action Plan 2022–2023. The organisation has also been involved in cooperation in the Barents region, as well as the Arctic Council's Working Group on Conserving Arctic Flora and Fauna (CAFF). PWF provided inputs in the CAFF's work to update the Arctic Biodiversity Conservation Strategy.

The national and international context of the protected area system also demonstrates the breadth of cooperation that PWF participates in, implementing and taking part in all relevant international and regional policies and strategy work.

Discussion: As the approaches above indicated, transboundary cooperation is strongly integrated with PWF operations and actively delivered (with the exception of recent cooperation with Russia, which is now on hold).

Recommendations: International cooperation is good. The evaluation team discussed at some length how to assess the situation in Russia but, whilst this has serious implications from a conservation perspective, it is out of the hands of PWF and all we can recommend is to keep a watching brief.

1.5 Are the values of the protected area system well documented, assessed and monitored?

2004/5	Good to very good	2023	Good to very good

PWF self-assessment score in 2023: Good

Overview: The 2023 assessment focused on updating the recommendations from 2004/5 including the need for the assessment of cultural values, development of systems to assess monitoring priorities, updated habitat monitoring/surveys and updating the databases on threatened species. The assessment questions also asked if monitoring has been assessed in terms of cost-effectiveness and if *State of the Parks* reports were regularly developed.

PWF carries out a range of surveys and inventories, including with respect to:

- Natural and cultural values' condition and need for conservation, management, restoration or renovation.
- Recreational infrastructure condition and needs for maintenance/(re)construction.
- Visitor surveys.
- NATA site condition assessments (see Box 14) for all Natura 2000 sites to analyse key values and threats, conservation objectives and measures and needs for operational planning of management measures.

Features of protected areas are systematically documented using a value menu (see Appendix 5).

PWF prioritises monitoring the condition of:

- Habitats and species related to the EU Habitats and Birds Directives
- Certain nationally Red-Listed habitats and species
- Special national responsibility species
- Strategic cultural heritage features.

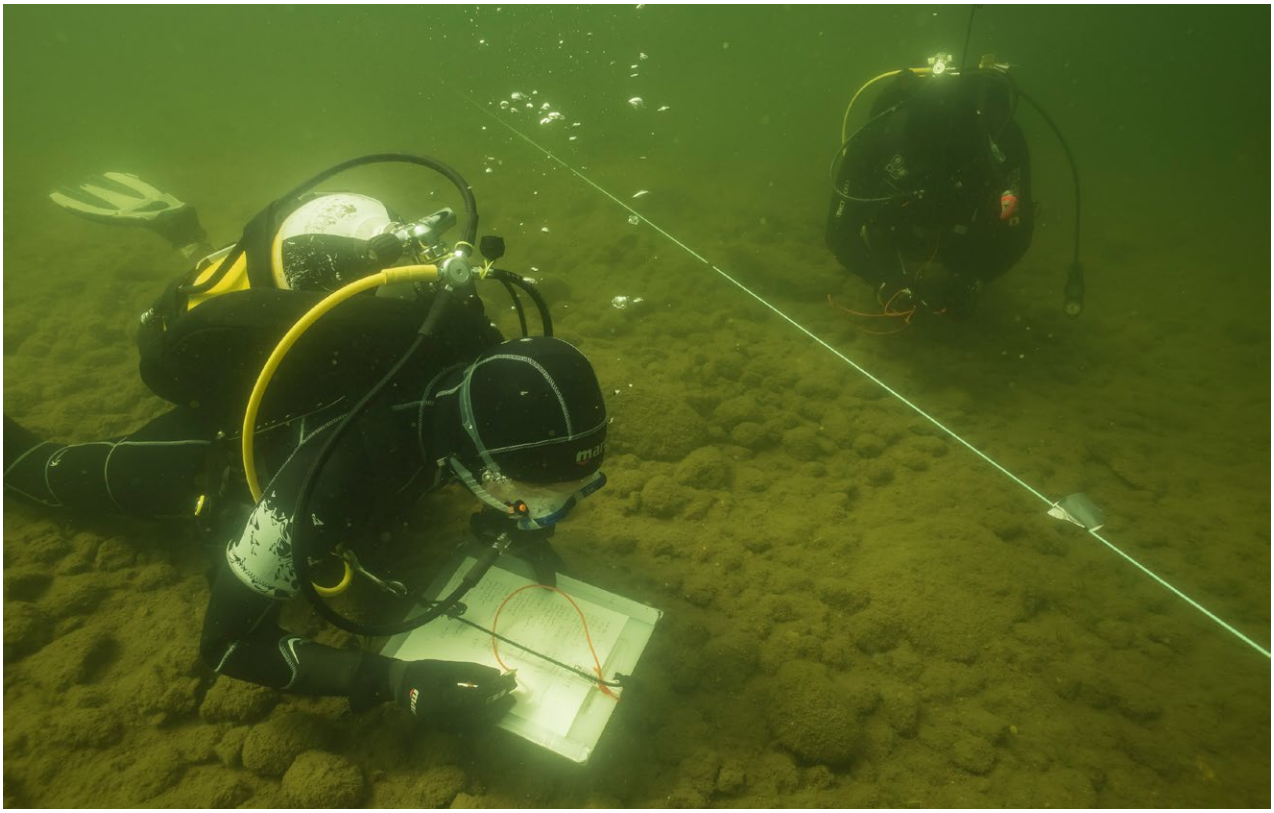
Monitoring impact of conservation measures is especially focused on target habitat types and species groups of METSO and HELMI Programmes (see Boxes 4 and 5). It is also done as part of Natura 2000 site condition assessments, including measures to mitigate documented threats.

Cost-effectiveness is one of the main objectives in national cooperation to monitor conservation features, also outside protected areas. Large-scale national monitoring programmes are under development in broad-based cooperation led by Syke under the Finnish Ecosystem Observatory (FEO) project.

Discussion: The self-assessment noted that values are systematically identified, assessed and monitored for most sites. Systems to assess monitoring priorities have been developed and are being implemented. Monitoring is systematic (but coverage could be better). Monitoring has been assessed in terms of cost-effectiveness at national level by Syke and is also considered within PWF. Funding the monitoring is becoming more of a challenge. Much of the work of institutions such as Syke is project-based, which hampers long-term needs like continuous monitoring.

- **Habitat surveys** of state nature reserves and other state protected areas and PPAs have progressed:
  - Terrestrial areas are mostly completed. In newest designations, especially PPAs acquired within the METSO Programme, habitat surveys are not yet completed.
  - Data for northern Finland was recently updated through the Earth Observation project (Ylä-Lapin luonnon kaukokartoitus) using remote sensing techniques together with 4,500 field data points, across a geographically vast area: 2.8 million hectares, where land use pressure is high (from reindeer grazing) and the need to monitor environmental change is urgent (especially because of climate change) (Tammilehto et al. 2024a, 2024b).
  - Inland waters have seen significant progress, but much more basic and specific data is needed.
  - Marine surveys have progressed considerably, however more specific data for protected sites is still needed. VELMU: The Finnish Inventory Programme for Underwater Marine Diversity (Finnish Environment Institute 2023a) is a government funded project covering the entire coast. The project is a cooperation between many organisations, and PWF has had a major role in field work. Data have given a general overview of species and habitat distribution in Finnish marine areas. Supplementary inventories are done when needed in national protected areas / Natura 2000 sites.
- **Species surveys** for 3,500 species (group) surveys include data extracted from different sources, PWF and other experts, and data exchange with Natural History Museum LUOMUS. Data quality information is collected (automatically from databases) and measures taken annually to improve data. Species data is collected on a continual basis, both by staff and by researchers and volunteers. Some of this is very detailed, for example monitoring of flying squirrels.
- **Cultural heritage** assessments are systematic and fairly comprehensive. The Finnish Heritage Agency undertakes these in cooperation with the MoE, Finnish Environment Institute, Regional ELY Centres and Metsähallitus. PWF has completed an inventory and evaluation of built property in protected areas. Assessments include:
  - Nationally significant cultural landscapes and built cultural environments: evaluation of features and prioritisation of management have been completed and supplementary surveys are carried out when needed. This is always the case when construction or habitat management measures are planned.
  - Valuable archaeological cultural heritage: a comprehensive archaeological inventory has been done on about half of protected areas (large remote areas have not been included).

Protected area information management is organised through the integrated GIS database system, ULJAS (see Box 8). All data on protected area features are documented within the system, and major administrative processes involved in protected area management are now organised in databases, including:



Conducting underwater nature survey. Lake Puruvesi. Photo: Jari Ilmonen.

- Handling basic data on protected areas: state nature reserves, private nature reserves, Natura 2000 sites.
- Preparing protected area site enactments, e.g., basic data and maps.
- Forming conservation real estate units and mapping boundaries (for marking on the ground).
- Handling data on species, habitats, recreational infrastructure, buildings, constructions and archaeological features with information on location, quantity, quality, condition, need for measures.
- Planning management at different levels, e.g., master plans, strategic plans, operational plans, work plans for prioritised planning and follow-up of implementation.
- Site condition assessment and monitoring.
- Reporting at different levels (national, regional, municipal) for different purposes such as PWF's own administration, performance reporting to ministries, implementation of programmes and EU directives.

The individual values of the Finnish protected area system are well documented, assessed and monitored. However, the evaluation team suggested that effort should be made to address the current lack of key national indicators (and reporting) on the status of protected areas (condition). This is particularly relevant when considering the challenges facing biodiversity outcomes noted in this report. As part of this it is important to ensure that monitoring programmes are adequately and quantitatively assessing key threats and directly informing management interventions, not simply documenting change.

The monitoring done by PWF should also be better linked with the overall biodiversity monitoring schemes in Finland. Using the same approaches and methods would allow for comparing areas inside and outside the protected area network and distinguishing the impacts of climate change and land use on biodiversity, for example. Using the same approaches and methods would increase the

robustness and usability of the monitoring data for tracking progress towards the global, EU and national level biodiversity targets.

Finally, it should be noted that there is national legislation on the transparency of government activities and established good practices in information management, as well as on electronic services. Part of the ULJAS database on protected areas and their conservation values is already available as open data (delivered in cooperation with Syke and LUOMUS). PAVE data (on constructions, routes and archaeological sites) is used as one base resource for the excursionmap.fi web service maintained by Metsähallitus. Natura site information is delivered as a separate web service in cooperation with Syke. Specific GIS data is also delivered on contract basis for research purposes, e.g., for Zonation spatial conservation prioritisation analysis. The future vision is to provide a comprehensive public (and authority version) web service that more effectively utilises the possibilities of the already extensive data available. PWF and Metsähallitus should be at the forefront of delivering open data, applying FAIR data principles (GO FAIR 2023) and maximising the value of data to support all decision-makers.

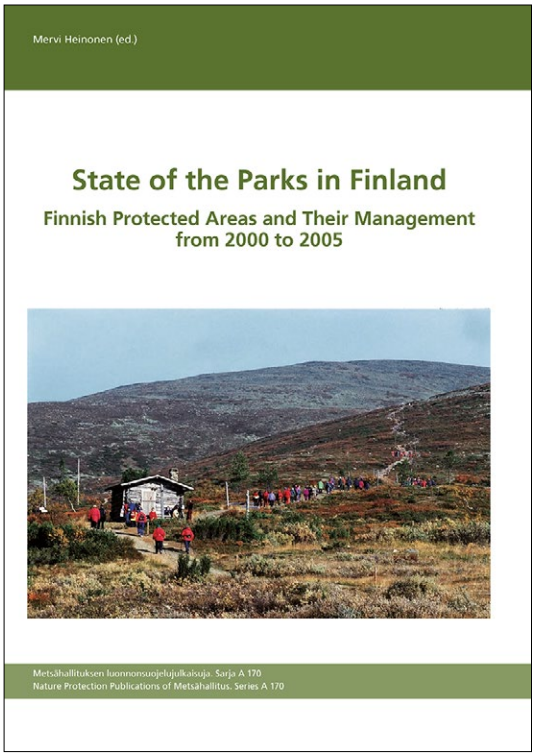


Figure 14. State of the Parks in Finland was reported in 2007.

Recommendations:

- Revive a regular *State of the Parks* report published periodically (e.g., every five years, see Figure 14).
- Linked to the above (or perhaps even an alternative option) would be to develop a better interface to make far more accessible the vast amount of data available and utilise it for the purpose of communication with the wider public. This could also increase support for nature conservation by enabling a better understanding of PWF goals.
- Integrate the monitoring of biodiversity in protected areas more with the wider framework for long-term biodiversity monitoring in Finland.
- Develop a consolidated set of key national indicators on the status of national parks and other protected areas to provide stronger evidence about national status and regional trends and to inform management interventions.

1.6 Are the threats to protected area system values well documented and assessed?

↑	2004/5	Fair to good	2023	Good

Overview: The 2004/5 assessment recommended a greater attention to analysis of threats and specifically the development of two national strategies:

1. On invasive species, in terrestrial, freshwater and marine systems, including a risk assessment and prioritisation for action.

2. The threats facing protected areas from climate change, including mitigation strategies where possible.

Presently site-specific documentation of pressures and threats assessment is done in connection to Natura 2000 site condition assessment (NATA, see Box 14) and/or protected area management planning. Threat classification used by PWF is the same as that used for Natura 2000 Standard data forms and reporting on the Habitats Directive. Impact extent and intensity is assessed by key value and total site impact (i.e. "degree") by type of threat. Especially in marine areas, modelled pressure data is also used.

In connection to the evaluation in 2004, pressures and threats to protected areas were summarised regionally, based on site specific evaluations conducted in 70 protected areas (Gilligan et al. 2005). Most of the land use issues then observed, still remain, including forestry impacts especially in southern Finland and those of reindeer herding in northern Finland. Tourism has grown significantly in national parks (see Box 25), and climate change impacts have become visible particularly in the Arctic area. Demand for clean energy has accelerated wind power building in western Finland the EU's Green Deal programme sets new expectations for mineral extraction in Europe. Changes in protected area pressures and threats, observed from 2004 to 2023, are presented in Box 9. Conclusions are based on recent Natura 2000 site condition (NATA) assessments.

Threat mitigation and measures implemented to restore former land use impacts have included:

- Habitat restoration, eradication of invasive species, cooperation with tourism businesses.
- Advocacy against land use pressures inside/outside of protected areas (regional land use planning, environment impact assessment of construction /wind turbine/mining projects, etc.).

There are national strategies, plans and data on:

- **Invasive alien species:** Finland's National Strategy and Action Plan on Invasive Alien Species 2012, Act on Managing the Risk Caused by Alien Species (1709/2015) and management plans to prevent invasive alien species were developed in 2022 (National alien species portal, Ministry of Agriculture and Forestry 2023a). Amongst invasive species are raccoon dog, white-tailed deer, American mink, humpback salmon and invasive American crayfish, which are outcompeting native species. Impacts sometimes take time to manifest or become noticeable, for example white-tailed deer are eating *Sedum* plants, the food of the Apollo butterfly (*Parnassius apollo*), thus apparently contributing to a general and serious decrease in this endangered species.
- **Climate change:** Finland's National Strategy for Adaptation to Climate Change 2005 and updated 2022, National Climate Change Adaptation Plan 2030, (previous 10-year plan adopted Nov. 2014, Climate Change Act (also updated 2022).

Both strategies are led by the Ministry of Agriculture and Forestry.

PWF incorporates measures of the strategies into data collection, operational planning and conservation/habitat management as well as maintenance of buildings and infrastructure, etc.

Discussion: PWF has updated their approach to threats since the last assessment. Site level threat analysis is included in the NATA site condition assessment (see Box 14) and in management planning. The PWF self-assessment however noted that monitoring of threats could be more comprehensive and NATA reassessment updated more frequently. It might also be worth reviewing the IPBES drivers for biodiversity loss, as framing threats around these might be helpful.

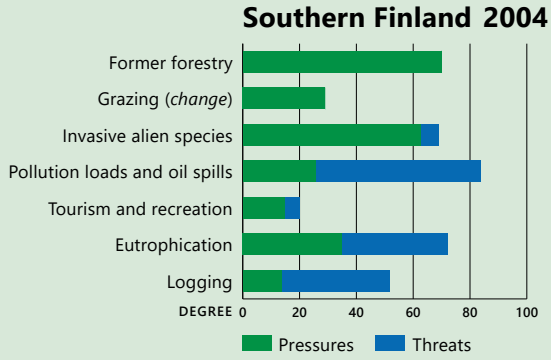
White-tailed Deer (*Odocoileus virginianus*) was introduced in the 1930s. The population has grown harmfully dense in southwestern Finland. Photo: Jari Kostet.

National strategies on invasive alien species and climate change have been drafted and proposed actions taken within protected area management (see above). The evaluation team felt the present lack of an overall strategy with respect to all invasive species (e.g., not just invasive alien species) was a serious gap. The issue ranges well beyond protected areas and has economic implications alongside those related to biodiversity conservation. The spread of white-tailed deer is particularly concerning, given the huge economic cost of the deer in North America and significant environmental impacts elsewhere in Europe (e.g., Scotland). Currently narrow sectoral interests seem to be stifling any kind of coordinated action. The huge recent increase in humpback salmon threatens a disaster for freshwaters in the north. This may be a theme where PWF could usefully work with Metsähallitus Forestry Ltd and other partners to develop a coordinated national strategy towards problem invasive species.

As climate change increases its effects, the need to reduce other pressures will increase, to give ecosystems maximum resilience against climate impacts. In northern Finland, for example, the defoliating autumnal moth (*Epirrita autumnata*) has been moving north since 2000 and outbreaks of the winter moth (*Operophtera brumata*) becoming more common (Johnson & Haynes 2023), stripping and eventually killing mountain birch trees. This is serious in itself, but birch would normally recover, or new saplings would emerge, the forests are however unable to recover because saplings are grazed by reindeer (see Appendix 2: moth attacks are the major threat to Kaldoaivi Wilderness Reserve, for example, and Kaldoaivi thus had the lowest outcome scores of the sites using the METT). PWF has developed major datasets on birch forests, and remote sensing has helped prioritise areas that require field work, thus ensuring more efficient targeting of field inventories (e.g., herb-rich forests). However, it is clear that one of the major problems is reindeer herding, so although the data is good, there seems very little effective management action at present.

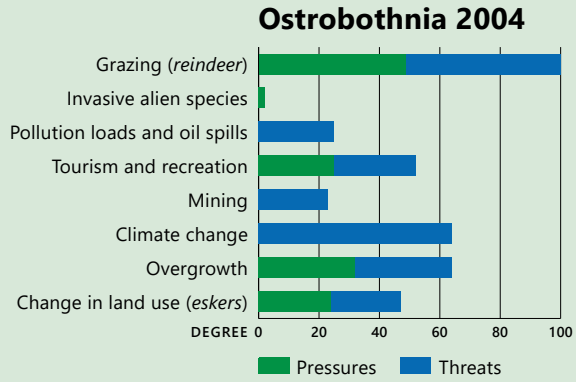
There is an apparent tendency to avoid or write off some of the most intractable problems, e.g., reindeer herding and invasive

Box 9. Pressures and threats on the protected area network



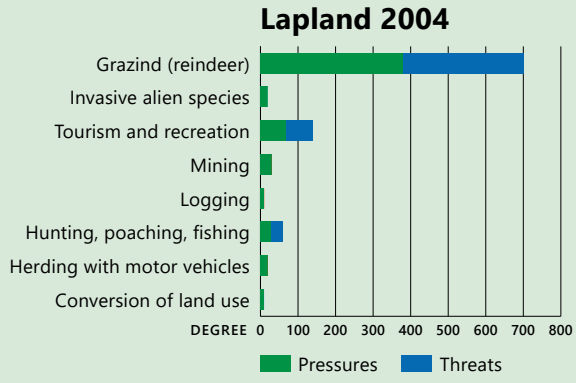
In 2004, former forestry, invasive alien species and eutrophication were assessed as greatest pressures in Southern Finland, and to a smaller degree, change in grazing of grasslands as well as tourism and recreation. Pollution loads, oil spills and eutrophication in marine areas and logging were estimated as biggest threats.

In 2023, recent assessments confirm that pollution and eutrophication in fresh and marine waters and invasive alien species have become significant pressures. Also pressures of outdoor recreation and tourism have grown.



In 2004, reindeer grazing, overgrowth of open landscapes and change in land use (e.g. in esker habitats) were assessed as the greatest pressures in Ostrobothnia. Climate change and mining operations were already considered threats, as well as growing tourism, pollution loads and oil spills in the coastal area.

In 2023, recent assessments show that many of the same pressures remain: reindeer grazing, tourism and recreation and overgrowth. Pressures from wind power infrastructure have grown, especially in the western coastal area.



In 2004, reindeer grazing was seen by far the greatest pressure in Lapland (observe the scale in degree of impact). Tourism, hunting and fishing, and invasive alien species were assessed as more minor pressures.

In 2023, recent assessments show that reindeer grazing remains a major pressure, coupled with invasions of harmful species (such as winter moth) and especially impacts of climate change (not seen as significant in 2004). Pressures of growing tourism are found in the most visited protected areas. Mining is considered a potential local threat.

Figure 15. Pressures and threats on protected area network in different parts of Finland 2004. In 2023, Natura 2000 site condition assessments (NATA) show that many of the regional pressures remain.

Wind turbines on the northwestern coast. The production of offshore wind power in the vicinity of coastal protected areas is estimated to grow rapidly in the future. Photo: Pekka Lehtonen.

species (particularly white-tailed deer) which impacts PWF's activities. These so-called "wicked problems" (i.e., where there is no single solution to the problem and where "wicked" denotes resistance to resolution) pose some of the most severe pressures on protected areas, the wider countryside and biodiversity in Finland. It is not clear that any one institution is addressing these effectively. The evaluation team consider that the skills, experience and knowledge within PWF means the organisation could, in partnership with others, lead bold, evidence-based actions to address these issues. This should include developing the requisite conflict management and mediation skills and combining these with a clear strategy for research and co-design.

As the major conservation management agency in Finland, there is also a role for PWF to lead a national discussion on key conservation issues, such as managing for resilience against climate change, ensuring connectivity and nature restoration. Much of this work already occurs but the public – and possibly many PWF staff – are unaware of it. The lack of resources for advocacy work to show the importance of national park management to influence land use planning outside of the protected area is an important issue. This could be more efficient and effective through collaboration with partners.

The situation regarding mining and conservation is currently confused. Following the new Nature Conservation Act passed on 1st June 2023, prospecting for mining is no longer allowed in national parks (see Box 10), so PWF is expecting many more advocacy calls for national park creation to avoid mining pressure. At least five national park proposals are already pending. Mining companies are aware of the restrictions of operating on Sámi Homeland and try to avoid these areas. Conversely however, the new EU mineral strategy aims to ensure the supply of critical raw materials (CRMs) for the EU. CRMs combine raw materials of high importance to the EU economy and of high risk associated with their supply. The extent to which this will impact on protected areas is unclear.

Recommendations:

- Initiate, with partners, time-limited task forces to investigate and make recommendations on a series of wicked problems that are threatening biodiversity conservation in Finland, with an initial focus on:
  - Managing biodiversity under conditions of climate change
  - Managing biodiversity on a catchment scale that extends beyond the borders of protected areas
  - Control of invasive species
  - Integrating reindeer herding more harmoniously into biodiversity conservation.
- Work with partners in the research community to develop and implement an adaptive management policy to address climate change within the protected area system.

Box 10. Mineral prospecting and mining in protected areas

Under the Finnish Mining Act (enacted in 2011, amended in 2023), mineral exploration refers to geological surveys used to locate and study deposits containing mining minerals, as well as sampling to determine the size and quality of the deposit. The Mining Act stipulates that mineral prospecting may be done freely as long as it does not cause harm or disturbance to the landowner. Collection of small amounts of specimens requires written notification to the landowner. Actual mining requires a permit granted by the mining authority.

When prospecting takes place in protected areas, the Nature Conservation Act (NCA) and possible detailed restrictions of the sites have to be followed. If the prospecting is likely to lead to disturbance in scenic or conservation values, official permission from mining authorities is required. Mineral prospecting is also possible with consent of the land manager, but Metsähallitus has decided that landowner consents are not granted in nature reserves, Natura 2000 sites, wilderness reserves or within the Sámi Homeland. The new NCA, passed on 1st of June 2023, prohibits prospecting for mining in national parks or strict nature reserves.

As a rule, mining is not possible in nature reserves. If, for reasons of important public interest, a nature reserve should be de-designated or its conservation regulations amended, this would require the repeal or amendment of the founding laws, decrees or decisions. These are possible only if the conservation of the area would prevent the implementation of a project or plan of overriding public interest and there is no technically and economically feasible alternative for this project or plan. In most areas, such changes also require the fulfilment of exceptional conditions for the deterioration of the Natura 2000 network.

1.7 Are the objectives of Natura 2000 sites and the protected area system fully harmonised in terms of their conservation objectives and planned measures?

↑	2004/5	Fair	2023	Good

Overview: The development of the Natura 2000 network that took place between 2007–2022, and the recommendations on implementation from the 2004/5 assessment were noted. Regional Master Plans were drafted in 2007 and 2017 together with the MoE and ELY Centres and include all Natura 2000 sites. Site condition monitoring used by Scottish Natural Heritage/NatureScot was benchmarked in 2008 and the Finnish Natura 2000 site condition assessment (NATA, see Box 14) was piloted between 2010–2014. Data for the whole network was collected and recorded in the SASS database 2015–2021, including for key conservation values and threats at site level. Protected area management planning is now focusing much more on Natura 2000 site designations and an integrated ecosystem approach, working together with private landowners and Metsähallitus Forestry Ltd.

Siberian Flying Squirrel (*Pteromys volans*) is an example of a species strictly protected by the Habitat Directive. Photo: Ari Seppä / Vastavalo.

Discussion: The self-assessment noted that Natura 2000 target species and habitats are aligned with national targets. There are only minor challenges in the field in relation to planning and implementation. Prioritisation and timelines were set for site specific planning, measures and monitoring (Natura 2000 conservation objectives, etc.). Integrated planning takes objectives of Natura 2000 and of all other designations (national/regional/international) into account. The planning area is defined functionally: it may be larger than one area designation. There has been a long process of negotiations (2012–2017 and again 2020–2023) with Syke-ELY-PWF and other experts to prioritise and assign responsibilities on species work regionally. A similar process has been ongoing for habitats and these priorities are also considered when assessing needs for operational planning/conservation measures in regional master planning.

Natura 2000 is based on the EU legislation that sets a clear list of species and habitats for which its sites are designated. National targets are often (at least partly) different. Therefore, there is a need to harmonise targets, objectives and measures in Natura 2000 sites and national protected areas everywhere in overlap.

Recommendations:

- Develop a ranking system for species of concern, drawing on Natura 2000 targets and species, global and national Red List data and input from specialists (particularly on species groups that have not been comprehensively assessed) to identify national-level conservation priorities. Such a system is well developed for habitats and species of EU importance, but not for all those that are of national importance.

- Include the objectives of the recently negotiated EU Nature Restoration Law in the Finnish Biodiversity Strategy (NBSAP) and integrate with other targets. (See also question 1.10).

1.8 Do Finnish protected area management objectives harmonise with wider cultural objectives including those relating to the Sámi?

↓	2004/5	Good to very good	2023	Good

PWF self-assessment score in 2023: Good to very good

Overview: As is noted in the METT assessments (see Appendix 2), cultural uses such as picking berries is freely permitted in protected areas as it is anywhere in Finland. Many events are organised in protected areas in order to celebrate local nature and culture and protected areas are also important for local cultural identity, as noted in the METT for Torronsuo National Park.

However, as this is the primary question related to the Indigenous Sámi in the assessment, the discussion below focuses on the relationships with the Sámi specifically. About 90% of the Sámi Homeland in the northern Lapland Region is state-owned and 69% is designated nature or wilderness reserves. Of the 12 wilderness reserves, 10 are situated in the Sámi Homeland; in addition, three strict nature reserves and parts of three national parks and several other protected areas are within the Homeland Area (see Box 11). The 2023 assessment wanted to see if the new tools and ways of working with Indigenous peoples developed since 2005, e.g., tools for assessing governance and equity, have been applied; whether protected area management plans make use of any local and traditional knowledge and whether ideas to better integrate conservation and traditional lifestyles have been explored.

Cultural heritage in the Sámi Homeland area has been assessed in protected areas. Cultural landscapes include built and archaeological heritage. Cultural heritage also includes intangible assets, such as sacred places and place names, communal knowledge of resources and their traditional use. The Sámi Museum Siida was founded in 1959. A new building and exhibition (which also includes the Metsähallitus Northern Lapland Nature Centre) was opened in 1998 and renovated in 2022.

The sustainability of Sámi traditional livelihoods, such as reindeer herding (see Box 7), and vitality of the Sámi Homeland need to be guaranteed for the preservation of Sámi culture, language and traditional knowledge. These can be threatened by competing land use forms, such as tourism, off-road traffic, mining activities and other development initiatives.

Relations with the Sámi people have a long history of conflict in Finland, followed by many years of attempts at reconciliation. Given the sensitivity of this issue, before making some overall conclusions, the evaluation team presents here both the PWF assessment of how relations are managed and points from the Sámi people interviewed. A summary of meeting between Skolt Sámi representatives and the PAME evaluation team is provided in Box 12.

Relationships between the Finnish government and the Sámi Parliament have been difficult in 2023. The proposed revised Sámi Parliament Act, which sets out how the Finnish government interacts with the Sámi legislative assembly on matters that affect Indigenous communities, failed to get past the final committee stage in parliament, although the current system is agreed to be outdated (Mac Dougall 2023). Finland has not yet ratified the ILO 169 Indigenous and Tribal Peoples Convention. Of the countries with a

Box 11. The Sámi in Finland

The Indigenous Sámi live in the northern parts of Finland, Sweden and Norway and in north-western Russia, totalling about 75,000–100,000 people. The Sámi are the only Indigenous people of the European Union and Sámi culture is intimately linked to nature.

In Finland, the Sámi Homeland is legally defined and covers the municipalities of Enontekiö, Inari and Utsjoki as well as the Lappi reindeer herding cooperative in the municipality of Sodankylä. In all, the Sámi Homeland area is about 35,000 km^2. There are between 10,000–11,000 Sámi in Finland. Altogether there are about 3,000–4,000 speakers of all three Sámi languages spoken in Finland: about 2,000 North Sámi speakers, about 450 Inari Sámi speakers and about 400 Skolt Sámi language speakers in the Skolt Sámi Area. (See Figure 16).

The status of the Sámi was written into the Finnish constitution in 1995. The Sámi have, as an Indigenous people, the right to maintain and develop their own languages, culture and traditional livelihoods. There is also a law regarding the right to use the Sámi language when dealing with the authorities. Since 1996, the Sámi have had constitutional self-government in the Sámi Homeland in the spheres of language and culture. This self-government is managed by the Sámi Parliament, the official representative of the Sámi in Finland, which is elected by the Sámi.

The Skolt Sámi also maintain their tradition of village administration, under the Skolt Act, within the area reserved for the Skolt Sámi in the northeastern part of the Sámi Homeland. Thus, in matters concerning the Skolt Sámi, the Skolt Sámi Village Committee is always consulted.

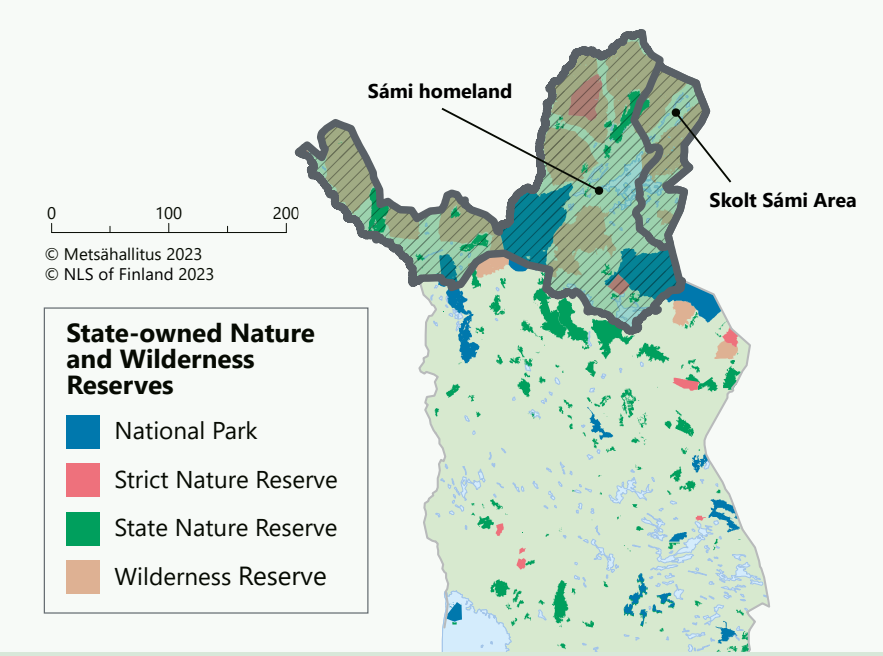


Figure 16. Large protected areas on state-owned lands coincide with the Sámi Homeland.

Box 12. Discussion: Summary of meeting between Skolt Sámi representatives and the PAME evaluation team

According to the interviewed Skolt Sámi representatives, there is a strong sense of ownership by the Sámi of their land, even though they "lease" their land from the government. Wilderness values are considered essential to retaining livelihood and cultural traditions. The Sámi people claim a right to use natural resources (fishing, hunting) without a need to be permitted, which has been confirmed [for fishing in specific cases[1]] by a decision of the Supreme Court. The Skolt Sámi living in this area have the right to fish, keep reindeer and build fishing and hunting cabins on state-owned land, including in two wilderness reserves in their territory. They have a right to comment on relevant plans and proposals but do not have a right to influence the final decision.

Relations with Metsähallitus Parks & Wildlife are generally good. They share a joint desire to maintain core nature values and have similar attitudes to hunting and fishing. But in other ways there are important differences. Whilst acknowledging the use of Free Prior and Informed Consent (FPIC) and Akwé Kon, the Sámi would like more of a co-management approach. They believe that the agency sells too many hunting and fishing permits, undermining sustainable management, and lack the resources to intervene when for instance huts are built in ways that violate regulations.

Tourism is complicated. Sámi recognise the importance from an economic perspective but are wary of encouraging large numbers of people; for example, snowmobiles can scatter reindeer leaving herders with a time-consuming job of collecting them. Over the past decade, tourism infrastructure has deteriorated. A wilderness hut burnt down in 2016 has not been replaced and old marked routes are not maintained by [Metsähallitus] forestry services due to lack of funds, leading to the creation of unofficial routes and resulting in vegetation damage.

Although the opportunity to comment on plans and documents is welcomed, this is a heavy and increasing, workload. Members of the Skolt Sámi Siida Administration are sometimes asked to do this at short notice and sometimes have the impression that decisions have already been made beforehand. They report that they do not have regular meetings with park staff. When asked to score the quality of participation on a scale of 1–10, the Sámi said that a decade ago it would have been six but now it was three.

[1] Editorial note: It is the Constitutional Law Committee of the Finnish Parliament that has given a directive recognising, that fishing is part of the Sámi culture. There are cases in which charges have been dropped relating to unlawful fishing in the River Tenojoki (in the Sámi Homeland) as there has been a conflict with the fishing provisions and the constitutional right of the Sámi to maintain their culture. These have been rulings by the Supreme Court. There has been no such case regarding hunting and thus the Supreme Court has given no ruling on hunting.

The Sámi Museum and Northern Lapland Nature Centre have worked together to produce an exhibition linking Sámi culture and northern nature. Photo: Tatiana Yakovleva.

Sámi population, Norway is the only country to have ratified the Convention.

In the northern part of Finnish Lapland, Metsähallitus has a statutory responsibility for safeguarding the culture of the Indigenous Sámi people and their culture, for example, section 6 in the new Nature Conservation Act ensures conditions for practising Sámi culture are not hindered. One of the main objectives of the Wilderness Act is the safeguarding of the Sámi culture. Given that PWF manages 69% of the Sámi Homeland, Metsähallitus and PWF have a major responsibility to consider the Sámi culture in their activities and to evaluate the effects of their activities on the Sámi culture.

PWF reports that it negotiates with the Sámi Parliament on all significant measures – in particular concerning issues of the management, use and leasing of state-owned land, nature reserves and wilderness reserves – within the Sámi Homeland (in accordance with the Act on Sámi Parliament). PWF pays particular attention to the rights of the Sámi people to practise their own culture in the Sámi Homeland. PWF fosters the Sámi cultural landscape and built heritage in collaboration with local actors. PWF endeavours to identify and understand the value and meaning of the sacred places of the Sámi. PWF also supports research in the Sámi Homeland. The most important partners in protecting the Sámi cultural heritage are the Sámi Museum, the Sámi Parliament, the Skolt Sámi Village Meeting, the Finnish Heritage Agency and various research organisations.

The Sámi Language Act contains provisions on the right of the Sámi to use their own language before the courts and other public authorities, as well as on the duty of the authorities to enforce and promote the linguistic rights of the Sámi. PWF staff are trained in and encouraged to use the Sámi language in meetings and negotiations

in the Sámi Homeland. Management and operational plans of the wilderness reserves and national parks are translated into the three Sámi languages. Guidance material is also produced in all three languages. PWF maintains a very extensive website in Sámi (Metsähallitus 2023d). It also actively collects information on traditional Sámi place names. Metsähallitus uses the *Akwé: Kon Guidelines* (Secretariat of the Convention on Biological Diversity 2004) from the CBD in the context of drafting natural resource plans and protected area management plans in the Sámi Homeland (see Box 17).

Discussion: The PWF self-assessment considered that most management objectives between the Sámi and PWF are mutually supportive. Although formal governance and equity assessments have not been made, it was felt the main principles are considered. The evaluation team however found there was a lack of actual evidence for this and brought PWF's attention to a range of tools which have been developed to help make independent governance assessments to assess the social impacts, governance and equity of conservation in and around protected areas (see Box 13).

Finally, it was reported that reconciling conservation and traditional lifestyle was the aim of the *Akwé: Kon* procedure. Although PWF is taking steps towards harmonisation, the long-standing debates about the state's right to control Sámi land remain. The Sámi are feeling pressure on multiple fronts. A ban on fishing Atlantic salmon due to falling populations has reduced money coming into the community from anglers. Over-grazing of lichen and climate change have together reduced winter feed for reindeer, necessitating the precautionary purchase of hay. Some Sámi would like to move towards sheep raising but it is difficult and expensive to bring these in from the south and EU rules do not allow sheep to enter from outside the EU (e.g., from Norway).

Box 13. Tools to assess the social impacts, governance and equity of conservation

Social assessment for protected and conserved areas (SAPA) (iied.org): this focuses on the impacts of protected and conserved areas (e.g., protected areas, OECMs, etc.) on the well-being of local people, plus a basic governance assessment. SAPA can be used with almost any type of protected and conserved area.

Governance assessment for protected and conserved areas (GAPA) (iied.org): this focuses on governance challenges and underlying causes but only for protected and conserved areas where actors are willing to explore sensitive governance issues.

Site-level assessment of governance and equity (SAGE) (iied.org): this focuses on governance and equity. SAGE is less deep than GAPA but covers a broader scope of issues and costs less. SAGE can be used with any type of protected and conserved areas either as a standalone exercise or in conjunction with SAPA or the Protected Area Management Effectiveness Tracking Tool (METT).

There appear to be three main areas of tension between Metsähallitus and Sámi:

1. Hunting: Metsähallitus sells too many licences to people outside the community.
2. Mining: Metsähallitus cannot stop all mining (see Box 10) and this is recognised but the Sámi thought that the organisation should at least give a public opinion on whether mining should take place.
3. Participatory governance: According to the Sámi representatives, participatory processes fall far short of a shared governance process; Metsähallitus argues that it cannot share power due to the legislation.

Additionally, there were concerns among the Sámi representatives interviewed about a reduction in trail and hut maintenance by PWF, which amongst other things has resulted in more widespread use of snowmobiles, which can scatter reindeer herds that take a long time to reassemble. Tourist behaviour is sometimes problematic, for example regarding taking photographs of Sámi children. The Sámi noted that there is generally more sensitivity about consultation within their community and resentment easily builds if this is not done properly; this includes both actions by Sámi themselves and by outsiders in the community. Conversely, it was reported that there is tension with some other local communities who see the Sámi getting what they consider to be preferential treatment.

Recommendations:

- PWF should consider conducting independent governance and equity assessments (using for example the tools presented in Box 13) at the site and system levels that consult and give a voice to the diverse perspectives of all important actors involved. The goals of the assessment should be building relationships, developing shared goals (especially in adapting to climate change as a lever), recognition and celebration of examples of good stewardship and the need for new ways of working together.
- PWF should benchmark and develop training processes for conflict resolution with identified staff.

NEW QUESTION 1.9 Have the Global Biodiversity Framework and the EU Biodiversity Strategy 2030 been considered at the network level and linked to the vision of the Finnish protected area system?

2023	Good

Overview: Given the recent approval of the CBD's Global Biodiversity Framework and related EU Biodiversity Strategy 2030, a new question was added to the 2023 assessment to evaluate Finland's response to putting into place Target 3 (and other targets) of the GBF and the EU's Biodiversity Strategy 2030 which sets a task to have one third of protected areas as so-called "strictly protected areas". The assessment reviewed Finland's amended vision of the protected area network to set this goal by 2030. This will cause challenges in the south of Finland, where protected area coverage is currently low.

Discussion: Both the CBD and EU 2030 goals are included in the national vision, plan and strategy. The NBSAP is being renewed and EU 2030 pledges on area conservation and restoration measures are being compiled. Both processes are ongoing: preparatory work is being carried out by Syke, PWF and others, proposals include targets and are out for public consultation. Some implementation is already ongoing through the METSO and HELMI Programmes (see Boxes 4 and 5).

At park and regional staff level, there was minimal reference to goals set out in EU and global agreements (e.g., the GBF, UN Decade

on Ecosystem Restoration). Staff should be aware of the role of PWF in relation to international obligations and future strategies to fulfil them. Although the GBF is complex, the simple idea of halting and reversing the steep decline of biodiversity should be a central message.

Similarly, PWF is missing an opportunity to report to government and other key stakeholders about the wider role of the protected area system in meeting a range of international obligations (e.g., GBF, SDGs, UN Decade on Ecosystem Restoration, Paris Agreement, Land Degradation Neutrality, EU legislation) which the evaluation team suggests could be done on a regular basis.

Recommendations:

- Undertake an analysis of key global and regional instruments to provide an overview of how PWF contributes.
- Linked to the capacity building mentioned in 1.1 above, ensure that field and central office staff have a clear idea about the most important of these, e.g., key aims of GBF.

Controlled burning of forest in Liesjärvi National Park. Fire helps to restore the natural succession of forest habitats and species. Photo: Teemu Rintala.

NEW QUESTION 1.10 Is the protected areas network well placed to implement the EU Nature Restoration Law proposal?

2023	Good

Overview: In July 2023, the EU narrowly passed the Nature Restoration Law, which will place recovery measures on 20% of the EU's land and sea by 2030, rising to cover all degraded ecosystems by 2050. In November, a provisional agreement was reached between the European Parliament and the European Council on the Nature Restoration Law. Anticipating this, and the eventual implementation of the law, the 2023 assessment included a new question on restoration.

Restoration has been central to PWF work for decades, with the Metsähallitus 2021–2024 strategy including a pledge to restore 17,000 hectares of degraded habitats in protected areas by end of 2023. In 2022, PWF spent approximately €14 million on active restoration and habitat management measures across 9,000 hectares of state-owned protected areas and across around 950 hectares in PPAs. Mire restoration across more than 7,300 hectares accounted for the largest part of this work: 93% in state-owned areas and 7% in privately owned areas (Metsähallitus 2023a). This was funded by the HELMI Programme (70%) and EU LIFE Projects (30%). Some 70% of the restoration took place in southern Finland (PWF Lakeland and Coastal and Metropolitan Regions).

PWF is drafting an Action Plan for implementation of restoration and habitat management measures of the national HELMI Programme 2030 with measures for reaching targets in 2024–2030. Targets by theme, measure and year will be set for each PWF Regional Unit, prioritising measures in case of budget cuts. Estimates have been made of financing needed, additional staff and procurement resources for inventories, planning, implementation and monitoring. The plan is partly still in process, because the new 2024–2027 Government programme and budget allocations are open. The LIFE IP Priodiversity Project 2024–2031 will be an important part of implementation (financing for the project was confirmed in October 2023).

Discussion: There is agreement of a process to include the Nature Restoration Law proposals into the protected areas system and network vision, plan and strategy at national level. The ambitious targets require actions also outside of protected areas.

Recommendations: The framework for the EU Nature Restoration Law is already widely known, and it is possible to prepare for its implementation. PWF should therefore include its objectives in the Finnish biodiversity strategy (NBSAP) and integrate them with other targets. This is also important in terms of linking protected areas to the wider landscape.

- Include the objectives of the recently negotiated EU Nature Restoration Law in the Finnish strategy (NBSAP) and integrate with other targets. (see also question 1.7)

NEW QUESTION: 1.11 Do protected area objectives harmonise with wider environmental policy and vice versa?

2023	Good

PWF self-assessment score in 2023: Good to very good

Overview: This new question aimed to dive deeper into whether the wider environmental policy supports and encourages effective functioning of the protected area system (see also question 1.2).

Discussion: The self-assessment considered that wider environmental policy provides for effective functioning of the protected area system within constraints. Many wider environmental policies support protected area goals and management and vice versa.

The evaluation team found little information about the need to halt and reverse the steep decline of biodiversity, nor about the wider benefits from protected areas for climate change, water security, etc. (with the welcome exception of details on health benefits). Including some useful statistics on these values would help situate protected area benefits more centrally in Finnish society.

Recommendations: Increase the engagement of PWF in wider landscape management issues, through showcasing, collaborating and addressing, to mutual benefit, landscape-scale issues such as innovative forestry (e.g., nature friendly techniques, prescribed burning) in hiking areas, working in close cooperation with Metsähallitus Forestry Ltd.

2 Planning

2.1 Are protected areas identified and categorised in an organised system?

↑	2004/5	Good	2023	Very good

PWF self-assessment score in 2023: Good to very good

Overview: Following a project in 2013 (Heinonen 2013), IUCN's protected area management categories (Dudley 2008) have been applied to most of the established nature reserves (both state and privately owned) and data is updated annually on the European Environment Agency (EEA) database. (In 2008, Finland argued successfully for a modification to the existing IUCN protected area management categories to better reflect many small sites within the country.) Most Finnish protected areas are IUCN management category IV (see Figure 17). However, almost 87% of surface area of the national protected area network is IUCN management category I and II, consisting of strict nature reserves, wilderness reserves and national parks. Finland has only assigned IUCN categories to and reported nationally designated and statutorily established to the EEA database; this is reflected in numbers of not reported/assigned sites shown (these include e.g. Natura 2000 sites).

Discussion: The self-assessment system noted that almost all protected areas are categorised and systematically organised. World Database on Protected Areas (WDPA) data is updated annually as part of agreement with the EEA and based on the European inventory of nationally designated areas (CDDA). There is not yet a system for reviewing the status and management regime for areas with high conservation values not designated as protected areas. There has been work on the OECM ("other effective

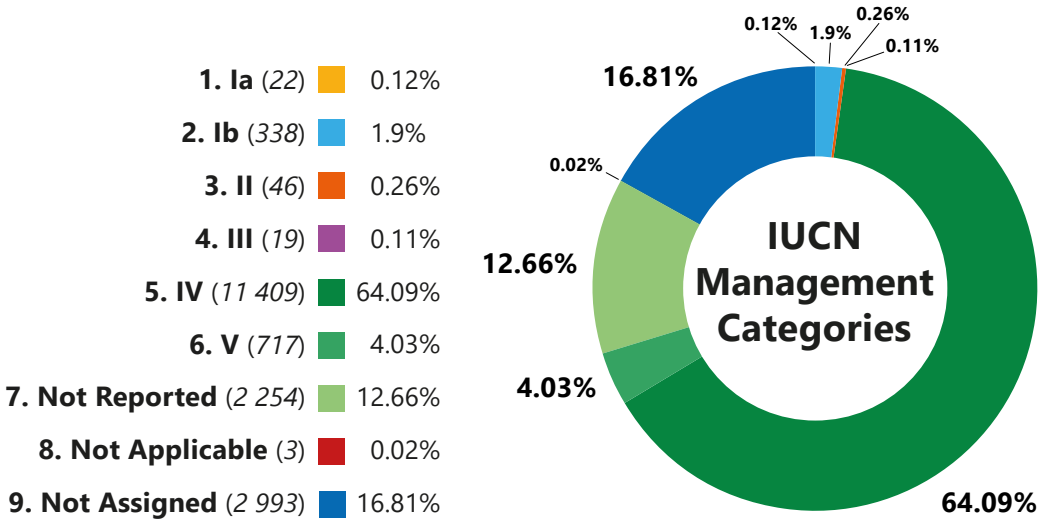


Figure 17. Protected area management categories in Finland as reported by Protected Planet (UNEP-WCMC 2023).
Alternative text of the figure. Proportion of protected areas in IUCN categories are shown by number and percentage of all reported sites. In category Ia: 22/0.12%; Ib: 338/1.9%; II: 46/0.26%; III: 19/0.11%; IV: 11,409/64.09%; V: 717/4.03%. In addition, category is Not reported: 2254/12.66%; Not applicable: 3/0.02%; Not assigned:2993/ 16.81%.

area-based conservation measures") concept, but applying principles is only beginning. Discussion is ongoing about different conservation options in connection to the EU pledge. In general, area types fulfilling the IUCN definition of a protected area are identified and categorised, and categories are well harmonised with international obligations.

It should be noted that there is no option to submit data on governance type to the EEA database. As a result, the large PPA network in Finland cannot readily be identified in the WDPA. Changes to the EEA database would be welcomed in this regard.

Recommendations: OECMs are likely to be considered as a major tool for reaching the 30x30 target. This presents an important opportunity for PWF and Metsähallitus to review their forestry and water holdings, and review how these can contribute to biodiversity conservation.

2.2 Are individual protected areas designed and established through a systematic and scientifically based process, aligned with the strategic vision for protected areas?

⟷	2004/5	Good to very good	2023	Good

PWF self-assessment score in 2023: Good to very good

Overview: This question was revised in the 2023 assessment to focus more on the alignment with the strategic vision for protected areas and to provide an update on how the system would be expanded (particularly given Global Biodiversity Framework Target 3) (Convention on Biological Diversity 2022).

Finland has a comprehensive planning system for all state-owned lands. Ecosystem-based Natural Resource Plans have been made for all Metsähallitus administered state-owned land since 2001. Plans are valid

for 5–10 years and the fourth round of planning started in 2022. Major elements of the plan include:

- Comprehensive land use planning
- Integrating commercial and conservation objectives
- Participatory stakeholder involvement.

Landscape ecological planning of Metsähallitus lands builds on the ecological network around core areas (protected areas), other areas important for biodiversity value and enhancement areas (e.g., OECMs once designated) and connectivity areas (e.g., green infrastructure).

Discussion: PWF notes that a review of progress towards a national strategic vision of protected areas (noting EU and CBD Target 3 requirements) has taken place through several national projects (Finnish Environment Institute 2022, European commission 2023b), which have assessed previous gaps particularly in the south of the country, in marine and inland waters and traditional agricultural areas have been the focus of prioritised actions. It was noted that land ownership patterns make strategic planning more difficult in the south. The self-assessment noted that the design and establishment of most protected areas is systematic and scientifically based and is linked to the strategic vision for protected areas. Most of the formerly identified gaps have been/are being addressed to some degree, although gaps remain in the southern parts of the country.

There is clearly a rigorous and professional approach to systematic conservation planning, although the extent to which the results of this feed into site selection was not so clear. For example, the peatland protection sites now implemented in the HELMI Programme are sites previously selected under the criteria for a conservation programme that did not receive political approval from the government at the time. Also new METSO Programme sites are selected with preset criteria.

Connectivity, particularly in the southern part of Finland, is recognised as a weakness, for instance research has shown that declining butterfly and moth species have larger populations in well-connected networks of semi-natural grassland (Pöyry et al. 2009).

Although the design and establishment of most protected areas is systematic and scientifically based and is linked to the strategic vision for protected areas, under-representation is still an issue, particularly in the south of the country. Projects to fill under-represented elements noted in 2004/5 have been implemented, or in some cases are still being addressed. Gap analysis of supplementation needs and priorities has been carried out (Syke and Natural Resources Institute Finland (Luke) research), but it remains to be seen how facts are used in NBSAP and the EU Strategy on Biodiversity 2030 pledges.

The sharp discrepancy between the total protected area coverage in northern and southern Finland is of concern. The evaluation team recognise the reasons for this, including land ownership patterns and everyone's rights, but this is an area where OECMs and other softer tools could help improve conservation cover on private lands in the south.

There is admitted confusion about the role of PWF with respect to PPAs, where it is officially responsible for management but practically often not in a position to do this.

Finally, it was noted that land bought for the state, mainly as part of the METSO Programme (see Box 4), but not officially protected and state-owned areas "reserved" for protection can sometimes take as long as 20 years to become officially protected. This is because defining the rules of protection (i.e. drafting site-specific enactments) is quite bureaucratic and involves stakeholder engagement. Although so far, these not yet statutorily protected areas have remained

safe, a quicker more efficient process should be encouraged.

Recommendations: Work with Metsähallitus Forestry Ltd and private forest owners to explore innovative ways of addressing the scarcity of protected areas in the southern part of the country, possibly through recognition of OECMs and PPAs. Prioritised pledges for area conservation until 2030 will be submitted to the European Commission in 2024. These should address:

- Gaps in the system specifically in the south.
- Implementing the roadmap to develop the marine network of protected areas identified by the Biodiversea LIFE IP project to locate the most valuable underwater habitats with the highest levels of biodiversity (Metsähallitus 2023a).
- Encouraging an expansion of privately protected areas (PPAs).
- Clarifying the role of PWF and the ELY Centres with respect to management planning in PPAs.
- Ensuring all areas "reserved" for protection are enacted as quickly as possible.
- In general, PWF could work more closely with Metsähallitus Forestry Ltd on issues of common concern, including climate change and landscape-level biodiversity conservation.

2.3 Are established protected areas covered by comprehensive management plans and are these aligned to the strategic vision?

2004/5	Fair	2023	Good

Overview: This question was also adapted in 2023 to focus on how planning was aligned to the strategic vision, as the mechanics of management planning are covered in question 2.4.

Discussion: The PWF self-assessment noted that most protected areas are covered by management planning procedures, which are comprehensive and reasonably well aligned to the PWF strategic vision. A strategy for developing and updating plans (with milestones) has been developed. In regional master planning, the need and priorities of planning are assessed, and strategic work plans are made several years ahead. The landscape ecological approach has been developed and adopted to a large extent (e.g., state and private reserves within large Natura 2000 designations). PWF is also increasingly working together with others and planning measures outside of its sites. This is in line with the vision for an ecological network.

The evaluation team has noted the above concerns about the overall vision of PWF, so although the alignment between plans and the vision is good, the team would in general like to see more focus on biodiversity in the vision and in the management of protected areas.

Recommendations: There were no specific recommendations related to this question.

2.4 Are management plans routinely and systematically updated?

2004/5	Fair to good	2023	Fair to good

Overview: Protected area management planning has multiple layers (see Figure 18). Management plans are long-term 10 to 15-year strategic visions (in the 2004/5 assessment it was suggested that management plans were assessed at least every five years and updated every ten years). Management plans are statutory for national parks, wilderness reserves, national hiking areas and some other specific nature reserves. Almost all plans required by law have been completed and 62% of the plans do not need updating at the moment. One management

plan may also cover several different types of protected areas, including private nature reserves. Most operational plans are made for habitat restoration and management; separate plans are made for recreational facilities; they have detailed timelines and resource requirements.

As not all sites have strategic management plans, planning tools are chosen depending on protected area type. In Finland, there is a clear legal distinction between protected areas established under the NCA and protected areas based on other legislation and/or government resolutions on conservation programmes. Much of the binding regulation is inscribed in the Act's general conservation provisions on national parks and other nature reserves and is complemented by site-specific enactments. There are also distinct Habitats/Birds Directive obligations related to management of Natura 2000 sites, which are incorporated into the NCA as well.

There are some practical site management issues caused by the major overlap of Natura 2000 with the nationally designated sites. Nature (and wilderness) reserves aim to preserve the whole ecosystem(s) of the sites, while the Natura 2000 focus is specifically on the condition of certain habitats and species. The site-specific NATA assessments (see Box 14) and management plans are drafted, and operational conservation measures and monitoring are prescribed and documented, in an integrated manner. This aims to serve practical management and evaluation of further needs for (re)assessment and adaptive planning. Because the individual national and Natura sites are very different in size and scope, the tools and the updating cycles needed are also very different. NATA assessments need to cover all Natura sites and assessments to be repeated regularly, but site-specific (strategic) management plans are needed only for sites where multiple values and objectives and land use issues require reconciliation and participatory approaches (i.e., national parks and wilderness reserves). Operational planning aims to be more agile

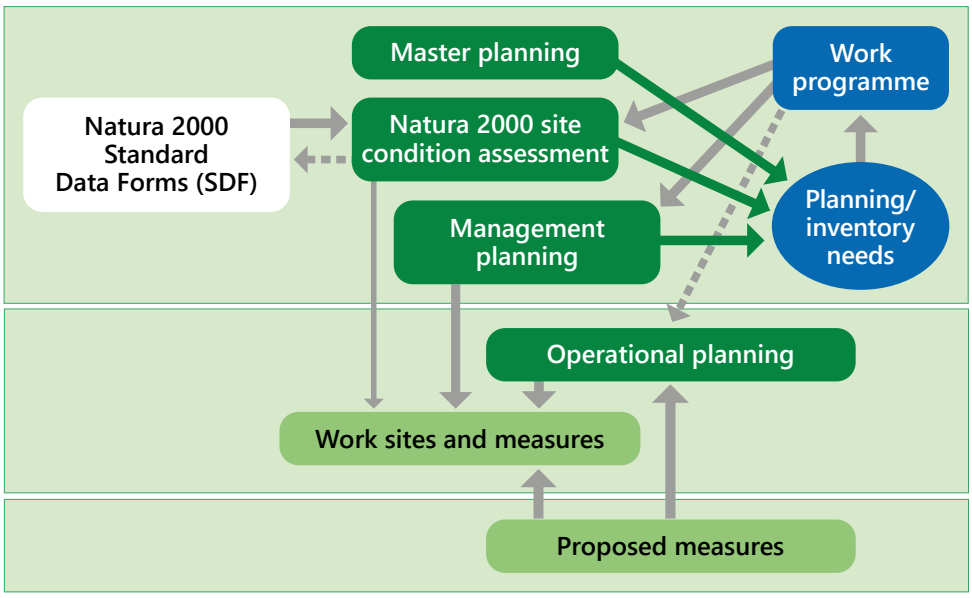


Figure 18. Schematic overview of the protected area management planning system.
Alternative text of the figure. Master planning is at the top, under it Natura 2000 site condition assessment and Management planning. From these go arrows to Planning and inventory needs and consequently to Work Programme which is used to time-line assessments and planning. Management Planning and Operational planning lead to Work sites and measures. Also proposed measures feed into work sites and operational planning.

and adaptive. Most peripheral sites with little use and negligible threats need no specific planning or active management.

Thus, in summary:

- Management plans are drafted for large areas with many values and objectives (e.g., national parks and wilderness reserves).
- Operational plans are developed for (extensive) site measures (e.g., forest/mire restoration, agricultural habitat management); they can be standalone plans or supplementary plans to long-term management plans.
- Natura 2000 site condition assessment (NATA) is used as a planning and monitoring tool. This includes a threat analysis, the results of which lead to the decision of whether more detailed planning is needed or not. All Natura 2000 sites have NATA assessments, in 45% of sites no additional planning is needed.
- For the most visited national parks, strategic nature tourism plans are also drawn up with stakeholders.

Discussion: A strategy for developing and updating plans has been developed (with milestones, as was recommended in the 2004/5 assessment). In regional master planning, the need and priorities of planning are assessed, and strategic work plans are made several years ahead. It was noted in the PWF self-assessment that drafting of NATA assessment updates was falling behind schedule.

The 2004/5 assessment recommended the development of a risk assessment process (perhaps associated with plans for threat assessment referred to above) to guide prior-

Box 14. Natura 2000 site condition assessments (NATA)

NATA assessments have had legal status in the Nature Conservation Act since 2014 as the tool to implement the EU Habitats and Birds Directives. They are carried out periodically for all Natura 2000 sites (except in the independent Åland province), regardless of ownership/governance or management responsibility. Assessments include:

- updating of a Standard Data Form (SDF)
- (re)defining key values and significant threats
- (re)defining conservation and other objectives, including management measures and monitoring, and review the need for (updating) management and/or operational plans
- (re)assessing conservation and other outcomes.

Most Natura 2000 sites consist of state lands and NATA assessments are conducted by PWF. Assessments on private lands are executed in cooperation with ELY Centres. Landowners are always consulted, but management plans are not legally binding.

Assessments have been completed for all mainland Natura 2000 sites; re-assessment will generally be undertaken at 6–12–18-year intervals according to prioritisation criteria. Staff involvement in NATA assessments has been extensive, including a wide range of experts, comprehensive training and support.

itisation and ensure that those protected areas at highest risk have plans updated every five years. Risk assessment for prioritising planning is part of master planning (the 2004/5 assessment recommended the development of a risk assessment process to guide prioritisation). However, the self-assessment noted that a higher level of operational prioritisation and resource allocation (e.g., by performance agreements and annual work plans) is lacking and there is a backlog in site planning. At least intermediate implementation and impact assessments should be done regularly to follow changing situations at key sites.

Keeping management plans up to date has clearly been a major issue for PWF, with plans' lifespan extending along with commitments to update. Strategic management plans tend to be detailed and complex, with a long development time and are sometimes hard for stakeholders to input and review. At worst, elements have become dated before the plan is complete and stakeholders alienated by lack of progress. Perhaps as the organisation strives for increased efficiency and effectiveness, rather than having multi-year revision processes many plans could be made living documents with clearly outlined plans for review, update and stakeholder involvement being part of management rather than management plans being a major project every few decades. Mid-term monitoring of objectives and NATA assessment bring new issues to light that need to be considered when managing the area and could be used in such a strategic update. However, in the METT assessment for Oulanka National Park, it was noted that the periodic review should be done more regularly, as the site has not been able to follow the planned timeframe of the periodic review.

The METT scores were all overwhelmingly positive for management planning,

Visitors hiking in Torronsuo National Park. An update of the park's managment plan is due to outdoor recreation pressures and climate change issues. Photo: Tea Karvinen.

but comments showed the complexity of the issues and reinforced the assessment made above. Kaldoaivi Wilderness Reserve, for example, noted that PWF manages approximately 3 million hectares of wilderness and protected areas in Finnish Lapland and has limited budget resources and number of personnel. Therefore, in some areas the lifespan of the management plans may exceed the optimal time. However, if there are no specific threats in the area or changes in the operational environment, the management plan may remain valid for a longer period of time. It was also noted that if the predictability of the budget were more precise and extended over longer periods than currently, PWF could make better and longer-term plans to manage this and other nature and wilderness reserves that it is responsible for. In Torronsuo National Park, where the management plan is due to be updated shortly, it was noted that there have been no issues from the nature management side to precipitate the update as needed restoration work is finished (except for Lake Talpianjärvi). At the moment, the need for updating the plan is mostly due to outdoor recreation issues and also to include new challenges and responses to them, such as climate change questions. Which again indicates that a more focused approach to updating specific sections of management plans could be a more efficient way forward.

Recommendations: The assessment team suggests a review the effectiveness of the management planning process, including the period of validity of management plans. At present, this is partly an administrative process which is capacity intensive (also because some management plans can only be updated over a significantly longer period), and this takes away capacity for communication with partners and management itself. Actions could include:

- Streamline the process of management planning to avoid overly long lead times whilst ensuring stakeholder opportunities to inform management remain high.
- Transform management plans into living (web-based) documents that can be updated or added to as necessary rather than entirely redone.
- Routinely use mid-term monitoring and NATA assessment to highlight areas where "living documents" need adapting.
- More consistency in core budget allocations would also allow a smoother planning process.
- Note that planning must also consider how to address landscape-scale pressures such as climate change, invasive species and threats to priority species.

2.5 Are protected areas located in places with the highest/most threatened biodiversity and/or other important values?

2004/5	Fair	2023	Good

Overview: The question was adapted for 2023 to include reference to other important values. Three key issues were pointed out as important to assess:

1. Has the understanding of the biodiversity values of freshwater and marine habitats been enhanced?
2. How are private and public protected areas planning and management being integrated?
3. Has there been a review of boundaries to address the imbalance issue identified in the last review?

Discussion: The 2023 self-assessment noted significant advances and the uptake of recommendations from the previous assessment, for example:

- Most protected area locations cover areas with the most highly threatened biodiversity and other values.

- Understanding of freshwater values (see Box 15) and particularly marine biodiversity values has enhanced significantly through the VELMU Programme (see Appendix 2E, Ekenäs Archipelago National Park).
- In general, the METSO Programme has enhanced protected area network development in forest environments of southern Finland (see Box 4). Although this is based on voluntary protection, there are selection criteria and there is scientific evidence that conservation value is good in both complementing the existing network and providing connectivity.
- Integrated planning of state and PPAs is done especially within larger Natura 2000 designations; PWF and ELY Centres work in cooperation. It also takes place as part of the HELMI Programme (including PWF and Metsähallitus Forestry Ltd, see Box 5) and Priodiversity LIFE [2024–2031, funding for was granted in October].
- Boundaries have been reviewed to some extent in both national and Natura 2000 sites.
- National inventories and evaluations of both natural and cultural heritage show that the protected area network contains a significant proportion of nationally valuable features. However, there is still a notable amount of threatened biodiversity outside of protected areas, particularly in freshwaters and the marine environment (e.g., see Box 15, and the results of the EMMA project (maritime-spatial-planning.ec.europa.eu): The Finnish ecologically significant marine underwater areas) (European commission 2020). More national prioritisation and mainstreaming between water and nature conservation measures are needed. Management of water areas is usually implemented in projects, but a planning and prioritisation programme is needed.

Recommendations:

- Seek government clarification of the role of PWF in PPAs concerning, for example, the monitoring, restoration and management of recreation of these areas.
- Bring OECMs and PPAs into systematic conservation planning exercises in the south of the country to assess opportunities for expanding area-based conservation in these areas, this will also allow more consideration of connectivity between protected areas.

2.6 Are stakeholders given an opportunity to participate in management planning and designation?

2004/5	Good to very good	2023	Good

Overview: This question was broadened in the 2023 assessment to cover participation in decision-making processes in terms of both management planning and designation. This uncovered some imbalance in approach with stakeholder involvement focused primarily on designation and overall land use planning rather than operational site-based management planning.

According to the new NCA, in the drafting of new nature conservation programmes, a right to be heard is reserved for those affected by the programme. The old nature conservation programmes (1976–1996) were not drafted using participatory processes. There are discussions going on about the new international and EU area-based conservation targets, and PWF is participating in the discussions. The new national biodiversity strategy and action plan will follow the official consultation process. Stakeholders participate in the preparatory process, including interest groups and NGOs. Currently, new protected areas are based mostly on the METSO Forest Biodiversity Programme and

Box 15. Freshwater conservation

Finland is often called the "land of a thousand lakes" but conservation areas are rarely established primarily for protection of freshwater habitats. The Nature Conservation Act provides the strictest protection. However, larger water bodies have often been left outside boundaries of nature reserve designations. Although they are often included in the Natura 2000 network, their conservation is mostly based on other measures. Legislative frameworks exist for freshwater protection, including general acts, such as the Water Act which covers all water bodies, the Wilderness Act provides stricter protection where applicable, and the Act on Protection of Rapids protects certain defined areas or segments against hydropower construction.

Freshwater bodies are part of a hydrological network, where upstream and downstream influence is essential. However, land ownership is often a challenge for effective management. Metsähallitus has a mandate for freshwater management, but this often only covers fragments or at best headwater sections of the catchment. Parks & Wildlife Finland makes inventories in state-owned lands, but data is scarce especially for privately owned areas. Cooperation across land ownership borders is thus essential for effective freshwater habitat management.

Ecological status of waterbodies was assessed in 2019 as part of updating river basin management plans, obliged by the EU Water Framework Directive. 4,639 lakes and 1,960 rivers/streams covering 33,200 km were assessed, where possible through the collection of physical, chemical and biological data. This provided a good assessment of the national status, but small water bodies were not included due to lack of data. The biological data was also used for assessment of the Habitats Directive habitats (Art 17 reporting).

In 2021, the Finnish Environment Institute published the first national model of the status of headwater streams (catchment <100 km^2). The model was based on inventories by PWF with further information from projects and programmes such as Hydrology LIFE, Freshabit LIFE IP, LIFE Revives projects and the HELMI Habitats Programme.

Lake Puruvesi was one of the Natura 2000 sites targeted by catchment-level conservation measures of the Freshabit LIFE IP project (2016–2022). Photo: Jari Ilmonen.

HELMI Habitats Programme, which are based on volunteer conservation by landowners (see Boxes 4 and 5).

PWF is not responsible for the actual designation of sites but is responsible for the groundwork when a site on state land is considered for designation, then participatory processes can be carried out, as was done in the recent establishment of Salla National Park in Lapland (the 41st national park in Finland). When multiple protected areas are assessed, e.g., when a hundred nature reserves are statutorily established simultaneously in one region, there are discussions with regional authorities, municipalities, and hunting and nature conservation organisations so the preparatory enactment work is done in cooperation with the most relevant local stakeholders.

Discussion: The 2004/5 assessment suggested expanding the number and role of advisory committees (the suggestion here is that they are equivalent to the National Park Boards) to expedite and enhance planning in priority reserves in the greatest need of management planning. This has not been done, but the 2023 self-assessment noted other systems were in place. The PWF self-assessment also noted:

1. Governance assessments have not been done.
2. Currently, new protected areas are based mostly on the METSO Forest Biodiversity Programme and HELMI Habitats Programme, which are based on volunteer conservation by landowners (see Boxes 4 and 5).
3. Stakeholders are well represented at a higher level of decision-making, although the situation seems to vary a little in different parts of the country.

PWF stated that participation of stakeholders and citizens in natural resource planning and protected area management planning on state lands and waters has been standard procedure in Finland since the 1990s. These include:

- Metsähallitus Guidelines for Protected Area Management Planning; Guide for Participatory Planning.
- Principles of Protected Area Management (see Box 2).
- *Akwé: Kon Guidelines* for the Sámi Homeland Area, which includes wilderness reserves and national parks in Lapland, implemented since 2010 (see Box 17).

Cooperation and interaction with stakeholders occur at multiple levels:

- National level: ministries, research institutes, NGOs, etc.
- Regional environmental and other sectoral administration.
- Statutory advisory boards, local municipalities and associations, landowners.
- Citizen feedback: GIS-based web tools and social media.

In the regions of Oulu and Lapland (northern Finland), as well as in northern Karelia (eastern Finland), the Ministry of Agriculture and Forestry MAF has appointed advisory boards with representation of various interest groups. These boards discuss regionally significant issues concerning state-owned lands and waters. Advisory boards can be established for national parks as well. Urho Kekkonen National Park has an advisory board appointed by MoE. In northern Lapland, there are cooperation groups appointed for the municipalities of Inari, Utsjoki and Enontekiö.

Also protected area management planning should be as open and as interactive as possible, which is a requirement of the Nature Conservation Act for national park management plans. Participatory management plans are required also for wilderness reserves according to the Wilderness Act. Strategic management planning in national parks and wilderness reserves involves local communi-

Box 16. Participation in planning in Nuuksio National Park

Nuuksio National Park is located close to the Helsinki Metropolitan Area and thus has high numbers of potential stakeholders interested in how the park is managed. An update of the strategic management plan and the site regulation orders is currently in progress, to be finalised by the end of 2023. Here a summary of the participation in this process is provided based on the METT assessment.

The role which stakeholders have in the practical management of the park varies between different activity groups. Entrepreneurs are very actively involved because they often provide activities within the park and their viewpoints are also often considered, when for example new outdoor recreational infrastructure is being planned. Voluntary nature enthusiasts and birdwatchers also have an important role in monitoring of natural values within the park, because they provide a lot of bird data (for example nest site checks of the red-throated diver and birds of prey) which can further be used to manage activities within the park.

Generally, local communities and stakeholder groups were contacted in the preliminary phase of plan development to collect views about the importance and use of the area, and statements and opinions were collected during the drafting phase. During preparation of the management plan, comprehensive stakeholder collaboration was undertaken, and separate stakeholder meetings were organised for example for the local resident and road management organisations, outdoor recreational societies, nature protection agencies, etc. This collaboration will continue after the management plan has been finalised if further work is needed. For example, annual collaboration meetings with the private road management organisations were considered necessary, because many private roads in and around the park are also used by the visitors.

Mountain biking is a popular activity in Nuuksio National Park. Fitting together different outdoor activities without compromising park values is the primary goal of participatory management planning. Phtoto: Katri Lehtola / Metsähallitus.

ties and a wide range of stakeholders (see example, Box 16).

An analysis of stakeholders is done in the preliminary planning phase of the management planning process: which stakeholders should participate, in which way and when. Also, possible conflicts are identified in the planning phase. The PWF management planning guidelines include a toolkit of participatory methods. The level of participation needed depends on the number, variability and the importance of the protected area(s) included in the planning area as well as on the fragmentation of land ownership or the number of stakeholders involved as this influences the quantity and type of potential conflicts. Different methods are used in participatory processes, for example:

- Cooperation groups for practically any protected area management planning exercise and in addition any other e.g., thematic groups as needed.
- Public events.
- Bilateral discussions.
- Interactive GIS-based or other Internet tools, such as questionnaires.
- Online or in person.

An official consultation process is carried out. Information about the management planning process is given out in a number of ways, e.g., a dedicated website that is established for the management planning process, social media, local newspapers, letters to organisations, private landowners, interest groups, etc. Translation and interpretation into Swedish is provided in the Swedish-speaking areas and the relevant Sámi languages in the Sámi Homeland. There is an Internet-based consultation system managed by the Ministry of Justice (2023). Public administration authorities can ask for statements via the system. Any organisation or citizen can give a statement using the consultation system.

In Finland, the *Akwé: Kon Guidelines* are applied to cultural, environmental and social impact assessments of projects and to plans carried out in the Sámi Homeland, which may affect the Sámi culture, livelihood and cultural heritage (see Box 17). One major challenge working with the Akwé: Kon model noted by PWF is whether there will be resources for its implementation in the future. Also, it can be challenging to align the timetable of a management planning exercise to the timetable of the Akwé: Kon working group. It was also noted by PWF staff that sometimes expectations from stakeholders about what issues can, and importantly what cannot, be decided in a management plan arise. The Akwé: Kon working group might bring up issues that are not in the scope of the management planning exercise and there are always some issues that are difficult or where opinions differ. For these reasons, reconciliation is important. However, it is not always possible to reach a solution that would satisfy everybody.

The evaluation team found mixed results here. There have obviously been serious attempts to build stakeholder relations and participation, but this seems to have stalled over the pandemic and in some cases not restarted again. There is probably a need for a post-COVID period of reflection and restarting several engagement processes that previously were working well and appreciated. This issue was also picked up in the external audit of PWF in 2022 (see question 4.1), where it was noted that there was some unclarity in how responsibilities are decided within PWF in connection with some important stakeholder participation. Corrective actions were undertaken to make responsibilities clearer.

Clearly agreed and understood protocols for stakeholder involvement (inform, consult, participate) are needed; the evaluation team found differing opinions on the frequency and effectiveness of consultation and consultation periods and lack of clarity about what was involved in "participatory approaches" to site planning. This is perhaps particularly notice-

Box 17. Akwé: Kon Model

In 2009, the Ministry of the Environment set up a national article 8(j) expert group to work on Indigenous traditional knowledge as specified by Article 8(j) of the CBD. Its task was to coordinate actions and to enhance general awareness of the 8(j) work programme, particularly from the point of view of the Finnish Sámi. One of the working group's goals was to provide recommendations on the application and implementation of the voluntary *Akwé: Kon Guidelines* of the CBD in Finland.

The guidelines map out the procedure by which Indigenous peoples' participation can be safeguarded in the preparation of projects and plans, in impact assessment, and in decision-making. By following the guidelines, possible harmful effects on Indigenous peoples can be identified and minimised. Application of the guidelines was piloted in the development of the management plan of Hammastunturi Wilderness Reserve in 2010–2012 (Juntunen & Stolt 2013). As a result, the Akwé: Kon Model was developed jointly by Parks & Wildlife Finland (PWF) and the Sámi Parliament. The second version of the model has been agreed with some specifications and the latest version was published in 2020 (Metsähallitus & Saamelaiskäräjät 2020). An English version was published in 2023 (Metsähallitus & Sámi Parliament 2023). The model has been used so far in the management planning of four wilderness reserves (Hammastunturi, Vätsäri, Pulju, Käsivarsi), two national parks (Urho Kekkonen, Pallas-Yllästunturi) and two strict nature reserves (Malla, Kevo).

The *Akwé: Kon Guidelines* are best suited for application in interactive land use planning processes, where there is already a procedure for citizen and stakeholder consultation, such as natural resource planning of state-owned lands and site management planning of nature reserves and wilderness reserves. Applying the guidelines at various stages of the planning process helps to identify and respond to issues that are important in terms of preserving the Sámi culture and to the concerns of the Sámi. For PWF, it is also a tool to identify those preconditions for practising traditional livelihoods that must be taken into account in land use planning. It is essential to ensure effective participation of the Sámi in the whole process and cooperation with other stakeholder groups.

The Akwé: Kon working group is a supplement to the participatory planning system, supporting the work of the coordination group, and increases interaction between Metsähallitus and users of the planning areas. In this regard, the impact assessment becomes part of the planning process and is not a separate phase that is only completed afterwards. Changes to the plan can be made as early as in the drafting stage.

The members and chairperson of the Akwé: Kon working group are appointed for each planning exercise by the Sámi Parliament after consulting the Sámi living in the relevant area. In the Skolt Sámi Area, some of the group members are appointed by the Skolt Sámi Village Meeting. Sámi users of the area whose interests the plan is likely to affect are selected to the working group. At different stages of the planning work, the Akwé: Kon working group contributes its reasoned assessment of whether or not the measures will have impacts on practising the Sámi culture and its proposals for reducing or eliminating these impacts.

able (and important) in the case of the Sámi (see Box 12). So, although there are guidelines and instructions for stakeholder involvement and how to set up cooperation groups for the management planning exercise in the planning information system, it seems that there is a need for clarification of these guidelines and better orientation for the PWF staff.

Recommendations:

- Develop agreed PWF-wide protocols for stakeholder engagement, including ensuring representativeness of participants, types of engagement, expectations, frequency of engagement, etc. Whilst recognising that details will vary with place and issue, broad standardisation of approach is needed.
- Locally run National Park Boards (as opposed to the statutory advisory boards) are worth serious consideration and could help systemise communication. The argument that stakeholders are not interested in many technical issues is valid, but there is also evidence of increased engagement by certain sectors of society who could be encouraged to take part more in management. Such boards could be expanded into other types of protected area if the model is successful.
- Encouraging the feeling of custodianship, in Sámi areas, with other major stakeholders such as reindeer herders and perhaps more generally with civil society could help increase cooperation and eventually a long-term biodiversity vision. The first step would be a strategy for increasing custodianship, or "local ownership/governance" of protected areas, itself developed through a cooperative process. Such an approach could also be the starting point for tackling some of the wicked problems noted above.
- As part of this, it is important to harmonise cooperation with ELY Centres and municipalities.

2.7 Are individual protected areas integrated into a wider ecological network following the principles of the ecosystem approach?

2004/5	Fair	2023	Fair to good

PWF self-assessment score in 2023: Good

Overview: In 2023, additional components of this question focused on how the protected area system is being complemented by some wider landscape-scale approaches such as other effective area-based conservation measures (OECMs) and how the protected area network complements or contributes to the management of the countryside.

Protected areas are included in broad-scale planning of landscapes and seascapes, specifically through:

- Strategic planning of state lands and waters, including Metsähallitus's natural resource, landscape ecological planning and planning of nature tourism areas.
- National land use guidelines and regional land use plans (at regional level).
- Regional river basin management planning including Water /Marine Strategy Framework Directives.
- Maritime spatial planning, including extensive biodiversity data analysis and recommendations for planning of conservation.

Discussion: In state-owned land and waters managed by Metsähallitus, land use planning has several levels: large scale natural resource plans, site-specific management plans and operational plans. When planning management of the other state areas, the adjacent protected areas are considered (connectivity, endangered species, etc.). Finnish legislation places a special obligation on Metsähallitus to protect biodiversity on all state-owned lands. Besides commercial wood supply, ecological values are secured through environmental

management. In state-owned commercial forests, special emphasis is also placed on the needs of outdoor recreational use, reindeer husbandry and the Sámi culture. The European Community's Habitats Directive also obliges Member States to take appropriate steps to avoid the deterioration of natural habitats and the significant disturbance of the species for which a Natura site has been designated. This includes actions and procedures that take place outside Natura sites.

The PWF assessment noted that the landscape approach has been developed and largely adopted within the Natura 2000 system. PWF is also increasingly working together with others in line with the vision for an ecological network (see Figure 11). The self-assessment noted that the protected area network has been complemented by Metsähallitus Forestry Ltd sites through landscape ecological planning since the 1990s (over 100,000 sites), supplementing Metsähallitus natural resource planning on state lands. Although such initiatives are welcome, the METT assessments did raise some concern that on-ground relationships between forestry and protected areas could be better. For example, at Torronsuo National Park some areas outside the National Park are drained mires affecting the national park and leading to a less than optimal water balance. Just outside the boundary of the protected area, forestry practices affect the surface water flows and microclimate of the mire habitats. Opportunities to influence forest management activities in surrounding commercial forests are low as they are carried out according to the forest management guidelines and legislation.

Regional land use planning and marine spatial planning processes are opportunities to enlarge/enhance or supplement conservation designations. Metsähallitus is developing a natural resource plan (2024–2028) for all its marine areas (62% of all territorial marine areas in Finland excluding the Åland Islands).

In 2004/5, the assessment noted that the opportunity for working with sympathetic landowners, for instance by encouraging conservation actions around summer houses or in other land not primarily dedicated to timber production, could be more fully explored. Since then, several conservation programmes in Finland have been put in place (see Boxes 4 and 5) and subsidies are available to private forest and farm landowners to manage biodiversity rich areas that also complement the protected area network.

The self-assessment noted that although protected areas are generally quite well integrated into a network, the ecosystem approach is not always considered. Part of this wider role could be for PWF (and Metsähallitus more generally) to deliberately showcase, innovate and lead the way in sustainable management, e.g., nature-friendly forestry in hiking areas, managed use of burning, and delivery of other sustainable land-management practices, thus increasing skills in the public and private sector in this respect. This would include stronger day-to-day management cooperation with Metsähallitus Forestry Ltd.

Finally, a national OECM Working Group has proposed a process for defining and implementing OECMS (Heinonen & Alanen 2022). This proposes that initially only areas identified for their natural values, that are systematically managed for conservation and for which spatial data are available, can be recognised as OECMs. However, a further review was proposed of potential OECM areas that do not yet meet all these criteria. The Working Group also proposed actions for development of information management concerning OECM areas. Designated OECM areas will be officially confirmed by the Ministry of the Environment (none had been designated as of 2023).

Recommendations: Establish a working group within PWF and related bodies to examine options for a broader approach to

area-based conservation including, e.g., landscape/seascape approaches (IUCN management category V) that include some human settlements and judicious use of OECMs.

3 Inputs/resources

3.1 Are personnel and resources well organised and managed with access to adequate resources?

⟷	2004/5	Good	2023	Good

Overview: This question focuses on whether protected areas or groups of protected areas have adequate resources explicitly allocated towards achievement of specific management objectives. The 2004/5 assessment recommended the development of a systematic funding formula which, with refinement over time, could directly support a culture of adaptive management.

Discussion: PWF's core budget is allocated from the state budget (under the Ministry of the Environment and the Ministry of Agriculture and Forestry) and is set in budgetary estimates of four-year intervals. State funding also includes targeted additional programmes. Development of annual government budgets between 2005 and 2023 show a modest but steady increase, with a steeper climb due to targeted investments during the government period 2019–2023 (see Figure 19). The total budget amounted to about €29 million in 2005 and €42 million in 2019, rising up to about €80 million in 2020–2021 and down again to €61 million in 2023. Most of the funding comes from MoE, only €6–7.5 million coming from MAF 2005–2019, €11.7 million in 2020 and about €8.5 million in 2021–2023.

Annually resources are prioritised and allocated to regional units and further to individual protected areas and activities. This core funding allows security in management. However, the core budget covers only fixed costs; investments and development projects require other funding sources.

Budget management, including projects, is done within the budgetary framework of Metsähallitus and accounts are published annually and audited. Budget planning is part of the annual planning and steering procedures of PWF. Budget planning is managed, and expenditures monitored at different

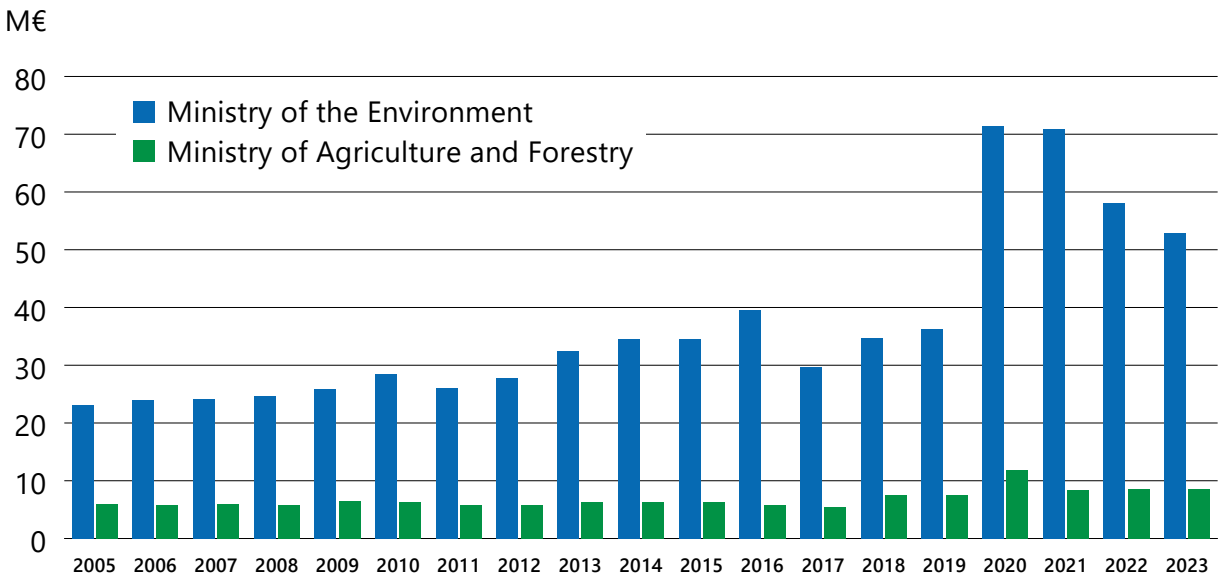


Figure 19. PWF/ National Parks Finland annual Government budget 2005–2023.

levels. For some activities, the budgetary framework is a regional unit and for some activities other geographical entities are used. Possible over or under-spends are balanced in the budgets of regional units or in the budget of the whole PWF.

The PWF self-assessment noted that comprehensive formulae are systematically applied to decide resource allocations to groups of protected areas. Generally, the allocation of resources is not done at site level but at larger geographical units or more detailed operational units such as visitor centres. Allocation is made primarily to prioritised sites from the point of view of different actions (see Box 25). Funding is linked to performance agreements and monitoring of implementation. Resources are linked to priority actions by steering procedures and annual planning. Resources are better linked to biodiversity outcomes than before. Allocations for biodiversity conservation are monitored and reported, but whether this is in balance with resource allocation for recreational outcomes has not been evaluated.

Awareness of the cost of maintenance has been communicated to the public and politicians. PWF/National Parks Finland's funding is primarily spent on staff and Metsähallitus Group units (see Figure 20). Metsähallitus Group units support the operation of the business units and guide strategy implementation and joint processes. Group units are Personnel, Legal Affairs and Compliance, Finance, Information Management, Communication and Responsibility.

Recommendations: In keeping with many other recommendations in this evaluation, the balance between funding biodiversity and recreational outcomes needs to be reviewed. Especially given the overarching finding of, at best static and often declining, biodiversity outcomes due primarily to external pressures.

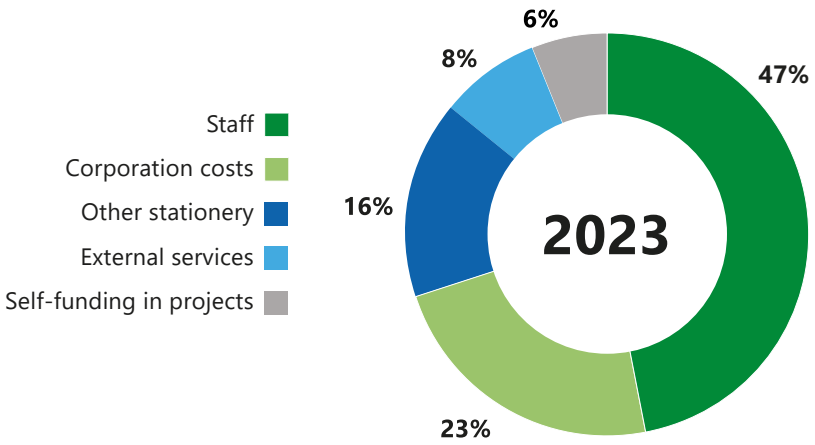


Figure 20. Estimate of PWF/ National Parks Finland funding distribution in 2023.

3.2 How have resourcing levels varied with increases in protected areas in recent years?

⟷	2004/5	Good	2023	Good

PWF self-assessment score in 2023: Fair to good

Overview: The 2004/5 assessment welcomed the funding increases but noted that these had probably not kept pace with new expectations and new protected areas. The assessment, foreseeing that this may cause significant management challenges in the future, suggested that opportunities for private sponsorship and volunteer contributions to ongoing operations should be explored more thoroughly. Some of the people the evaluation team met considered that PWF does not use volunteers as well as it could; and noted that there is only one part-time person nationally responsible for volunteer activity. However, where volunteers are used, their contribution seems successful (see Box 18).

Discussion: It is acknowledged that in recent years substantial funding has been provided to deal with work backlogs. For instance, a backlog of maintenance related to visitor services was significantly improved by an injection of €37 million (see Figure 21) and additional and temporary funding programmes (which equated to 100 additional fixed-term jobs in 2022) have enabled backlogs relating to the quality of infrastructure to be improved along with restoration of key biotopes (e.g., the HELMI Programme in relation to peatlands and mires, see question 1.1). However, there has not been a systematic plan towards filling current and predicted funding gaps, with work on this only just beginning (see below).

The PWF self-assessment notes that overall, there has been some increase in resourcing levels, but they have not increased proportionally for the management of all new areas. Government funding has not fully kept pace with the increase of protected areas and needs for ecological management and diversification of other tasks; especially the transfer to PWF of responsibility for built cultural historical properties from other state

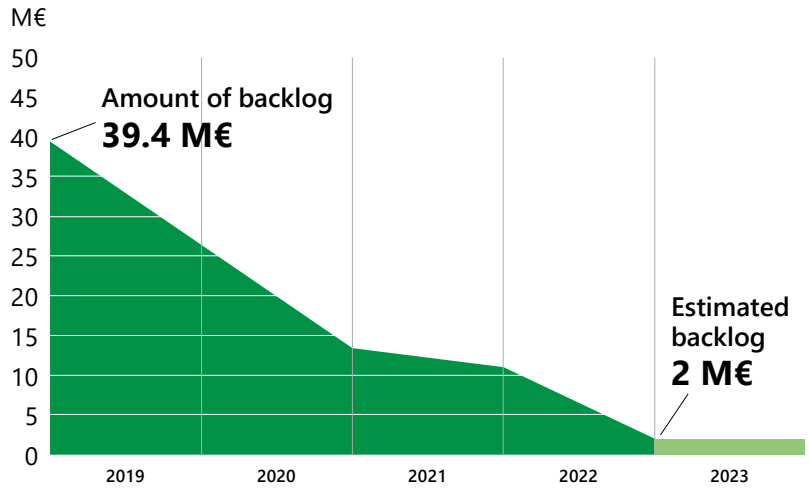


Figure 21. Example of reduced backlog (related to maintenance of visitor services) due to increased funding 2019-2023.

Box 18. Volunteers at Ekenäs Archipelago National Park

The METT assessment provided more details on the successful use of volunteers at this marine protected area. Volunteer camps with WWF Finland and other organisations have been conducted for many years. Usually there is one camp per year and approximately 240 hours of work is carried out over a weekend. Parks & Wildlife Finland (PWF) provides planning and supervision of work on-site and pays for some of the costs and also provides boat transportation and tools for the volunteers. Work sites can be offered for volunteer organisations and details are negotiated when sites are decided. Also, volunteer camps can be organised through projects and the costs are then paid by the project (such as EU-funded European Regional Development Fund, LIFE projects or nationally funded projects of HELMI or METSO Programmes).

Volunteer work is cost-effective and can be very productive as specific tasks can be done as planned and supervised by PWF. A supervisor is needed to guide, for example, the different stages of a restoration project. The volunteers usually do manual labour, such as eradication of invasive alien plant species and litter collection. When this work is well planned and supervised good results for nature can be well achieved. Also, these camps are important from an environmental education standpoint as people from different walks of life work together and information can be given to them during the camps.

Habitat management as voluntary work in the Ekenäs and Hangö Archipelago and Pojo Bay Natura 2000 site. Photo: Katri Lehtola.

organisations has not come with adequate resources. Also, the continuity of funding level between government funding periods has been difficult to anticipate (elections every four years).

Innovative funding options (private sponsorship, etc.) have been explored to some extent, but there are legislative obstacles. There was a project to study new funding models in 2019–2020, which led to a decision to develop a more detailed report about a foundation model to channel funding for nature conservation. However, completing this work was postponed due to organisational changes and new additional funding programmes; the plan is now to complete this by the end of 2023. A new survey was initiated recently (March 2023) to look at funding opportunities and analysis on priorities and volume. A study about visitors' willingness to pay volunteer fees for National Park services was also commissioned by PWF (see Box 19).

Project funding (mostly from EU) has contributed around 10% of the budget in recent years and currently (in 2023) provides around 5%. There is no clear analysis in terms of the benefits that projects bring or how to harmonise them with the overall operational workload of PWF. This is particularly important at a time when lower budgets will make co-funding more difficult to achieve; each project must be judged against potential costs.

Recommendations: Changes in funding and enhancement of responsibilities are difficult to manage but are common challenges for protected area administrations globally. PWF needs to ensure strategies are in place for dealing with budget fluctuations and the ever-increasing calls for efficiency whilst responsibilities increase (see also question 3.4).

3.3 At the protected area level are resources linked to priority actions?

2004/5	Fair to good	2023	Good

Overview: The 2004/5 assessment recommended stronger linkages between resource allocation and conservation outcomes and recommended a shift towards spending an increased proportion of the budget on active biodiversity conservation. This led to the 2023 assessment asking for several additional points around this question including:

1. Are resources being better linked to conservation outcomes?
2. Are the ratios between resource allocation for biodiversity conservation and other objectives being monitored and reported?
3. Are full costs of providing services for visitors being clearly communicated?
4. Are resources available to support actions at a larger spatial / organisational scale (e.g., to support an ecosystem approach, cooperation, etc.)?

Discussion: PWF states that most protected areas or groups of protected areas have adequate resources explicitly allocated towards achievement of specific management objectives. Funding has been systematic, but resource allocation has not been developed explicitly for achievement of (site) specific management objectives. A data-based integrated protected area management planning framework has ensured annual work planning is linked to priorities. PWF reports that an insufficient funding base is already impacting management objectives and new responsibilities, for instance responsibility for cultural properties and designation of new sites should lead to additional funding, otherwise core tasks are at risk. PWF has had a strong base in using project funding. For the future,

Box 19. Willingness to pay

In Finland, the core funding for protected area management is provided from the state budget and, for example, outdoor recreation services are mainly free of charge for users. The right to use services free of charge is not part of everyone's right (free access to nature), but culturally strongly connected with it. Discussions on using volunteer fees or other instruments to expand the funding options have been raised several times since PWF was established and this issue is being investigated currently.

In 2020, PWF commissioned a study about willingness to pay for National Park services in South-West Finland. Results indicate that 48% of National Park visitors would be willing to pay volunteer fees, as long as fees are well targeted and provide additional support for nature conservation. PWF also studied international good practices and conducted a survey within its own visitor community. The results indicate that there are some examples of volunteer fees, but they have a minor impact on protected area management funding (usually less than 1% of the annual budget). PWF delivered the volunteer fee report to the Ministry of Environment in November 2023.

Enjoying the winter serenity of Riisitunturi National Park. Finns cherish everyone's right to camp out in the remoter parts of most protected areas. Photo: Markku Pirttimaa.

it is important to better connect projects and additional funding with key objectives of the organisation (see Boxes 15 on Freshwaters and 22 on Healthy Parks, Healthy People).

PWF reports that resources are split fairly evenly (50:50) between biodiversity conservation and visitor management. However, this does not include projects, such as those with EU LIFE funding, which put more emphasis on e.g., habitat management.

If Finland is to fulfil its CBD and EU commitments, considerably more funding will be needed to expand the protected area network.

Recommendations: Continue to improve linkages between budget and core objectives and conservation outcomes.

3.4 What level of resources is provided by partners and/or volunteers?

2004/5	Fair	2023	Fair to good

PWF self-assessment score in 2023: Good

Overview: The 2004/5 assessment recommended the development of a more comprehensive strategy to maximise partner/volunteer contributions to protected area management and the achievement of conservation objectives. The 2023 assessment asked whether such a strategy had been developed. For example:

- Is there cooperation over resources with private landowners around or within protected areas?
- Is capacity building with other potential partners such as tourist information offices taking place?

The annual volume of volunteer work currently equals between 10–30 full-time persons, at an estimated value of €500,000–900,000. Volunteer work is organised mainly in cooperation with national NGOs such as WWF Finland, Finnish Association for Nature Conservation, Finland's Scout organisation, Keep Archipelago Clean and Keep Lapland Clean.

In many protected areas, there are also commercial services. There are almost 29,000 companies operating in the tourism industry in Finland. Among them, 800 tourism business partners currently operate in national parks, offering a variety of tours and outdoor recreation activities.

The aim of Metsähallitus is that all entrepreneurship in or adjacent to protected areas is committed to the Principles of sustainable tourism. Vallisaari is the first Sustainable Travel Finland certified protected area with a Finland Certificate granted by Visit Finland (see Visit Finland 2023a).

Tourism companies and entrepreneurs are required to have an agreement with PWF to operate in protected areas. Tourism businesses pay a set fee when using outdoor recreational infrastructure (e.g., site facilities such as campsites and fire pits) for their businesses in protected areas managed by PWF (see Box 24). In addition, in some protected areas there are fees for special services, such as harbour services and rental cabins. Certain activities, such as hunting and fishing, also include fees.

Fees collected from business are used within PWF for management activities. Hunting and fishing fees can only be used for management of game and fisheries. Small fees are also collected from certain land use permits. Permit fees are mainly intended to cover the working time which is needed to assess the application and potentially to write the permit.

Discussion: Regarding tourism businesses accessing protected areas, PWF acknowledges that the current fees systems is too complex, and there is a major problem in not having exact knowledge of the number of tourism businesses working in protected areas. The businesses the evaluation team spoke to were generally happy to pay a fee

although they felt that the payment system was overly complicated. The current structure means that a tourist company working with PWF can have many agreements and have to deal with many different points of contact and payment methods for accessing protected areas. Some said they would prefer to pay a slightly larger fee but have one payment a year.

However, it was interesting that the question related to the collection of fees in the METT was marked as "not relevant" by all five protected areas that completed the self-assessment. The evaluation team understand this was due to this question being understood to relate to entrance fees, although this is not stressed in the question and PWF does have permits for special needs (e.g., business use and off-road traffic). The METT from Oulanka National Park noted that the management were currently working to improve cooperation with business partners and tourism associations as the method for paying the fees for using park infrastructure has been found to be very complex. PWF is developing a cooperation model to standardise interactions with tourism businesses, but also to be more flexible, to consider different types and sizes of tourism businesses. The aim is to also concentrate more on development topics, together with businesses, e.g., projects related to sustainable (and regenerative) tourism and marketing.

PWF self-assessment notes that partner/volunteer contributions are systematically sought and negotiated for the management of most protected areas or groups of protected areas. Strategies to increase partner/volunteer contributions to protected area management and the achievement of conservation objectives have been developed. Partnerships with tourism operators have increased and are versatile. Working with farm owners and animal breeders has been developed (e.g., grazing agreements on semi-natural grasslands) and grazing agreements are currently very effective.

The cooperation with the Prison and Probation Service of Finland is very important for the funding and the maintaining of these facilities (see Box 20). Both men and women prisoners are involved; it was reported to the evaluation team that women prisoners generally work more effectively. There is some evidence that working in the parks helps with the rehabilitation process, with less reoffending for people who have been involved. The evaluation team did not get the chance to speak with prisoners directly and can only report what the evaluation team were told by park staff, but this seems an excellent system, which managed to be maintained even through Covid restrictions (prisoners made signs without visiting the park during lockdown). It could provide a model that is replicated more widely.

Volunteering opportunities were developed systematically a decade ago, but coordination has decreased across PWF. Some volunteer opportunities, however, do still exist (see example, Box 18). Participation of volunteers and local communities in management could both build support for protected areas and, if carefully managed, help with some management tasks. Establishing volunteer networks and clarity of planning around these takes time but at a period of reduced funding could take pressure off overworked field staff. A more systematic and programmatic Friends of the Park process could help organise and develop volunteer services.

Recommendations:

- Investigate options for expanding volunteer support for PWF sites (possibly linked to a Friends of the Park or National Park Board process), perhaps to a national network, by (i) assessing lessons from existing volunteer networks (e.g., working for the Saimaa ringed seal); (ii) examining successes and failures of volunteer networks in other countries; and (iii) through strategic surveys of potential

Box 20. Prisoners working in national parks

The Prison and Probation Service of Finland (PPS) and Parks & Wildlife Finland (PWF) have a long-standing cooperation to help prisoners who are about to be released from open institutions to familiarise themselves with working life in ecological management and restoration of hiking structures. This cooperation started in 1992 in Nuuksio National Park, and now PWF cooperates with 10 prisons from the Metropolitan Area to Southern Lapland. In 2023, prisoners' work input in protected areas and cultural heritage amounted to the equivalent of over 100 full-time persons.

The framework of cooperation is a long-term agreement between PWF and PPS. Annual planning is done with individual prisons, and the planning includes resources and work plans. Important elements of cooperation are regular meetings, training, supervision of prisoners, and feedback discussions. In addition to field work, PWF is cooperating with education organisations to enhance prisoners training and education programmes. Altogether, prison cooperation has a strong added value for all participants: PWF, PPS and prisoners themselves.

volunteers and use this information to draw up a comprehensive plan.
- Investigate the potential and practical aspects of seeking greater contributions from the public through voluntary fees or donations, including for individual projects (e.g., through crowdfunding).
- Guidance and agreed management approaches are needed explicitly for contractors on conservation and biodiversity (e.g., care regarding invasive species, which may become more of an issue with climate change).
- PWF should consider developing and articulating a strategy for managing commercial tourism. Elements include mandatory agreements (which may include location and time of activities, group size, codes of conduct, fees, security deposit for non-compliance, liability insurance, etc.), preferred partnership with tourism businesses with Sustainable Travel Finland or other sustainable tourism certifications, recognition of good-performing tourism companies (see also question 5.2).
- The system of fee payment for entrepreneurs should be clarified, simplified and possibly expanded.

3.5. Do protected area managers consider resources to be sufficient?

2004/5	Fair	2023	Fair to good

Overview: The 2004/5 assessment identified concerns from managers about levels of resources, due to new responsibilities for cultural resources and Natura 2000. The 2023 assessment thus asked specifically for information on whether the links between budget resource allocations and management outcomes have been strengthened and made transparent, if resource allocation focused on adaptive management and if managers considered alternative approaches or efficiencies to deliver greater effectiveness.

Discussion: The PWF self-assessment considered that some/most managers consider resources sufficient for most tasks, this was also the case with the METT results, although additional resources would be welcomed as project funding was relied upon for innovation and new initiatives. Links between budget resource allocations and management outcomes have been strengthened and made more transparent (e.g., through the performance agreement). Resource allocation is not systematically focused on adaptive management (at site level). Alternative approaches to efficient delivery are considered in many ways.

Recommendations: Also see recommendations for question 3.2. PWF are expecting future budget cuts and fluctuations. The evaluation team thus suggests that this will need to be addressed by three types of actions: (i) prioritisation of key initiatives that need continued funding; (ii) reducing other areas of work to lower-cost approaches; and (iii) dropping some initiatives altogether. Prior planning to identify what fits where in this scenario will be important.

NEW QUESTION: 3.6 Do protected area managers consider the expertise/ capacity available to them aligned with the values to be protected or intended outcomes to be provided?

2023	Good

Overview: This new question focused on two issues: whether, given each site's objectives, there has been an assessment of staff training/expertise/experience in, for example, visitor/tourism services, and if staff competencies are known and assessed?

Discussion: The expertise of the staff members is varied and wide. PWF staff include ecologists, geographers, zoologists, botanists, foresters, archaeologists, nature surveyors, builders, etc. If some other specific niche of expertise is needed (e.g., on some special species group), fixed-term specialists are hired. Time is also allocated for continuing education.

The PWF 2023 assessment noted that managers generally have access to the expertise/capacity necessary to achieve agreed outcomes. Expertise in the organisation is varied, yet capacity is not always available for tasks needed in certain situations (e.g., inventories, NATA assessments/species expertise, environmental impact assessment/advocacy work). Staff competencies are known and assessed and systematically developed.

Responsibilities are increasing, but not necessarily competencies; competency assessments of staff are an excellent idea to understand all potential. Continual capacity building and training is needed, much of this can be done online. Training on, for example, building resilience to climate change is particularly important. Budget cuts may mean that fewer staff are available and necessarily will need to take on more tasks, making continuing training even more important.

The responses to the METT assessment noted that public administration duties have increased in recent years, which has amplified the need for an increased and stable budget. Additional pressures include the number of visitors to protected areas, accelerating loss of biodiversity, global warming, increase of all expenses, growing demands of co-planning, etc. Limited budget has forced managers to prioritise work tasks. In addition, there are some national level aspects that affect the capacity of site-level staff, e.g., complicated computer programs and continuous management changes, which take time away from planned work related to managing protected areas and their challenges. It was also noted that the organisation could be more stable (there have been many big changes in organisation structure recently and most computer programs have been changed during recent years) to support staff to use their knowledge and skills to carry out conservation orien-

tated work instead of trying to understand the structures. It was suggested that more effective connections and communication between different protected areas and sites could help in shared learning of best practices.

Finally, law enforcement needs were also highlighted in the METT assessment. Game and Fisheries Wardens are law enforcement officers whose powers are very similar to those of police officers. The wardens are responsible for the supervision of fishing, hunting and off-road traffic in cooperation with other authorities and partners, such as the police and the Finnish Border Guard. However, the number of Game and Fisheries Wardens is small, and each has a very large area to supervise.

Recommendations: Develop a programme of online capacity building for PWF staff on emerging issues (e.g., resilience to climate change, management of invasive species, participatory approaches, perhaps also managing under a tighter budget).

4 Process

4.1 Is management performance against relevant planning objectives and management standards routinely monitored, assessed and systematically audited as part of an ongoing "continous improvement" process?

↑	2004/5	Fair to good	2023	Good to very good

Overview: The 2004/5 assessment suggested that greater emphasis be given to conservation targets in the audit process. Specific questions in 2023 were thus focused on whether there was a monitoring regime in place to track management performance, on whether more emphasis had been given to conservation targets in the audit process, whether conservation outcomes had been considered in the formulation and annual review of the funding agreement (see also question 3.3) and whether techniques are employed to monitor if data use and management is appropriate or delivering best value.

Management across the Metsähallitus group is regularly reviewed through a structured situation analysis as part of ISO 14001 environmental management procedures (see question 4.3, Figure 22). In 2022, a major external review of PWF management aimed to provide guidance for developing:

- Clear operational vision.
- Reform for management and operational work.
- Better understanding of value chains of services, important operational processes and connected roles and capabilities.
- New tools for operational steering.
- Analysis of value streams.
- Clarification and needs for the new information system.

Major management issues identified in the assessment included needing to tackle the remaining infrastructure backlog (see question 3.2) and focus on biotope management and restoration. With the ending of the Covid pandemic, a review of the impacts on protected area visitation and on local economies was also identified as an important area for management focus, as were the need for a renewed policy on remote working and travel. Other priorities included ensuring that the importance and value of protected areas is better known and understood (see also question 4.10) and development projects such as ensuring energy efficiency and management of buildings. Major challenges were identified with a lack of funding for the HELMI Programme (see Box 5). The goal of updating the *Principles of protected areas management* guidelines was also noted.

An internal PWF senior management review of performance and follow-up of the above-mentioned external assessment was

undertaken in at the start of 2023. Good performance was noted in terms of:

- High demand for services and strong environmental communication.
- Improvement in visitor service backlog and equality accessibility.
- Development work in management, new information systems.
- Enhanced stakeholder cooperation.

Areas to further improve included:

- Organisational changes, challenges in decision processes.
- Personnel experience: lack of information about the rationale of organisational change.
- Unclear responsibilities and ownership in management processes.
- Visibility of PWF experts in media and societal participation.
- Unclear stakeholder participation in national level policies linked to PWF activities.

The Parks & Wildlife Finland strategy and performance targets agreed with steering ministries for 2023–2027 are presented in Table 3. Conservation targets are set for both nature and cultural heritage. Management performance is monitored quarterly and reported annually at mid-term and end of the year.

Discussion: PWF reported that the 2022 external audit of PWF noted the management of organisational change is not sufficient or successful and that improvement in the use of the ISO 14001 environmental management system and improvement in recognising and organising operational processes were needed. PWF self-assessment reported that most aspects of management performance are routinely assessed and systematically audited with reference to planning objectives and identified management standards. There is monitoring at the general level (with chosen indicators) to check on management performance. External audit concentrates more on process than outcome, but overall, there is more emphasis on conservation targets than earlier. There is also additional emphasis on conservation outcomes in the performance agreement and its review. Data quality is now being checked systematically (but updates are not comprehensive), best available data is used, and methods are being developed continuously.

Recommendations: There were no specific recommendations related to this question.

4.2 Is staff performance management linked to achievement of management objectives?

2004/5	Good	2023	Good to very good

Overview: The 2004/5 assessment recommended that PWF staff performance should be covered by periodic audits as part of the internal compliance programme. Staff performance audit and performance appraisal includes annual team discussion during the year if needed. The appraisal review looks at staff job descriptions, work objectives and development plan (including personal development needs), satisfaction and work atmosphere, and a work performance evaluation is included. As all these items are in place, the discussion focused on staff morale and well-being, as performance is greatly impacted by these issues.

Discussion: As noted above, the management review of 2022 found that staff felt they had a lack of information about the rationale of organisational change that was ongoing in PWF. Change is undoubtedly going to be necessary, but the evaluation noted that many staff felt somewhat alienated from the process. The PWF self-assessment for this evaluation noted that performance management of all staff is directly linked to achievement of relevant management objectives. The METT assessments also noted that

staff needed time to consolidate new ways of working and new technology to use them really effectively. PWF staff are the organisation's key asset. They need to be able to embrace change, understand the reasons for it and help inform how it happens. It is therefore important that the necessary reorganisation does not take too long, and that staff are kept fully informed along the way.

There seems very little focus on the psychological well-being of staff. Psychological well-being can be linked with both a feeling of contentment in the workplace, e.g., enjoying the job, the people you work with, etc., but also with the feeling that work has meaning and purpose. This assessment report notes in many places the impact of issues such as climate change on management and conservation outcomes; but working in increasingly impacted environments where core conservation values are at risk may also have a psychological impact on staff linked to feelings of helplessness and to the impact of conservation work.

Recommendations: Given that large organisational changes are ongoing, PWF should utilise this change to develop tools to support staff in overcoming changes, challenges, and also ensuring appropriate information exchange. These steps will contribute greatly to ensuring that staff performance is linked to the achievement of management objectives:

- Identification of one or more central office staff who have a specific mandate as part of their job to monitor and respond to questions from staff.
- Occasional webinars or in-person meetings to explain important changes, developments or challenges.
- Consider the psychological impacts of issues like climate change and other wicked problems.

4.3 Is there external and independent involvement in internal audit?

2004/5	Fair	2023	Good

Overview: The 2023 assessment, following on from recommendations from the 2004/5 assessment, asked whether external, independent representatives with experience and expertise in conservation management have been added to the Board and audit roles.

Discussion: As noted above, the PWF self-assessment confirmed that there is some external involvement in formulation and implementation of the audit and compliance programme. Independence and or capability of the audit committee is not usually questioned by stakeholders. Metsähallitus has achieved ISO14001 for its auditing procedures (see Figure 22). PWF stated that conservation management expertise has not systematically been added to the Metsähallitus Board and audit roles.

There are supposed to be both external and internal audits of PWF. Question 4.1 above provides an overview of the external audit of 2022, which picks up many of the issues the PAME team also noted in the evaluations. PWF however noted that internal audits were not being implemented due to organisational change and lack of auditing processes. Corrective actions have recently been put in place including training new auditors and organising internal audits as part of active development work.

PWF also noted that thousands of people feedback annually, primarily related to visitor management, using a range of different PWF channels, whilst other Metsähallitus units receive less than a hundred comments annually (see also question 4.5).

Recommendations: There were no specific recommendations related to this question.

Figure 22. Metsähallitus' Environmental management system.
Alternative text of the figure. The figure shows a pie with four sectors depicting phases in an iterative cycle, with elements listed under each one: 1) Plan: Responsibility policy, risks and opportunities, overalla aims, obligations, targets; 2) Do: resources, competency, awareness, communication, documentation, operational planning, steering, emergency management; 3) Check: compliance, internal audit, management review; 4) Act: nonconformity and corrective actions, continual improvement.

4.4 Is there effective public participation in protected area management in Finland?

↑	2004/5	Fair to good	2023	Good

Overview: The 2023 assessment focused on finding out far more about public participation in protected area management activities than the previous assessment. Additional areas of enquiry in the 2023 assessment included:

- Has the participatory process been reviewed for its effectiveness?
- Have more systematic efforts to quantify and publicise the links between protected areas and sustainable development been implemented?
- Are the governance structures and processes for participation clearly defined?
- Is all necessary information to participate effectively made available to the public?
- Is relevant information for transparency and accountability, such as management plans, budgets, maps, etc., made publicly available to all relevant stakeholders?
- What kind of public participation/stakeholder participation meetings actually take place for coordination?
- What codes of conduct exist for staff responsible for enforcing protected area related laws when interacting with community members?

PWF reported that management work is carried out together with stakeholders when needed. Different local and national organisations and volunteers support protected area management by organising work camps and events. Voluntary experts collect valuable information on threatened species in protected areas. Hunting associations help to eradicate harmful (invasive alien) predators from bird wetlands and the archipelago and also to collect information on game and fish populations. Traditional agricultural habitats are managed in cooperation with landowners with the support of environmental subsidies. Through associations organised as "Friends of National Parks", people can get involved in activities for the benefit of "their" national

park. There are currently five "Friends of the Park" associations of varying activity levels. There are discussions about a possible new one; one association has an old agreement and it is not yet certain whether it will be renewed. "Adopt a Site" and "Adopt a Monument" (in cooperation with Finnish Heritage Agency) are possibilities for the management of specific sites by organisations and private citizens.

There is a strong focus on communication. Many channels are used for communicating to and with the public. Nowadays digital publications are the norm and two thirds of users are accessing on smartphones. Publications are available on the Internet (julkaisut.metsa.fi). Information about protected areas is available:

- On the Metsähallitus website (metsa.fi)
- Site-related information and information for visitors (nationalparks.fi)
- Information and acquisition of permits for hunting, fishing, snowmobiles (eraluvat.fi)
- Information and acquision of permits for other types of activities, e.g., research (metsa.fi)
- Parks & Wildlife Finland is active on social media: X (formerly Twitter), Facebook, Instagram, LinkedIn, YouTube.
- Information given through customer service: online and in visitor centres.
- Map service Excursionmap (excursionmap.fi).

Discussion: PWF self-assessment states that there is systematic public participation in most aspects of protected area management (with reference also to question 2.6). Governance structures and participatory processes in management are clearly defined, however participatory processes have not been reviewed for their effectiveness. Some links between protected areas and sustainable development have been published as part of the Metsähallitus responsibility programme, but not comprehensively. Relevant information such as management plans and maps are

Field trip arranged for cattle owners with pasture lease contracts in protected areas. Cattle grazing is an effective way to manage traditional rural biotopes and coastal meadows. Farmers with contracts are eligible for environmental subsidies. Photo: Outi Ala-Härkönen.

made available for public participation and for transparency and accountability. Also, budget information is available at the upper level, but since allocation is not made at site level (see question 3.1), this more detailed information is not available. There is a code of conduct for law enforcement when in contact with community members.

However, the evaluation team considered that the real extent of public participation remains unclear. A plan to develop far greater participation in protected areas could be developed. Currently, most interactions are focused on informing and consulting stakeholders and informing visitors. This finding was supported by the METT assessment where, apart from Kaldoaivi Wilderness Reserve, all the assessments noted that public participation could be improved in management decisions. Oulanka National Park commented that, if possible, they would like to find more time for meetings and discussions with local communities. The management team suggested that a local cooperation group with all the important stakeholders might be needed; and noted that the new legislation for Oulanka National Park promotes the possibility of establishing a cooperation group whenever local communities and park management consider it necessary.

In Finland, Geoparks are large geographic entities and include quite a lot of Geosites (often these Geosites are protected areas). The Geoparks model (there are four geoparks in Finland) was seen as a useful way of initiating wider discussions with stakeholders on a landscape scale to investigate more general coherence in the conservation system. There were similar comments from stakeholders about large Natura 2000 sites and the need for wider system planning particularly in marine and freshwater systems. The team therefore thinks an integrated approach is necessary across the whole country and that PWF could play a leadership role in such a process.

In line with the above and as discussed earlier, volunteers are obviously important in some parks, e.g., in Saimaa ringed seal protection, setting up ski trails and restoration, but opportunities are not developed systematically. Participation of volunteers and local communities in management could both build support for protected areas and, if carefully managed, help with some management tasks. Establishing volunteer networks and clarity of planning around these takes time but at a period of reduced funding could take pressure off overworked field staff.

Finally, and looking to the future, initiatives such as EUROPARC's Junior Ranger Programme (europarc.org), which is being implemented in Nuuksio National Park, help inspire young people who live near a park to understand protected areas, their values and management and hopefully engage in protected management throughout their lives.

Recommendations:

- Review experiences with landscape-level conservation models such as the Kvarken Archipelago World Heritage site, Geoparks and Biosphere Reserves to understand better their experience and good practices in relation to participation.
- A period of reflection and evaluation would better identify the challenges and barriers to effective participation and potential areas of tension.
- PWF should actively seek out partnership approaches to solve problems that are either shared with other stakeholders or that act at spatial levels beyond individual protected areas.
- As noted elsewhere, establishing volunteer networks has multiple advantages from sharing workloads to conservation education and building up constituencies of supporters of PWF.
- Showcase innovations to land management (e.g., nature friendly techniques, prescribed burning) in hiking areas, working in close cooperation with Metsähallitus Forestry Ltd.

4.5 Is there a responsive system for handling complaints and comments about protected area management and policy?

⟷	2004/5	Good	2023	Good

Overview: The 2023 assessment had multiple additional questions on this issue, including:

1. Has there been any attempt to carry out opinion polls amongst both rural and urban populations to gauge attitudes towards the protected area system and its management?
2. Have equity and governance assessments been carried out?
3. Do any reviewing systems already in place (visitor surveys, etc.) actively collect feedback beyond generic visitor satisfaction, e.g., related to diversity and inclusivity (race, gender, age, special needs, etc.), relations with neighbours/residents, recognition of objectives of Indigenous peoples and local communities, protection of cultural heritage, etc.?
4. Are reviewing systems made accessible and effectively promoted?
5. Are complaints and comments effectively acted upon?

There are many systems for sending comments to PWF (see above). Issues tend to focus on visitor behaviour, maintenance, forestry activities, illegality, and development needs in visitor management. However, PWF notes that the environmental management system is difficult to use and a Freshdesk feedback system has been developed for its own channels. It is noted however that the feedback system is not suitable to support strategic development or customer insight.

Overall it should be noted that Metsähallitus operations are guided by a responsibility policy (Metsähallitus 2023e), responsibility programme and Code of Conduct, which specify the key responsibility principles, duties, guidelines, objectives and actions.

Discussion: PWF self-assessment notes that there is a co-ordinated system to receive and respond to complaints and it works sufficiently well in most cases. General stakeholder opinion polls are conducted regularly by Metsähallitus. Specific polls of attitudes to protected area systems and management have only been occasional, and governance assessments have not been done. Complaints/comments are mostly effectively acted upon.

Recommendations: Develop training processes for dealing with complaint resolution with identified staff (perhaps also more broadly through online web training as mentioned in question 1.3).

NEW QUESTION. 4.6 Are management systems flexible enough to respond to change, e.g., findings of management effectiveness assessments, monitoring and research results, changes in legislation, new knowledge and understanding.

2023	Fair to good

PWF self-assessment score in 2023: Good

Overview: Adaptive management is important for all organisations big or small. Undertaking assessments such as the one reported here are an excellent example of how an organisation is looking for input and planning to adapt to change. It is clear the PWF used the results of the previous 2004/5 assessment very effectively; it is hoped that the results of this assessment will be used to the same effect (see Conclusions).

Discussion: PWF self-assessment states management systems have been/are being set up to be adaptive to change, but the development process is still very much ongoing. For example, NATA site condition assessments are used at site/network level, PAME system assessment is being undertaken, monitoring and research results are being used, legislation changes are followed, and international benchmarking is used and integrated into operations. The system's overall flexibility is good, but lack of flexibility in resources leads to challenges with response to observed changes.

The organisation needs to be lean, agile and resilient. It also needs to be able to adapt to change easily. This means a focus on objectives and a clear line of sight for staff, so that they can understand what is expected from them and how this fits with those objectives. This also requires a strategic view that enables effective prioritisation of key initiatives, where to rationalise approaches and what to drop.

Recommendations: The main recommendation here is to review this report with care and develop an adaptive management plan to implement the results.

NEW QUESTION. 4.7 Is the protected area network being consciously managed to adapt to climate change?

2023	Fair to good

Overview: Issues around climate change did not figure in the initial assessment in 2004/5, but as the climate crisis worsens and the impacts of climate change are felt globally, four climate related questions were added to the systems assessment form.

This new question for 2023 asked for information on a range of issues including whether key issues related to managing for climate change adaptation have been considered, e.g.,

- Assembling available knowledge and resources.
- Planning for change and developing a long-term capacity for flexible management.
- Assessing vulnerability and risk to determine which species, ecosystems and other values are most vulnerable to changing conditions.
- Identifying key vulnerabilities that pose the greatest risk to achieving conservation goals.
- Identifying and selecting short and long-term adaptation goals.
- Setting and measuring indicators of success and failure and using that information to evaluate and recalibrate plans.

The issue of climate change is clearly represented in a range of national policy and legislation. For example, the National Climate Change Adaptation Plan 2030 (KISS2030) (see Ministry of Agriculture and

Forestry 2023b) sets objectives to 2030 and includes actions concerning the protected areas network, climate change adaptation is included in the new Nature Conservation Act, and National Biodiversity Strategy will include a climate change section. PWF climate policy has been driven by the Metsähallitus Climate Programme (as part of the company strategy 2021–2024). However, PWF was not very active in the programme and protected areas were not seen as a focus for the programme, which concentrated on the Metsähallitus business units. PWF's primary role is to provide data for the climate responsibility report.

PWF thus carries out its own strategic work related to prioritising management activities related to climate change adaptation. Other climate related projects include a remote sensing project (Metsähallitus 2023f) in Upper Lapland and the Finnish protected area network in a changing climate (SUMI) project (Kuusela 2018), from 2017–2023. The project results are providing an assessment of the effectiveness and adaptive capacity of Finland's protected area network in protecting biodiversity and supporting key ecosystem services under the growing pressures of climate change and land use in relation to management planning and prioritisation (see Box 21).

Discussion: PWF self-assessment provided little additional information but noted that knowledge on climate change impacts and vulnerabilities is being gathered. Planning for short/long-term change is being considered, but setting and measuring indicators are only starting to be considered. For individual protected areas, climate change issues have not been considered in earlier management plans but in updated plans these issues will be taken into account. All the METT responses (see Appendix 2) to this question supported this result, with the responses noting that the issue was being considered but no specific management actions taken. One of the most obvious climate impacts relates to the winter moth in Lapland. So, this question, and management responses, need to consider not only increased/new threats from climate change, but how these interact with existing management approaches and the need to address these.

There is good evidence on changes in flora and fauna that appear to be linked to climate change, e.g., moose are recorded as moving north. The question of what to research is important here. There have been studies on changes to palsa mires (the 2–4 metres high peat mounds formed by permafrost) which are disappearing due to warmer conditions. Palsa mires have already gone from their previous southern sites and are likely to disappear more generally, they are important as nesting sites for some bird species. While interesting, it was thought that this research was more on recording the change (which in this case feels inevitable) rather than focusing on those areas where management responses could play a positive role in ecosystem adaptation.

Strategies are needed on how to manage expected changes: on management activities, the psychological impacts on staff (see question 4.2), use of data from Metsähallitus to review adaptive management needs, etc. Research should in some cases be focused more on things that can be addressed rather than simply charting rates of change. Direct liaison with the Sámi Climate Council is recommended to explore options relating to salmon and reindeer, including sustainable yield.

These changes extend to management by PWF itself. Much of the servicing of huts and campsites has traditionally been carried out in the winter, often using frozen lakes and rivers as easy and low impact routes for access. A lack of ice cover is making this less reliable, meaning that staff and contractors are switching to all-terrain vehicles, which have a greater environmental impact.

Climate change adaption is to be included in management planning and visitor

Box 21. SUMI Project

A six-year project (2017–2023) in two phases was led by the Finnish Environment Institute to produce new knowledge for climate wise conservation planning based on scientific research.

The **Finnish Protected Area Network in a Changing Climate (SUMI)** project (Finnish Environment Institute 2023b) during the first phase looked specifically at:

1. Effects of climate change on Finland's network of protected areas and on the species and habitat types found in protected areas.
2. Biogeophysical characteristics and buffering capacity of protected areas, and the ecological quality of landscapes surrounding protected areas.
3. The role of protected areas in carbon sequestration and storage, both in the aboveground biomass and underground soil.

The project assessed the functioning of the protected area network under the pressures caused by climate change, land use and their combined effects. New information was produced on the sensitivity of species and habitats to climate change and on the ability of protected areas to conserve species and habitats of conservation importance. Special attention was paid to the significance of interconnectivity between protected areas for species (e.g., forest species), the significance of extreme weather phenomena for species populations in protected areas (e.g., vascular plant species), and the challenges of protecting and restoring peatlands, especially aapa bogs, in a changing climate. The project also produced, for the first time, an estimate of the carbon balance of mineral soil forests in protected areas under current and changing climate conditions. By combining the carbon balance estimates of protected areas with spatial data sets describing forest biodiversity, sites with important climate benefits and nature values could be identified.

The vulnerability of habitats and species is affected by their sensitivity to changes in conditions caused by climate change and the intensity of exposure, as well as their adaptive capacity, i.e. their ability to respond to impacts or recover from the effects of temporary extreme conditions. Based on the characteristics of the species, the SUMI project identified from six groups of organisms, several species most vulnerable to climate change, that should be targeted for conservation measures.

Based on the synthesis of pressures and risk factors in the protected area network, proposals were made for climate-smart development of the network and practical nature conservation work, including actions to manage and restore degraded habitats to improve adaptive capacity, and target conservation measures, taking into account the sensitivity of species and habitats to the impacts of climate change.

The **Conservation planning in a changing climate (SUMI2)** project second phase produced modelled maps to support planning and adaptation to climate change especially at the level of the entire protected area network. The information can also be utilised regionally in examining the climate risks of protected areas and the species and habitat types within to them. Key approaches to practical site-level conservation planning may include mirroring occurrence data for selected endangered species and habitat types in old-growth forests and aapa bogs with climate change rate projections (heat sum, January temperature, water balance) together with local land use pressure data (logging, drainage, construction/transport) and examining the interconnectedness of old-growth forest occurrences in protected areas together with realised (open) felling pressures.

management in the future. PWF is starting in January 2024 a joint EU-funded project (CLAP – Climate change communication and adaptation in Arctic protected areas) from the Interreg Aurora Programme together with Swedish and Norwegian national park management agencies. The project aims to address the climate change related risks and challenges to management of outdoor recreation and nature tourism in target national parks. One of the main objectives of the project is to co-develop a joint approach to manage the risks and adapt to or mitigate them.

Recommendations: a series of recommendations to increase the focus on climate change research and liaison are given, and it is noted that many of these may have been included in the CLAP proposal and the SUMI Programme should help deliver these recommendations:

- Redirect research and monitoring emphasis on climate change more towards adaptive management and improving resilience rather than charting the rate of change. Noting that in some areas research and monitoring inventories may need more frequent updating as a result of climate change impacts on species and management.
- Establish formal links with the Sámi Climate Council and investigate joint actions to adapt to climate changes in the far north, including reindeer grazing.
- Identify potential steps that can be taken within protected areas to mitigate climate change, without undermining biodiversity conservation objectives, to increase carbon storage (e.g., such as the successful rewetting of peat bogs).
- Consider options for reducing the greenhouse gas emissions from protected area

Servicing of huts and campsites is carried out in the winter to reduce environmental impacts. In southern Finland this is often not possible any more. Photo: Kuvatoimisto Keksi.

operations, from use of public transport, visitor impacts and PWF management actions.
- Develop strategies to integrate climate issues into spatial planning with respect to the network of protected areas, considering the irreplaceability of sites.

NEW QUESTION. 4.8 Is the protected area network being consciously managed to prevent carbon loss and to encourage further carbon capture?

2023	Fair to good

Overview: Another new question, which aimed to find out if consideration had been given to carbon capture and storage (capturing and storing carbon dioxide before it is released into the atmosphere), e.g., preventing fire in forests or grasslands where fire is not a necessary part of ecosystem dynamics, maintaining natural water regimes in peatlands, appropriate ecosystem restoration or other habitat management that increases the storage of carbon in standing vegetation or in the soil.

PWF, and Metsähallitus as a whole, follow the ISO 14001 standards of environmental management (see Figure 22). ISO 14001 (ISO Committee 2023) directs organisations to focus on mitigating and adapting to climate change and the Metsähallitus Annual Report of 2022 had a major focus on carbon neutrality (Metsähallitus 2023a). PWF 2023 goals included improving built infrastructure, including energy efficiency. Some regions within Finland already have carbon neutral plans (e.g., the northern Ostrobothnia Climate Roadmap 2021–2030, see Council of Oulu Region 2021). It is important to note that ISO is about organisational operations and is not directly linked to the management of natural resources.

Forest and mire habitats in many protected areas have been restored and managed to improve their natural state. These actions also help to maintain or to increase the carbon storage. No forestry or peat production, which could significantly decrease the carbon storage, is allowed in protected areas, and regrowth of any areas formerly used in forestry should mean carbon storage increases as more carbon is sequestered to the tree biomass. Retaining natural water regimes in peatlands is being more systematically considered.

Discussion: The PWF self-assessment notes that carbon storage and carbon dioxide capture have been considered in general terms but have not yet been significantly reflected in management across the protected area network. Again, the METT results (see Appendix 2) support this conclusion, noting that carbon loss was being considered but only one site was considering carbon capture (Nuuksio National Park).

It should be noted as well that many of the restoration projects undertaken by PWF are in peatlands and this should make a major contribution to carbon storage and encourage further carbon capture.

Recommendations: Specific recommendations include:
- Work with partners to identify potential steps that can be taken within protected areas, without undermining biodiversity conservation objectives, to increase carbon storage (e.g., rewetting of peat bogs).
- At a governmental or Metsähallitus level, a "carbon code" could be developed, i.e., ethical and technical codes ensuring that activities promoted as carbon offsetting are not in contradiction with biodiversity conservation. Noting that Metsähallitus has already appointed a group with representatives of different business units to reconcile and reduce anticipated impacts of wind power development. This could showcase best practice on the

Supervising a peatland rewetting operation in Teerisuo-Lososuo Nature Reserve. Photo: Marko Haapalehto.

public estate and be used as a model to stimulate investment, if not into the public estate then into private land, for carbon and biodiversity.

- Include in the communication strategy, through the new web-based system and in visitor centres, to ensure that biodiversity, carbon storage benefits and other ecosystem services maintained by protected areas are fully understood.

NEW QUESTION. 4.9 Is planning in place to reduce carbon dioxide emissions in protected area management and related activities?

2023	Fair to good

Overview: Another new question for 2023 asked if significant sources of emissions from the management of protected areas had been identified, if the monitoring of protected area generated emissions was in place and if plans had been put in place to reduce emissions.

Discussion: PWF seems a little late in responding to these issues and has only recently developed a project application related to climate change adaptation and mitigation in visitor management. The PWF self-assessment acknowledged this, noting that carbon dioxide output has been considered in general terms but has not yet been significantly reflected in management across the protected area network. Only limited, ad hoc and site by site measures are in place to assess and reduce carbon dioxide output.

Recommendations: Consider how the Metsähallitus climate programme's options for reducing the greenhouse gas emissions from protected area operations, both from use of public transport (including liaison with bus and train companies), management activities (use of vehicles, etc.) and energy use are implemented.

NEW QUESTION. 4.10 Are systems in place to assess how people value/ understand the value of protected areas?

2023	Fair to good

Overview: This new, overarching question in the 2023 assessment included a set of sub-questions:

1. Are there any systems in place to assess the understanding of values of sites and the protected area system as a whole?
2. Is there any consideration of this assessment of values in site/system strategies?
3. Have there been any recent studies on the positive and negative impacts of the conservation approaches in the protected area system on the well-being of neighbouring and resident/ indigenous and local communities?
4. Are measures taken to mitigate any negative impacts on neighbouring and resident/indigenous and local communities (e.g., human-wildlife conflict for farmers and herders)? How effective are they?
5. Are measures taken to actively encourage diversity, accessibility and inclusivity along gender, race, age, special needs, etc. in accessing benefits from the protected area system, (e.g., in promotion of tourism, physical accessibility, targeted activities, etc.)?

Discussion: The PWF self-assessment acknowledged that the need to assess how people value/understand the value of protected areas has been considered but little actual assessment has taken place. There are no systematic assessments of the understanding of site/system values (nor recent consideration for a comprehensive assessment). Some studies on the impacts of protected areas conservation approaches on well-being of communities have been made. A study to estimate the health benefits provided by outdoor exercise in protected areas has been commissioned and should be reported in 2024. Active measures are taken to encourage diversity, accessibility and inclusivity along gender, race, age, special needs, etc. in accessing benefits from the protected area system.

Visitor surveys have found 88% of national park visitors experience fairly or very high health and well-being effects, they estimate their health benefit of one visit to be €100, on average. The Metsähallitus strategy 2021–2024 "Fostering our Future", emphasised well-being, as do the annual agreements between PWF and the Ministries of Environment and Agriculture and Forestry. The Healthy Parks, Healthy People (HPHP) Programme (see Box 22) also fits with the National Nature Recreation Strategy of 2030.

Accessible trail in Kurjenrahka National Park. Photo: Jari Salonen.

Box 22. Healthy Parks, Healthy People

Taking inspiration from the growing evidence base and the work of Australia's Parks Victoria in developing health benefits in protected areas, Parks & Wildlife Finland (PWF) has been implementing a national Healthy Parks Healthy People strategy since 2010 to address national health challenges. The environmental resources on which delivery depends are based largely within park management bodies, but the strategy works with business innovators, healthcare practitioners, scientists, and NGOs to foster better health for individuals and communities. The strategy is being implemented in locations all around Finland, and many inspiring nature-based solutions have been developed.

The overall aim of the Healthy Parks Healthy People strategy is to improve the health and well-being of Finnish people through its diverse natural environment. The Finns are an active, outdoor people, for whom nature is an essential part of everyday life and leisure time. Their social, physical, and mental well-being has improved due to the varied Finnish wilderness and their active relationship with nature. The programme has several goals, as well as measures to attain these goals. Measures are included across three main themes: 1) from nearby nature to national parks, 2) everyone outdoors, and 3) results based on communications and cooperation. Health benefits are monitored within visitor surveys using a standardized method. Visitor surveys have found that 88% of national park visitors experience fairly or very high health and well-being effects, and they estimate the health benefit of one park visit to be €100, on average.

The benefits of nature and outdoor recreation are recognised within the health care system in Finland and nature-based services are utilised in maintaining health and in rehabilitation. However, the HPHP programme seems to have lost emphasis over recent years. There was concern that the work done to date linking parks to health is in danger of being lost in the current funding squeeze and a need for greater promotion of health benefits, particularly among men who make up a relatively smaller percentage of "health users" of the protected area system.

Finland has a system for assessing the Total Economic Value of its protected areas, which looks at the local economic impacts of visitor spending, to demonstrate immediate benefits to local economies. It considers direct and total income and employment effects using a simple analytical tool, based on the Money Generation Model (MGM2) originally developed for the US National Park Service. Estimates have been made annually since 2010 for each national park, and at a cumulative, state-level, through visitor monitoring. Total visitor spending is subdivided to identify when visitors come solely or mainly because there was a protected area. The assessments use data from Statistics Finland as well as regional data and location quotient methods. The data is publicly available on the PWF website.

It was noted in the METT assessments that ecosystem services provided by protected areas are not explicitly (using ecosystem services terminology) defined, for example in management plans, although many actions do promote ecosystem service provisioning. There are also no explicit measures on how nature restoration and conservation management could be directly linked to different ecosystem services (apart from outdoor recreation and nature tourism) and whether their role could somehow be emphasised, for example when nature restoration is being planned. It was noted that identifying key ecosystem services in more detail might help to underline the importance of protected areas in marketing and when justifying the importance of protected areas to society.

Recommendations:

- Put greater emphasis on the ecosystem services provided by the protected area network (see also answers to question 4.8 above).
- Shift or extend the emphasis of displays in nature centres, and material on the website, to give a greater emphasis on nature conservation generally and biodiversity conservation in particular, explaining what the protected areas provide and why this is important.
- Provide more clarity around management restrictions (and why, for example, some areas are more important for biodiversity than others) to contribute to this conservation emphasis.

5 Output

5.1 Is adequate information on protected area policy, vision and management publicly available?

2004/5	Good to very good	2023	Good

Overview: The 2004/5 assessment identified the need for a strategy for the management of information including an analysis of the costs of different publishing options. Since then, the way people access information has changed dramatically, so in 2023 the assessment focused on whether this publications strategy has been developed, looking at issues such as distribution, publishing options, greater web access and functionality. The assessment also asked about the transparency of the system, for example, do people understand the overall vision (see 1.1) for the protected area network and system.

Discussion: The PWF self-assessment noted that a communications strategy has

been set up (see Box 23). Information is publicly available which provides detailed insight into major management issues for most protected areas or groups of protected areas. It is however unclear how people understand the overall vision (see 1.1) for the protected area network and system.

Clearly considerable thought and research has gone into content and placing of information, for example recognition that visitors tend not to read information boards at the start of a trail because they are anxious to get started, but more likely to do so if presented later such as at a picnic site. There is also consideration about changing users, such as new people travelling to the north and recent immigrants to Finland starting to use national parks, possibly with quite different priorities. Continual monitoring and adaptation are necessary and acknowledged within the system.

The current infrastructure is very focused on visitor use and general nature enjoyment rather than building a picture of the protected areas' benefits (see question 4.10), both in terms of biodiversity and ecosystem services (or bioeconomy); perhaps a long-term vision is needed on protected areas being for "nature first".

It is not clear if PWF should be facilitating education or leading education. The latter option, if done well, would help solve many other issues (perhaps eventually allowing parks to showcase nature at the same level as outdoor activities). As the staff who completed the METT for Torronsuo National Park observed, resources are limited and environmental education does not attract particular investment, but actions could include interpretation of nature through information boards along the trails and organising nature events. This should be linked to an overall PWF education vision and strategy which can then be adapted at a regional or protected area level. There are currently only general national guidelines for educational aspects of PWF activities. In Ekenäs Archipelago National Park it was noted in the METT that a planned education and awareness programme is completely missing, and even the local nature centre has closed.

Management is very customer based, with a lot of focus on developing digital platforms with customers. It is noted that there is a data strategy in place, but implementation of it must be user focused, with staff, stakeholders and appropriate user research and business analyst skills. Staff need to be clear and well-informed of the programme of transformation and the implications on their work. For instance, it was not clear from those developing the new web system whether this would replace or be additional to existing online resources and the evaluation team would like to have seen an overall strategy.

Noted already in the discussion about vision above, biodiversity is not particularly well stressed in the online material. The evaluation team suggest more focus, for instance, on encouraging visitors to ask questions about what they have seen, post pictures, etc. Once set up these need not take time (indeed AI can be set up to answer many questions these days), but rather encourage conversations amongst civil society about nature (e.g., users helping to identify what other users have seen in protected areas). Self-guided nature trails are another option that could be better developed (as an example see Somerset Trails website from the UK (Farming and Wildlife Advisory Group SW et al. 2023).

The evaluation team also had the impression in at least some sites that much of the information was negative – telling people what they should not do – whilst it is important to lay out the rules these could sometimes be balanced with more positive messaging.

Recommendations: Although there is a well-developed strategy for understanding public attitudes towards PWF, there should be more emphasis on the overall vision and on how wonderful nature is.

Box 23. Parks & Wildlife Finland communications strategy

The new communications strategy for Parks & Wildlife Finland (PWF) has been agreed with the Ministry of the Environment. In brief the aims in 2023 are to:

- Communicate the importance of protecting biodiversity and to participate in communications related to Finland's biodiversity strategy.
- Increase citizens' understanding of biodiversity loss and the methods to maintain biodiversity.
- Participate in communications related to the national strategy for nature recreation.
- Enhance customer communication on responsible and safe hiking (e.g., the Outdoor Etiquette communication campaign) in collaboration with tourism partner companies, with a particular focus on beginner hikers.
- Develop media communication with a focus on nationwide visibility and impact.
- Strengthen the visibility of PWF's tourism partners in web and social media channels.
- Enhance nature education as a cross-cutting theme in communications and customer service.
- Adopt new communication methods and channels to reach current and new audiences.

Communications is regarded as a major tool for leadership, management, customer service and audience reach. It has a strong support from PWF management. Communications is part of everyone's job description, tasks and duties, but communications is also recognised as a special field of expertise which requires professional leadership.

A new centralised communications and partnership unit is responsible for the strategic planning and realisation of communications in its all levels from customer communications to partnerships and stakeholder communications. Strategic themes are chosen, and communications plans and communications training are organised to enhance the visibility of the major themes in nationwide media and social media channels.

The new strategy is to strengthen the response to customer feedback. Customer services are becoming more digitalised. This approach is being developed in order to deliver a centralised, coherent and digitally aided service. It will be partly automated but also personalised and customer-centred with one main point of contact. The popular website www.nationalparks.fi (www.luontoon.fi in Finnish) is currently under major transformation, leading to a more interactive service and a mobile platform. Already PWF has developed the use of social media in order to create a stronger interaction with its current and potential customers. In national and regional social media channels, PWF has more than 670,000 followers.

5.2 Are visitor services appropriate for the relevant protected area category?

↑	2004/5	Good	2023	Good to very good

Overview: The 2004/5 assessment noted that visitor services are generally of high quality, but questioned whether in some cases visitor needs are being elevated above those of biodiversity, for instance in the provision of firewood. The assessment suggested the gradual phasing out of the collection of firewood within protected areas and also phasing in more individual responsibility with respect to waste management by requesting visitors carry waste out with them. The 2023 assessment therefore specifically considered whether fuelwood provision had been reviewed and if any initiatives have been considered / implemented to phase in more individual responsibility with respect to waste management.

The link between management categories and visitor services is clear (see Table 4). However, strategies need to review accessibility and regional balance when looking at nature recreation goals.

The *Principles of Sustainable Tourism* frame management and tourism cooperation, directed towards tourism that minimises the environmental load (Metsähallitus 2023g). Parks & Wildlife Finland and the UNESCO World Heritage Sites located in Finland have common sustainable tourism principles, which are used in national parks, nature destinations and historical and world heritage sites. The principles apply to all nature recreation and are observed in all activities and cooperation with tourism entrepreneurs. These principles are also subject to monitoring sustainability (see question 5.6, Figure 26)

With increasing trends of nature tourism and sporting events (e.g., mountain biking), PWF should expect commercial tourism activities to increase, accompanied with potential impacts on the environment, infrastructure and other visitors in protected areas (see Box 24). These trends will likely interact with the fundamental Finnish philosophy of "everyone's rights to nature", resulting in potential abuse of protected area resources and infrastructure that are treated as "commons".

Table 4. IUCN protected area management categories and visitor services.

Management category	Visitor services
Strict Nature Reserves (Category Ia)	Recreation and tourism are not an objective. Mostly access is only allowed with permit, signed trails allow hiking in some sites.
Wilderness Reserves (category Ib)	Recreation and tourism are not an objective. Everyone's right frames access and visitor management.
National Parks (category II)	Recreation and tourism are an objective, but not the primary objective. Some sites require specific tourism planning, in addition to overall management planning. Zoning: visitor services are mostly in the recreational zone.
Natural monument sites (category III)	Facilities and access are planned so that natural and cultural heritage values are preserved.
Nature Reserves (mostly category IV)	Facilities vary (most sites have little or no services).
Protected landscape (category V)	Facilities and access are planned so that natural and cultural heritage values are preserved.

Box 24. Tourism in Finland's protected areas: Significance and trends

Compared to other industries in Finland, tourism is the same size as the forest industry and is larger than the food industry. The economic added value of tourism totalled €5.7 billion euros in 2019 (Visit Finland 2023), including the multiplier effects on other industries such as transportation, retail and constructions.

At the broadest scale, the vision of sustainable tourism in Finland is provided by Visit Finland:

- Finland is a leading destination for sustainable tourism.
- Creates added value for society and our customers by nurturing our unique nature and culture.
- Finland is the first choice of an aware traveller.

To support its vision, Visit Finland has developed the Sustainable Travel Finland (STF) certification programme, in which Parks & Wildlife Finland (PWF) is also participating.

Finland's nature is the prime attraction for both domestic and international tourists. For example, international tourists consistently indicate that nature is their single most important reason for visiting Finland, especially its national parks in which many tourism operations take place. Nature tourism in Finland is increasingly popular. Within the national park system, visitation trends have grown steadily during the last 15 years (see Figure 23), with the greatest numbers of visits recorded in national parks near tourist centres and cities, respectively. The latest forecasts suggests that visitation to Finland's national parks, hiking areas, nature centres, and other popular nature destinations will reach a total nine million visits in 2024.

There are almost 29,000 companies operating in the tourism industry in Finland. Among them, over 800 tourism business partners currently operate in protected areas and have a partnership agreement with PWF. Business partners either operate in state owned lands and waters or promote nature destinations together with PWF. In cooperation agreements with PWF, tourism companies commit to complying with the *Principles of sustainable tourism*. The overall aim is to ensure environmental and social sustainability and to enhance quality of common service chains.

Two types of partnership agreements with tourism business partners have been established:

1. "Full agreement": Includes the right to use the service infrastructure in protected areas for a fee.
2. "Light agreement": No right to use service infrastructure but includes communication cooperation to serve common customers.

With an agreement in effect, partner companies are entitled to:

- Use the service infrastructure managed by PWF
- Use PWF image gallery (including pictures, translated texts of the most popular areas, Outdoor Etiquette materials)
- Use logos of the protected areas
- Visibility in https://www.national-parks.fi/ and social media
- Possibility to sell brand products
- Meetings and information (e.g., Newsletter)
- Take part in nature tourism projects
- E-learning material of sustainable tourism.

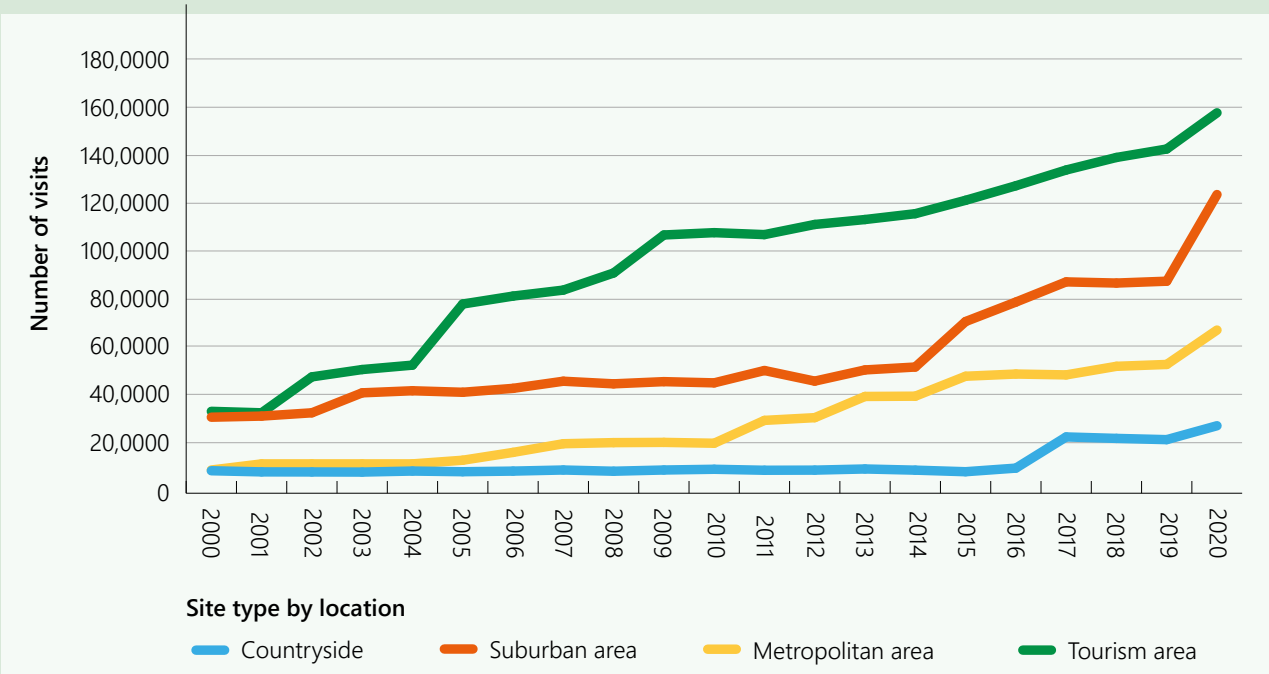


Figure 23. Numbers of visits in national parks by park categories, 2000–2020.
Alternative text of the figure. Visitor numbers show a rising trend in four national park categories: 1) Countryside: from about 90,000 visits in 2000 until 2015, up to 103,000 in 2016 and 276,000 by 2020. 2) Suburban areas: from 311,000 in 2000 to 451,000 in 2010, up to almost 870,000 by 2020. 3) Metropolitan areas: from 95,000 in 2000 to 204,000 in 2010 and up to almost 530,000 by 2020. 4) Tourism areas: from 335,000 in 2000, rising steeply to over 1 million by 2010 and steadily up to 1.4 million by 2020.

Taking a break at a campfire site in Nuuksio National Park. Situated within the Helsinki metropolitan area, the park is day trip destination for local families and many tourists. Photo: Katri Lehtola.

Discussion: PWF self-assessment noted that all visitor services and facilities accord with the relevant protected area category (see Table 4) and most enhance protected area values. Firewood consumption and waste production are monitored as part of overall environmental impacts. Much is done to make visitors aware of their responsibility, for example, campaigns to support interpretation and responsible behaviour such as outdoor etiquette (Metsähallitus 2023h) and leave no trace (Metsähallitus 2023i). Access needs are assessed and are well catered for in some of the most visited protected areas, and generally the level of trail provision and maintenance is very high. This means, however, that there is a fairly constant need to renovate trails. Facilities at a national level are assessed for cost-effectiveness, life-cycle approach, planning tools and guidelines, service design, etc., these assessments need to be continual as technology and use changes, and adaptive management should be analysed to ensure effectiveness and efficiency.

The growing visitations in national parks, compounded by social and environmental changes, as well as the complexity of tourism business management, have created some challenges for Metsähallitus and PWF, in particular the unexpected increases in visitors during the Covid pandemic.

Recommendations:

- Reconsider the role of hiking areas and multiple-use forests, which could have potential to increase tourism, take the pressure off national parks and offer renewed opportunities to engage with tourism and volunteer networks.
- Consider developing a new protected area type beside national parks (e.g., regional parks) that would take some visitor pressure off from national parks and create opportunities for more cooperation with municipalities and local actors.
- Encourage more interactive services, mainly through social media, where visitors to national parks can exchange views and information about nature, including asking questions. This is an area where volunteers can help and where members of the group provide answers and support each other; in other words, it should not take any significant resources to maintain.
- It was also suggested that many visitors do not understand the reasons for zoning within protected areas, e.g., why certain areas might be off-limits, and that more explanation might help to prevent rule breaking.

5.3 Are management-related trends systematically evaluated and routinely reported?

2004/5	Fair to good	2023	Fair to good

Overview: The 2004/5 assessment acknowledged the excellent information currently available, but found it was rather scattered and not analysed to build up a picture of management effectiveness in Finland, particularly as it relates to conservation outcomes. The recommendation was therefore to develop *State of the Parks* reporting. As noted above (see question 1.5) this was done in 2007, but the exercise was not repeated.

Discussion: Although the systems are in place (see question 1.5), PWF notes in the self-assessment that no systematic reporting is done on all area types. The exceptions are NATA assessments on Natura 2000 sites and management related reporting on some projects/types of protected area (e.g., performance scorecard for the HELMI Programme, and visitor trends and impacts).

Site and system level assessment could be enhanced, as there are clearly gaps:

- The *State of the Parks* report was published in 2007 but there has been no systematic follow up since. PWF reported that although there is excellent information available, it is rather scattered and not analysed as a whole to build up a picture of management effectiveness in Finland, particularly as it relates to conservation outcomes.
- A 2010 national parks assessment was completed per site but was not reported at a system level.
- Natura 2000 analysis and report was planned for 2015 but was not supported by the Ministry of the Environment.
- At site level, the Natura 2000 site condition assessment (NATA, see Box 14) reports were completed in 2021. However, a compilation analysis of NATA data and report planned for 2021 have been postponed as the resources were not available.

The 4th version of the Management Effectiveness Tracking Tool (METT-4) was used in five protected areas as part of the evaluation, a review of how useful this was, the time it took and the tool's role in adaptive management could be a useful next step.

Recommendations: Develop a more considered approach to protected area reporting (see recommendations to question 1.5), with regular (every five years?) internal reporting and periodic assessments from outside the country, possibly using METT-4.

5.4 Is there a systematic maintenance schedule in place for built infrastructure/assets?

2004/5	Fair to good	2023	Very good

Overview: Risk-based analysis is used to target repair and maintenance of visitor facilities. Customer safety is an integrated part of maintenance procedures. Prioritisation of visitor services aims to find a balance between demand, supply and potential. Objectives are cost efficiency, quality and a visitor-oriented approach. The aim is for sound and long-term maintenance (see Box 25).

There are eight maintenance teams regionally, however maintenance is often outsourced. The annual planning for the maintenance team including resource allocation is based on PAVE (GIS system on structures, trails and archaeological sites is an information system for construction works, routes and archaeological sites, see Box 8). It provides up-to-date information on quality, planning needs, maintenance and environmental impacts. It is also used for monitoring firewood consumption, waste management, energy, etc. and for reporting and to support annual planning. PAVE has been used since 2017 with an additional field device in use since 2021. There are approximately 400 users in PWF.

Discussion: The situation has changed considerably since the last assessment when systems were being developed but were not in place. There is now a systematic inventory system which provides the basis for maintenance schedules for all sites.

Recommendations: The systems in place are efficient, however maintenance is clearly going to have to take account of climate change impacts in the future and some process and planned activities may need to change substantially.

Box 25. Prioritisation of visitor services

The national approach to prioritisation of visitor services is done within the frame of geographically defined entities that cover approximately 90% of visitation and service supply of protected areas. These entities are further analysed in terms of their importance to tourism, local recreation, environmental education, wildlife activities, biodiversity values, and cultural heritage. The analysis of selected themes uses detailed criteria.

Prioritisation is used when allocating resources for locations and when preparing annual plans and more detailed plans within park districts. Looking to the future is an essential part of the prioritisation process as changes in visitor services involve long-term targets. Visitation demand, service supply, and use of resources are also monitored in the frame of geographical entities and analysed further when assessing the efficiency of Parks & Wildlife Finland's work.

In 2022, a total of 39 entities with geographical boundaries were used for planning and budgeting visitor services. Distribution of the entities within PWF regional units was the following (from north to south, see Figure 24):

- Lapland: 11
- Ostrobothnia–Kainuu: 10
- Lakeland: 12
- Coastal and Metropolitan: 6.

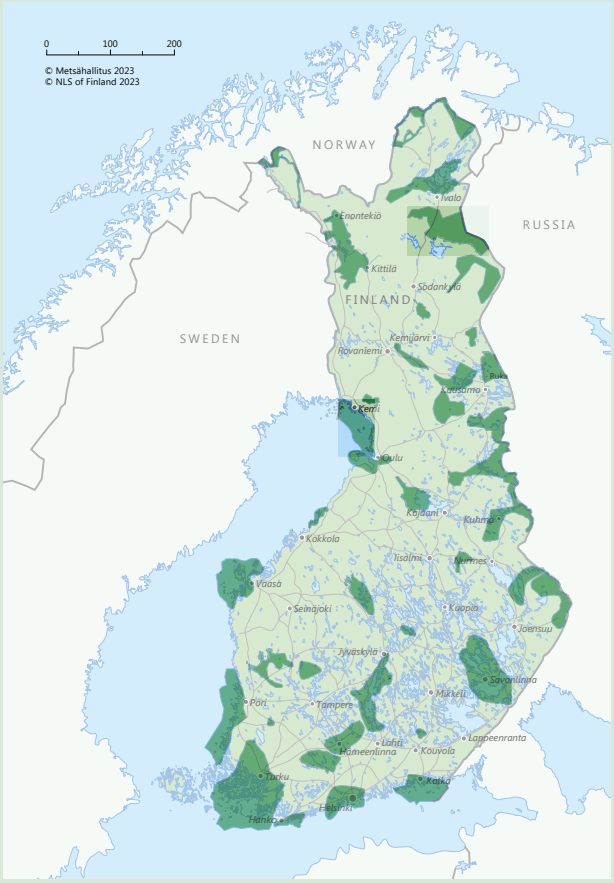


Figure 24. Prioritised geographical entities for visitor services.

5.5 Does Finland fulfil its monitoring and reporting obligations under European Directives and international conventions?

↑	2004/5	Fair to good	2023	Good to very good

Overview: At the time of the last assessment Finland was just beginning to plan reporting to the EU. Two decades later there is a national monitoring and reporting scheme for European Directives, CBD, World Heritage, Ramsar and HELCOM. These are done in cooperation with the MoE, ELY Centres, Syke and others.

Discussion: As discussed above, PWF has put into place an effective system to achieve their monitoring and reporting obligations.

Recommendations:

- Institute regular reporting to the government and public about the contribution (quantitative where possible, qualitative where not) of protected areas to international environmental and social obligations. See also question 1.9.
- PWF should be active participants in ongoing EU methodological development and thus ensure high quality of relevant results through Directive reporting exercises (the next review is in June 2025).

Pallas–Yllästunturi National Park is the most popular protected area destination, attracting 584,000 visits in 2023, and is the key driver of local tourism. Photo: Rami Valonen.

NEW QUESTION: 5.6 Are visitor use trends systematically monitored and reported in protected areas which have tourism as a management objective?

2023	Good to very good

PWF self-assessment score in 2023: Very good

Overview: Systematic site visitor monitoring (Metsähallitus 2023j) has been in place for over 20 years, including continuous visitor counting plus visitor surveys at 5–10-year intervals. This allows for comparisons between areas and across time. Thirty-nine prioritised geographic entities have been defined from the point of view of protected area visitor demand, facility supply and other criteria. Across the PWF regional units these are divided between Lapland – 11 entities, Ostrobotnia–Kainuu – 10, Lakeland – 12 and Coastal and Metropolitan Area – 6. (see Box 25)

Outdoor recreation and tourism data is analysed by defined geographic entity and includes:

- Visitor counts and visitor surveys of national parks and other protected areas within defined area complexes.
- Recreational facilities: buildings, structures and routes + their condition/ need for maintenance/repair.
- Cooperation contracts with tourism businesses.

The area complexes also serve as administrative entities for:

- Allocation and monitoring of resources.
- Planning of annual activities, including renovations.
- Reporting of performance and socio-economic benefits.

Continuous visitor counters are situated in most natural and cultural sites where outdoor recreation and appreciation of cultural heritage are objectives. Socio-economic impacts are calculated annually for national parks, hiking areas and other most visited sites. The visitor surveys consider issues such as: expectations, duration, motives, activities, visitor profile, health and well-being, visitor satisfaction, and economic impacts. Visitor satisfaction is generally very high (consistently over 4 on a scale from 1–5) but in recent years has been slightly decreasing. Figure 25 shows that different environmental impacts have affected mean satisfaction index scores in different ways over time. In general, between years 2000 and 2020 visitor satisfaction has improved in spite of trail erosion, littering, treatment of the natural environment, and behaviour of other visitors, but visitor crowding has been the main reason for the decline during the past two decades.

The environmental impacts of nature tourism and outdoor recreational use are continuously monitored using the Limits of Acceptable Change monitoring method (LAC, see Figure 26). Visitor impacts are assessed on a regular basis to avoid negative impact. LAC monitoring was piloted in Finnish National Parks in 2010 and used systematically in place in the most popular national parks and hiking areas – 26 areas (21 National Parks and five other protected areas) from 2018.

The key indicators used for monitoring analyse the implementation of *Principles of Sustainable Tourism* in the area. Based on these principles, the ecological, socio-cultural and economic impacts of tourism are taken into account in monitoring. Indicator data is based on visitor monitoring (annual number of visits and visitor survey in a 5-year interval), regular inventories of endangered/directive species, biotopes and cultural heritage, Natura 2000 site condition assessment (approx. every 5–6 years), regular monitoring of outdoor recreation infrastructure and customer safety. LAC metrics are set for certain visitor impacts in all sites and for key nature values of each site.

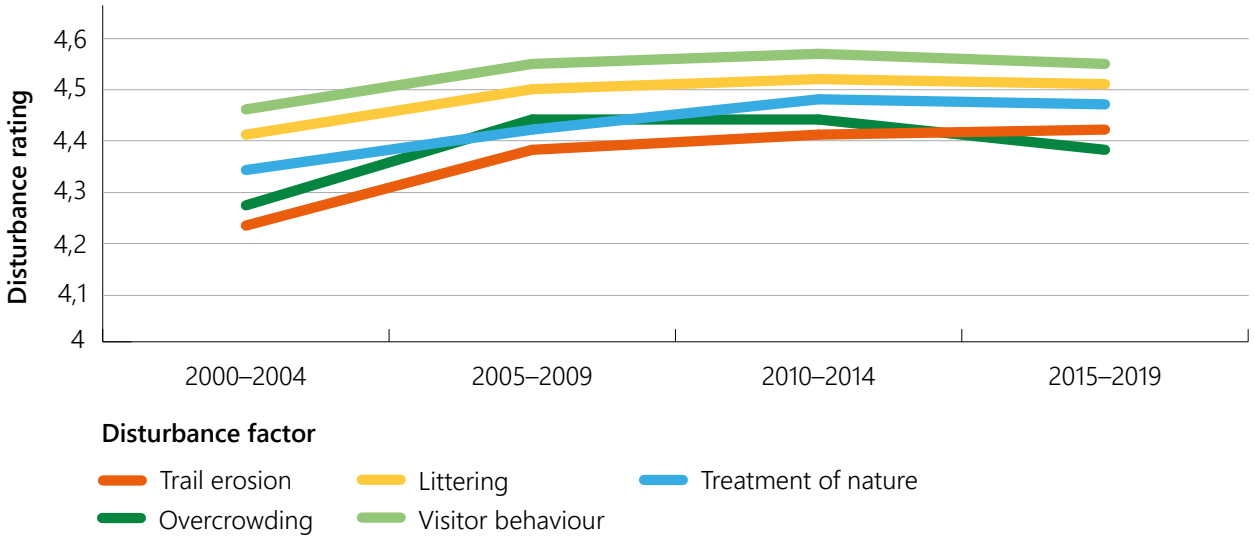


Figure 25. Trends in visitor satisfaction in national parks 2000-2019 and effect of environmental impacts. Disturbing effect of different environmental impacts on visitor satisfaction is assessed on a scale from 1 (very disturbing) to 5 (not disturbing at all).
Alternative text of the figure. Trend in mean visitor satisfaction score considering disturbance from five environmental impacts is shown in 5-year intervals from 2000–2019. 1) Trail erosion: 4.23 in period 2000–2004 to 4.42 in 2015–2019 2) Littering: 4.41 in 2000–2004 to 4.51 in 2015–2019 3) Treatment of nature: 4.34 in 2000–2004 to 4.47 in 2015–2019. 4) Overcrowding: 4.27 in 2000–2004 to 4.44 2005–2009 and 2010–2014, declining to 4.38 in 2015–2019. 5) Visitor behaviour: 4.46 in 2000–2004 to 4.57 in 2015–2019.

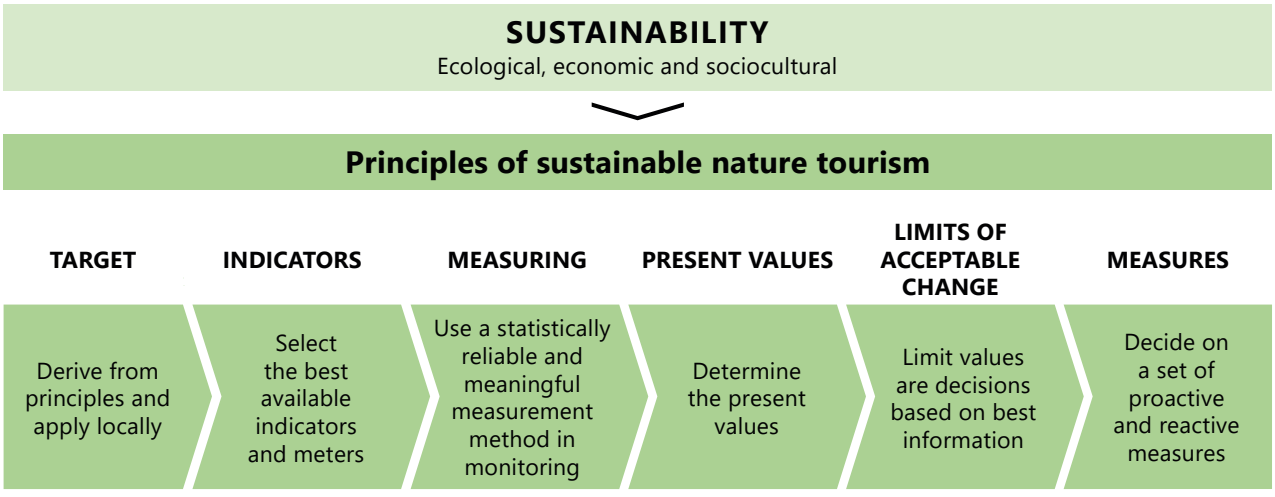


Figure 26. Limits of Acceptable Change (LAC) procedure to monitor and ensure sustainable tourism.
Alternative text of the figure. Ecological, economic and socio-cultural sustainability is written at the top. From there is an arrow down to a text that says Principles of Sustainable Tourism. Below them is a six-point procedure. 1) Target state: derived from principles and applied locally. 2) Indicators: selecting the best available indicators and measures. 3) Measurement method: a statistically reliable and meaningful measurement method is used for monitoring. 4) Present values: determine present values. 5) Limits of acceptable change (LAC): limit values are decisions based on the best information. 6) Actions: decide on a set of proactive and reactive measures.

LAC processes include:

- Evaluations and reports in each LAC area
- Collecting the LAC evaluations in regions
- Approving the actions to follow in a regional management group
- National level report
- Reporting to senior management of Parks & Wildlife Finland
- Approval of the report by the Ministry of Environment and the Ministry of Agriculture and Forestry.

Customer services are provided by eight customer service teams, across 23 Nature Centres (although under 10 are operated by PWF). There is a trend towards digital customer service such as the excursion maps (excursionmap.fi). The whole concept of digital customer service will be redesigned in the coming years. Cooperation with partners is essential, for example destination management in tourism.

Trends in recreational use of the Finnish national parks in 2000–2019 (Konu et al. 2021) were analysed in 2022 and included consideration of:

- Diversification of activities.
- Meaningful experiences, connection with personal values.
- Volunteering, participation in conservation.
- Slowing down, relaxation.
- Visiting with family (including pets).
- Mitigation of climate change / climate responsibility.
- Sustainability, responsibility.
- Connection of work and leisure time (COVID-19 impacts).
- Changes in hiking skills, beginners with good equipment.
- Rising need for accessible solutions, equality.
- Healthy Parks, Healthy People (see Box 22).
- Changing visitor demographic (see Figure 27).

As Figure 27 shows, compared to the situation two decades ago, more women now visit the national parks than men. The proportion of men has gone from 53 to 44% and that of women from 47 to 56%. There are many reasons behind this, including a rising understanding of health benefits, better service design and accessibility in protected areas, new visitor safety approaches and more focus on family trips.

The Visitor Spending Effects (VSE) calculation model in the ASTA database (Visitor information system) is used to estimate visitor spending effects (Metsähallitus 2023k). An overview is produced annually, assessing direct and total income and employment effects (see question 4.10). Visitors estimated their health and well-being effects to around €110 per visit (median), with the self-defined value of health benefits experienced by all Finnish national park visitors in 2018 equalling roughly €348 million in total (Metsähallitus 2023l).

Discussion: As noted in the PWF self-assessment, systematic evaluation and routine reporting of visitor use is undertaken for most protected areas or groups of protected areas. Visitor monitoring is standardised and trends are analysed together with the tourism industry whenever needed.

Some of the LAC examples reviewed by the evaluation team had more indicators than necessary, including some not directly linked to visitor use or amenable to management actions; some streamlining could be considered here. Other challenges identified included the concern that the indicators are sensitive enough as visitor surveys are made every 5–10 years and when change is indicated it is hard to know why, which is also linked to the challenge of ensuring a common understanding of indicator limits. The METT assessments also noted that the LAC monitoring method is not very sensitive to rapid changes in visitor behaviour as information is based on visitor surveys made every five years.

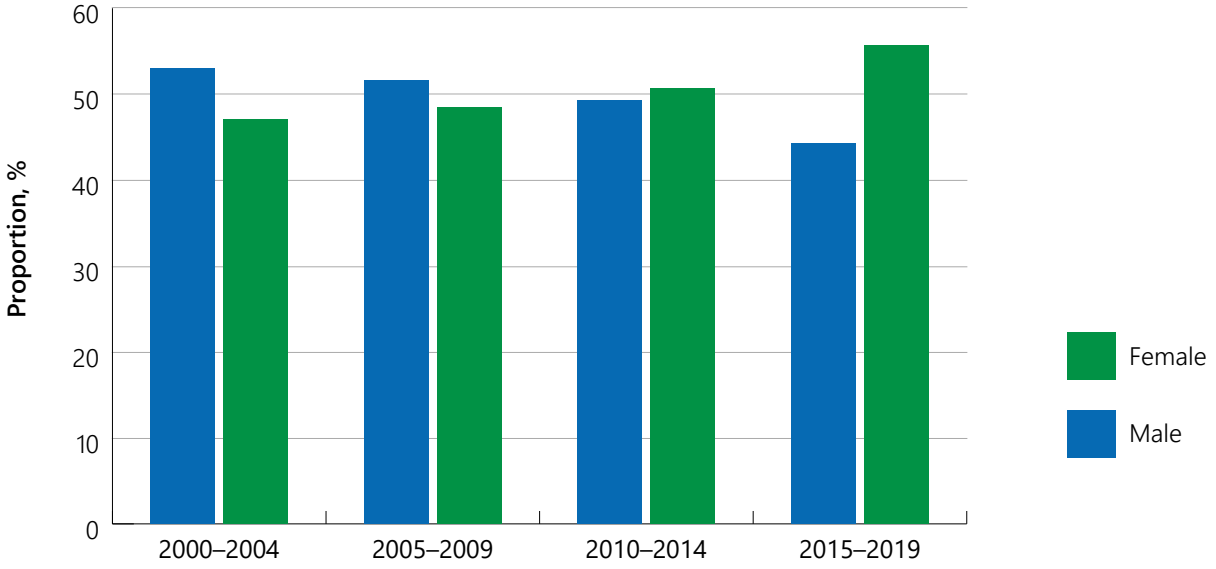


Figure 27. From male to female: the changing visitor demographic.

Recommendations:

- Monitor changes in the tourism business and its source markets, especially from beyond Finland, to determine if and what additional policies for international companies and entrepreneurs are warranted.
- Review the LAC programme to critically evaluate the current indicators and identify ways to potentially streamline the suite of LAC indicators based on other application experiences. The guidance for indicator development in the more recent Visitor Use Management (VUM) framework (Interagency Council 2022) should be consulted as part of this review. Indicators deemed not suitable for LAC may still be valuable for other purposes such as biodiversity and social monitoring.
- Maintain the rigour of the visitor use and impact monitoring programme while identifying ways to increase cost efficiency, such as sampling coordination, monitoring partnership and application of technologies.
- Besides the established set of indicators, potentially new outcome-based indicators could be considered that directly capture desired outcomes from tourist activities and programmes, such as nature learning, biodiversity knowledge, level of support for impact/conservation management, etc.
- Consider a tiered monitoring strategy in which some simple vital signs are monitored more frequently (e.g., annually) at selected protected areas to detect fast changes in the character of visitor use and impacts. Significant changes on these vital signs may trigger more involved monitoring and management actions.
- In times of rapid change, such as the changes in visitor numbers and use of protected areas after the Covid pandemic, more flexibility may be needed around visitor monitoring (at least in the parks most impacted).

6 Outcomes

6.1 Are threatened species' populations stable or increasing?

2004/5	Good	2023	Fair to good

Overview: The 2004/5 assessment stressed the need to look at species conservation across the whole protected area network (e.g., also in PPAs, etc.).

Thanks to the efforts of many volunteer recorders, Finland has detailed records and a reasonably up-to-date Red List of threatened species (Finnish Environment Institute 2023c). The last, and fifth, assessment was carried out in 2019; 18 working groups with some 170 experts assessed the threat status and prospects of nearly 22,500 species or lower taxa. There are approximately 48,000 species present in Finland, of these 22,418 (47%) were evaluated and 2,667 species were assessed to be threatened, corresponding to 11.9% (an increase from 2010, when 10.5% of species were assessed as threatened). Most threatened species are in forests (31%), followed by species in rural biotopes and cultural habitats (24%), which is not surprising given these are the richest most diverse habitats. However, the habitat type with the most threatened species was alpine areas (37.9%).

Although, as the Red List data shows, Finland has many threatened species, PWF's efforts in species work focus on a handful of charismatic species for which it has special national responsibility. Progress in conservation of these responsibility species is reported annually (see Box 26).

In addition, PWF is nationally responsible for monitoring a number of other threatened species or species which are protected under the EU Habitats Directive or the Birds Directive and maintaining their favourable conservation status in areas managed by Metsähallitus. Based on NATA assessments, at national level 67% of natural conservation features were in favourable status with stable or improving outlook in 2022.

Discussion: The species that PWF has special responsibility for are subject to many effective conservation assessments and interventions. For example, there are about 1,600 known nesting sites of threatened raptors in protected areas under observation (some abandoned) through annual assessment carried out with the help of volunteers and PWF pays a reward for new unknown nesting sites of eagles. As a result, most of the threatened species' populations are either increasing or stable; including limited but important success in Arctic fox conservation. There is however a marked difference between the status of terrestrial and marine species. Marine species, except for some specific species with recovery programmes, are suffering from the deterioration of the Baltic Sea, which Finland can influence only in a very limited way.

Protected areas also, of course, only have a partial role in species' conservation status and PWF's powers to influence actions outside of protected areas are limited. PWF has assessed and prioritised those actions that can be focused on specifically in protected areas. Mostly this relates to habitat management.

Monitoring the impact of measures is ongoing in different habitats, but often species' recovery is very slow. As the METT for Kaldoaivi Wilderness Reserve noted, information on invertebrates is poorly understood, for fungi, lichens and mosses it is scarce, for vascular plants it is better but could be a lot more comprehensive, whilst information on animal species is ample, especially on large avian predator species. In other parks, however, data is more complete, e.g., in Oulanka National Park inventories of plants and animals are carried out frequently and there is a lot of monitoring data on species under the Birds and Habitats Directives and of other nationally threatened species. The

Box 26. Progress with special responsibility species

Parks & Wldlife Finland (PWF) is nationally responsible for monitoring and protecting selected species that occur mainly in conservation areas or on state-owned land. These include raptors nesting especially in northern Finland, the Arctic fox and Saimaa ringed seal. PWF was also responsible for monitoring and coordinating conservation measures of the White-backed woodpecker 2003–2020.

Special responsibility species are subject to conservation assessments and many specific interventions. Volunteers play an important role in this work. Progress in conservation of these species is reported annually. Most recent red-list status of these species is reported in 2019. The formerly critically endangered (CR) White-backed woodpecker (*Dendrocopos leucotos*) is currently assessed as vulnerable (VU).

Raptor nest monitoring in Northern Finland included a total of 3,260 known nesting sites in 2022:

- Golden eagle (*Aquila chrysaëtos*), 1,752 sites – Present status is Vulnerable (VU)
- Peregrine falcon (*Falco peregrinus*), 1,114 sites – Vulnerable (VU)
- Gyrfalcon (*Falco rusticolus*), 47 sites – Critically Endangered (CR)
- White-tailed sea eagle (*Haliaeetus albicilla*) within the reindeer herding area, 394 sites – National status was earlier assessed Vulnerable, Least Concern (LC) in 2019.

Arctic fox (*Vulpes lagopus*)

- Nest checks in 2022 involved 190 sites in Lapland.
- Measures include feeding automats, elimination of fox, collaboration with Sweden and Norway.
- Breeding success in Finland in recent years after a very long period with no success.
- Status Critically Endangered (CR), (Finnish Environment Institute 2019b).

Saimaa ringed seal (*Pusa hispida saimensis*)

- Nest counts involved all known occurrences in the Lake Saimaa area in 2022.
- Measures include artificial snowdrifts/banks formed during nesting season (190 by volunteers).
- The present population size estimate is 480 individuals.
- Previously status assessed CR, now Endangered (EN), (Finnish Environment Institute 2019a).

The endangered Saimaa ringed seal (*Pusa hispida saimensis*) lives only in Lake Saimaa and is endemic to Finland. Photo: Minna Auttila.

range and population size of threatened vascular plants, bryophytes, lichens and birds are best known, but knowledge may be deficient on some less known taxa. The habitat type inventory covers 86% of the Oulanka National Park area, but there is some deficiency regarding habitat types which are rare and cover only small areas or are difficult to identify by remote sensing.

This question also relates to the scale and responsibility of PWF and Metsähallitus for biodiversity across Finland. The comparison between the 2004 and 2023 assessments clearly shows that although management efforts are helping protect Finland's iconic species and habitats, the indicators for biodiversity as a whole are failing to show a reverse in the decline of biodiversity, called for by the GBF to secure biodiversity for future generations.

Recommendations: To halt and reverse the decline of biodiversity and ensure Finland's biodiversity does not decline further, there is a need to balance protected area management with a wider landscape approach to assess biodiversity decline and management. Specific activities could include:

- A strategic review of restoration activities, their impact on species recovery, and the lessons learned from these programmes that could be replicated in other habitats with high numbers of endangered species.
- The fact that the most threatened species are in alpine areas is directly linked to the wicked problems noted above. Without developing strategies to deal with issues related primarily to reindeer grazing, the biodiversity indicators will continue to show declines.
- Considering better monitoring of lesser known taxa.

6.2 Are selected indicator species within acceptable ranges?

2004/5	Fair to good	2023	Fair to good

Overview: The 2004/5 assessment suggested a strategy be developed to use current monitoring data more systematically to develop a suite of indicators representing different aspects of biodiversity for reporting. The current assessment therefore focused on whether such a strategy has been developed, if it is being used within an overall adaptive management strategy, if indicator species have been identified and whether these species are reflective of biodiversity value.

Discussion: PWF reported in the self-assessment that indicator species have been identified and are reflective of biodiversity value. Although some selected indicator species were outside acceptable ranges (see METT analysis below, Table 5), most were within acceptable ranges. A strategy has been developed to use monitoring data systematically within an overall adaptive management strategy. As a result, species identified in EU directives and certain national threatened species are in a continuous monitoring programme. The evaluation team conclude that while it is good that species populations are monitored and used as indicators of protected area management effectiveness, the focus should be more on species groups and assemblages rather than individual species. For example, the population of the peregrine falcon (*Falco peregrinus*) is used as an indicator in some protected areas. However, the population development of the peregrine is mostly related to factors beyond the reach of protected area management decisions and relates only loosely to habitat quality. Using an assemblage of mire species (breeding birds, butterflies, vascular plants, mosses, etc.) would reflect the quality of habitats more effectively.

Table 5. Overview of status of key species from the five METT assessments.

Assessment category	Decreasing	Stable	Increasing
Range	4	19	1
Population	7	10	7
Area of habitats	2	17	5
Extent of threat	3	12	9

Assessment category	Declining	Stable	Improving
Reproduction, mortality, age structure	6	15	3
Habitat quality	5	14	5

The METT assessment in five protected areas provided a snapshot of species conservation across Finland. The assessment provides a detailed assessment of five key species per site (although one site only gave data for four species) based on NATA assessments. Table 5 provides a summary of this data. Overall, most of the assessment categories are assessed as stable. However, a quarter of species (25%) listed were declining in terms of reproduction, mortality and age structure, and 29% have decreasing populations. For over a third of species (37%) threats were increasing. The area with the most decreasing/declining categories was Kaldoaivi Wilderness Reserve in Lapland, where the impacts of climate change are exacerbating other management issues such as overgrazing by reindeer.

Recommendations:

- Revise the lists of species used as protected area indicator species in broad consultation with experts.
- Use indicators based on species groups or assemblages rather than single species indicators.
- Where possible, use the same indicators that are used in the wider national framework of biodiversity monitoring.

6.3 Are biological communities at a mix of ages and spacings that will support native biodiversity?

2004/5	Fair to good	2023	Fair to good

Overview: In 2004/5, it was suggested that although biological communities probably exist at a viable scale in northern protected areas, this was probably not the case in many protected areas in the south. It was suggested that major restoration efforts were needed, coupled with landscape approaches to increase transition zones to address problems of small protected areas, and that management plans need to look beyond the border of the protected area at likely impacts of surrounding management. Specific issues raised in the 2023 assessment were around whether a strategy has been developed to use monitoring data more systematically and within an overall adaptive management strategy. Although the focus of the 2023 assessment was on the protected area system managed and governed by PWF, for the objective of protection of Finnish biological and cultural values to be achieved, the wider protected area network must be considered; so, information was sought on what type of collaboration exists with wider protected area networks, specifically those bordering state-run protected areas.

Mountain birch forest in Malla Strict Nature Reserve in northwestern Lapland. Photo: Seija Olkkonen.

Discussion: PWF's self-assessment response notes that some southern and most northern biological communities are likely to be able to sustain native biodiversity. There is a strategy to use monitoring data systematically and within an overall adaptive management strategy (e.g., through NATA assessments and intermediate assessments of management plans). Collaboration exists with wider protected area networks, with Metsähallitus Forestry Ltd. to supplement ecological networks with OECM-type areas, with landowners and ELY Centres in connection to PPAs and valuable agricultural landscapes. There are still areas of old-growth forest that could be protected in the north of Finland, which are likely to be protected as PPAs.

Generally, once areas are protected, they are secure, but as noted in several places above, areas of mountain birch forest in the far north are threatened by a combination of moth attack, climate change and overgrazing.

Recommendations: In general, once areas are protected their ability to support native biodiversity is high. However, the wicked problems noted above mean some biomes are under severe pressure.

6.4 Are the expectations of visitors generally met or exceeded?

⟷	2004/5	Good to very good	2023	Good to very good

Overview: There has been considerable progress in visitor management since the 2004/5 assessment, when it was recommended that visitor satisfaction should be monitored and reported (see question 5.6).

Discussion: PWF reports in the self-assessment that expectations of most visitors to most sites are met. Visitor satisfaction index is one key indicator in the steering process of PWF with ministries and the target indicator is usually met. Visitor satisfaction is monitored continuously and is reported annually as part of the performance scorecard.

The influx of visitors during Covid, and changing types and expectations of visitors, are causing some tensions. For example, there has been an increase in illegal campfires, with people wanting to have a greater "wilderness experience" but with attendant risks of damaging levels of wood collection and accidental fire.

Outdoor groups had mixed feelings about national parks, pointing to the fact that although visitation increased following designation, the types of activities became narrower, predominantly hiking with other users missing out. Rules vary between national parks with respect to, for instance, camping out or orienteering. Whilst recognising that conditions vary, there was a feeling from these groups that a more standardised approach would help users. There is apparently no policy about the desired numbers or types of visitors, which makes it harder to plan. Newer interests, like mountain biking and use of e-scooters, are covered in the new management principles (see Box 2) but fewer actions on the ground have been taken in protected areas to cater for these activities.

Recommendations:

- Besides monitoring visitor satisfaction, which is important, visitor expectations themselves should be monitored and evaluated periodically since they may evolve with changing visitor profiles (e.g., international tourists), activity preferences, and technologies. An understanding of how and why expectations change would help PWF maintain a high level of satisfaction while addressing emerging expectations that are inconsistent with or inappropriate given PWF's goals.
- Consider more effective ways to communicate and translate management principles into specific visitor and resource management actions on the ground using trusted communication channels. This is especially important for new tourism/recreation companies and partners.

Covid-19 lockdowns brought an influx of visitors to national parks. Parks & Wldlife Finland launched an Outdoor Etiquette campaign to mitigate harmful impacts. Drawing: Anna Pakkanen.

6.5 Are neighbours and adjacent communities supportive of protected area management?

2004/5	Good	2023	Good

Overview: In 2023, the assessment asked specifically for information on whether periodic surveys of local attitudes had been undertaken, ideally linked to Advisory Committees/National Parks Boards where these exist, and how the results impact management. Also, how protected area values to local communities are assessed, interpreted and shared (see also question 1.5). How do people who work for PWF regard Indigenous and local communities and their interests in the protected area system and what do people who work for PWF think of the local and traditional knowledge and practices of Indigenous and local communities?

Showing positive socio-economic impacts of outdoor recreation and tourism in nature (well-being and health, local employment and income) has supported positive attitudes towards protected areas, especially national parks. Positive impacts of restoration and habitat management (e.g., traditional agricultural environments) have made the public more supportive of protected areas. General public awareness and attitudes toward conservation and (already established) protected areas have become more positive as biodiversity loss and climate change have become part of public discourse. Voluntary conservation measures (protection, habitat restoration and management), within the METSO and HELMI Programmes, have enhanced positive attitudes. As noted above, management planning and natural resource planning are participatory, which gives information on public and stakeholder attitudes toward protected areas and engage the public and stakeholders (see question 2.6). Cooperation is ingrained in the way things are done in Finland, e.g., representatives of many organisations were part of the Finnish CBD delegation at the 15th Conference of the Parties.[2] In north-east Finland, PWF has two studies following the same methodology to find out opinions of locals towards nature conservation and nature-based tourism (Konu & Kajala 2012, Pietilä et al. 2014).

Discussion: PWF reported that surveys of local/stakeholder attitudes are done in connection to natural resource and site management planning. Most neighbours and communities are supportive of protected area management (Suomen luonnonsuojeluliitto 2023, Virtanen 2022). Local communities views regarding protected areas' values are assessed, interpreted and shared as part of the management planning process.

PWF noted that in the management planning process, a cooperation group (and thematic groups if needed) is established. In these cooperation groups, there is always

[2] Editorial note: The participants of the official Finnish delegation were: Minister of the Environment and Climate Change, Ministry of the Environment, Embassy of Finland to Canada, Ministry for Foreign Affairs, Ministry of Finance, Ministry of Agriculture and Forestry, Ministry of Social Affairs and Health, Finnish Environment Institute, Natural Resources Institute Finland, Parks & Wildlife Finland, Chair of the Finnish Nature Panel, Sámi Parliament, Finnish National Youth Council Allianssi, Finnish Association for Nature Conservation, WWF Finland, Finnfund (Finnish development financier and impact investor), Confederation of Finnish Industries, Central Union of Agricultural Producers and Forest Owners, Finnish Innovation Fund Sitra, S Group (customer-owned Finnish network of companies in the retail and service sectors), UPM (Finnish forestry company). The delegation had 50 participants in total.

representation of the local stakeholders. Thus, local knowledge informs the planning process. In the Sámi Homeland, the Akwé: Kon working group (see Box 17) brings traditional knowledge into the planning process. As an example, in the natural resource plan process in the Sámi Homeland, workshops were held for youth and for tourism entrepreneurs. A map-based tool, Maptionnaire, is used in the management planning process in order to find out information and preferences from different user groups depending on the area. In reindeer herding cooperative areas (see Figure 7), it is vital to gather local information regarding the sites that are important for reindeer such as calving sites and sites for marking and slaughtering. These sites can then be avoided in planning of, for example, campfire sites and trails. In the Sámi Homeland, it is also important to take into account sacred sites based on local knowledge as well as receive information from the Sámi Museum regarding local cultural heritage.

One criticism from stakeholders was a lack of consistency and clear rationale in terms of approaches to management across the national parks. Whilst different parks have different pressures and sensitivities, there should be clear, well communicated principles for the application of different forms of management and regulation or application of rules nationwide.

Access and use are relevant here. It was noted in the METT assessments that access restrictions are missing in some of the electronic/map services (e.g., the Excursion map) which are regularly used by outdoor recreational users (on land and sea) in protected areas. Having access restrictions marked directly on the electronic maps could make it easier for people to note their existence and further reduce the cases in which restrictions are neglected by accident. Attitudes to use are also changing. It was reported that there were complaints about controls for off-road vehicles, but also that these tended to come from older people, while younger users were more satisfied. However, the younger generation are increasingly interested in the use of mountain bikes and the number of trails officially available are probably insufficient, which is also contributing to rule-breaking such as riding in more sensitive areas; the evaluation team observed this on the field trip. Strategies on access and use thus need to be regularly reviewed as demographics change.

Recommendations:

- An objective identification of key areas of conflict in relation to PWF objectives and wider aspiration of other land use sectors and Metsähallitus in general, noting the goals and commitments of the GBF and EU Biodiversity Strategy.
- Establish a public and an internal compliance system.

6.6 Are cultural heritage assets protected?

2004/5	Good	2023	Good to very good

PWF self-assessment score in 2023: Good

Overview: The 2023 assessment focused on a systematic inventory of cultural heritage and on the condition of cultural heritage assets. The assessment also asked if relevant property/access/use rights of Indigenous and local communities are clearly defined and documented in relation to the protected area system and if rights holders are generally aware of their rights, and able to exercise them.

About 1,000 protected cultural sites/features are located in PWF managed areas, all have some level of legal protection although only a few are under active management. Some of them are maintained by associations. PWF maintains about 600 historic buildings and structures and over 330 archaeological sites; of these 500

historic buildings and structures and about 200 archaeological sites are protected under legislation, and about 140 historic buildings and structures and 50 or so archaeological sites are of major value. They range from Sámi reindeer round-up sites in northern Lapland to old dwellings in the southwest archipelago. Most of the maintained cultural heritage buildings are forest rangers' homes and old crofts, loggers' cabins and open wilderness huts, fisherman's cabins and meadow barns. PWF cares for over 5,000 hectares of traditional agricultural landscapes and biotopes with the help of volunteers. Heritage farms combine the active preservation of nature and cultural heritage with, for example, the conservation of heritage plant species.

Responsibility for cultural sites is split between the Ministry of Environment for buildings and the Ministry of Education for archaeological sites. Some national parks explicitly identify protection of cultural heritage within their aims, for example Archipelago National Park.

Cultural assets can be tangible or intangible. For the Sámi, place names provide the basis for the transmission of a cultural landscape. Because of the western cartographic tradition, the Sámi place names were replaced long ago by Finnish ones. PWF thus commissioned several studies to reinstate Sámi place names.

Discussion: A systematic inventory of cultural heritage within the Finnish protected area system has been developed. The condition of cultural heritage assets is monitored and reported. There is a planned approach to management underway at most sites and deterioration of assets is being redressed. PWF reports that about 12% of the actively managed valuable cultural heritage features are in poor condition. Many of these are

Korteniemi Heritage Farm in Liesjärvi National Park. During summer, life on the old forest ranger's estate is like it was in the 1910s. Photo: Outi Mäenpää.

buildings and structures situated in the coastal area. Some have come with state-owned land transferred to PWF from other state organisations (e.g., defence forces) during the past decade, without adequate financial support for maintenance. Some of these cultural historical properties are very expensive to maintain. There is a maintenance backlog, and a detailed evaluation of this is being carried out during 2023.

For a nature conservation organisation to be the main manager of cultural sites is unusual and needs clarification and an overall strategy. Responsibility for three castles, a fortress and some national urban parks all require potentially large budget outlays, and this seems particularly problematic in the face of uncertain budget allocations.

It was noted in the METT assessment that information on cultural heritage sites in the Sámi Homeland protected areas is quite scarce because no comprehensive inventories have been made in the area. However, no direct threat has been recognised that would demand immediate surveys of the area. As a rule, before PWF plans and constructs any structures or trails, the surroundings are checked for cultural heritage sites and nature values and the plans are altered if necessary.

Recommendations:

- There is a need for an overall strategy on how to manage cultural assets, considering budgetary implications and linkages to PWF's mission statement.
- While built cultural heritage is generally being addressed carefully, the evaluation team felt that some of the living cultural heritage of Finland could be made more of in terms of interpretation, special events and attention, such as aspects of the Sámi culture, other traditional reindeer herding, some traditional fishing activities, etc.

NEW QUESTION 6.7 Is ecosystem functionality and health being maintained?

2023	Good

Overview: This new question for 2023 asked if a strategy has been developed to use monitoring data more systematically and within an overall adaptive management strategy.

Discussion: The PWF self-assessment noted that monitoring of ecosystem functionality and health is taking place but is not extensive enough. A strategy has been developed to use monitoring data systematically within an overall adaptive management strategy by bringing together the comprehensive NATA site condition assessments with monitoring of restoration and habitat management impacts.

There is not yet a system for reviewing the status and management regime for areas with high conservation values, not designated as protected areas. There has been work on the OECM concept (see 2.7) but applying these principles is only beginning. Discussion is ongoing about different conservation options in connection to EU pledges.

Overall, PWF has been doing a good job enhancing target ecosystems, such as peatlands through special projects, but as noted in many places above, an overall strategic approach is missing, meaning that some habitats (for instance water catchments) are not being so well conserved. It is recognised that just working at a protected area level minimises the ability to influence the whole system.

Recommendations: As noted before (see question 1.2), a discussion about the wider role of PWF and Metsähallitus in conserving biodiversity in Finland is needed, specifically in relation to the 30x30 targets and, for example, designations of OECMs which could significantly contribute to ecosystem functionality and health.

Conclusions

The assessment shows, that Finland has an impressive protected area system. But there is always room for improvement, and the evaluation team hopes that the suggestions made in this report will prove useful. The analysis comes at a critical juncture for protected areas around the world. The ambitious targets agreed by Parties to the CBD in late 2022 are coming at a time of unusually high international tensions, increased pressures from climate change and budget cuts for conservation in many countries. Meanwhile, protected area agencies are in many places faced with the challenge of increased expectations: to expand the protected area systems with an increasing focus on conservation quality, to take on new responsibilities (especially related to the visitor and tourism sectors), to be more efficient, more effective and to ensure equity and inclusivity. All conservationists need to be increasingly strategic and smart, focusing on priorities, maintaining staff morale and building partnerships that can help overcome some of the capacity and resource shortfalls.

Being bold enough, and finding the resources from cash-strapped budgets, to undertake assessments such as the one carried out this year in Finland shows real leadership and commitment to improve even the most well-run organisations. By bringing in fresh ideas, global expertise and just finding the time to discuss how an organisation does things and how it could possibly do things better, the evaluation team hope this report has met the expectation of PWF.

Writing a long report is of course just the start. The whole point of such exercises is to review, learn and adapt. The project planning for this external evaluation of PWF has thus gone hand in hand with planning for implementation of the results. This will take a phased approach with the main actions summarised below.

- Review the findings and recommendations with senior management from Metsähallitus and PWF and responsible ministries. The recommendations will be categorised using the idea of the "Eisenhower matrix" (Figure 28), with each task being identified and categorised into the separate quadrants. Actions will then be developed to implement the tasks according to the results of the evaluation.
- A short policy brief will be developed in Finnish and translated into English

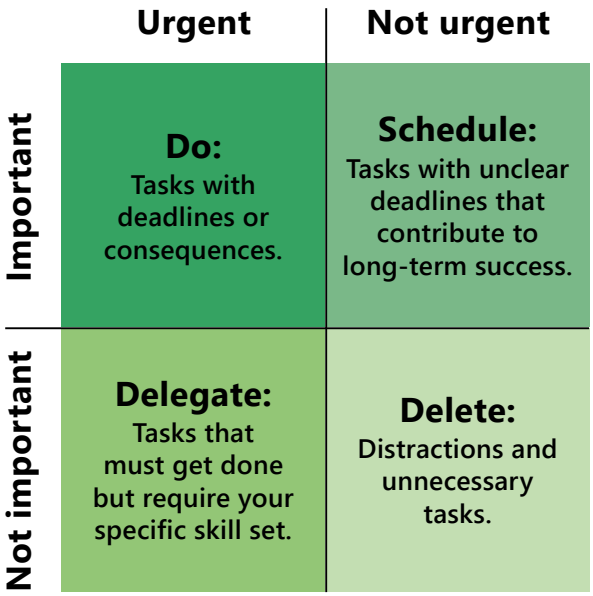


Figure 28. The decision-making "Eisenhower matrix".
Alternative text of the figure. Matrix quadrants for prioritising tasks and consequent actions are defined as follows: 1) Do first: tasks that are important and urgent, with deadlines or consequences 2) Schedule then: tasks that are important but less urgent, with unclear deadlines that contribute to long-term success. 3) Delegate tasks that are not so important but are urgent, must get done but don't require your specific skill set and 4) Delete tasks that are not important nor urgent, and thus distractions and unnecessary.

outlining the report's findings and responses.
- The evaluation team's Recommendations overview will also be translated in Finnish for PWF staff and key stakeholders (e.g., steering ministries, Metsähallitus Management Group and Board of Directors).
- Several webinars will be organised with the evaluation team and key constituencies (e.g., PWF senior management, site staff, other conservation organisations) to discuss the findings and next steps.
- The report will be fully designed and released with a communications strategy including highlighting the findings in the Metsähallitus annual report for 2023.
- The evaluation objectives, process, report and implementation plans will be disseminated beyond Finland as an example of international best practices through forums such as the EU and the World Protected Areas Leadership Forum (which is being hosted by Finland in 2024).

The evaluation team is delighted that such forward thinking is already taking place. And it is hoped that the team's efforts in 2023 will play a small part in ensuring the long-term conservation of biodiversity in Finland through an effectively conserved, efficiently managed, ecologically representative, well-connected and equitably governed system of protected areas.

Celebrating Finnish Nature Day in Koli National Park. Finland is the first country to commemorate a day to nature. It is also an official flag day. Photo: Joel Heino.

References

CBD Secretariat: Kunming-Montreal Global Biodiversity Framework. – <cbd.int/gbf>

Convention on Biological Diversity 2006: Article 2. Use of Terms. – <cbd.int/convention/articles/?a=cbd-02>.

— 2022: Conference of the parties to the Convention on biological diversity. Montreal, Canada 18 December 2022. – <cbd.int/doc/c/e6d3/cd1d/daf663719a03902a9b116c34/cop-15-l-25-en.pdf>. 14 pp.

Council of Oulu Region 2021: Towards a carbon neutral Northern Ostrobothnia – Northern Ostrobothnia Climate Roadmap 2021-2030. <storymaps.arcgis.com/stories/a25cd03a045e4543bc46379a28d69ee6>.

Dudley, N. (ed.) 2008: Guidelines for Applying Protected Area Management Categories. – IUCN, Gland, Switzerland. 143 pp.

Equilibrium Research 2023: System-level evaluation of protected area management effectiveness for Parks & Wildlife Finland (PAME). – Equilibrium Research, Bristol, UK.

European commission 2020: A new report to support MSP in Finland. – European MSP Platform. <maritime-spatial-planning.ec.europa.eu/news/new-report-support-msp-finland>.

— 2023a: Biodiversity strategy for 2030. – <environment.ec.europa.eu/strategy/biodiversity-strategy-2030_en>.

— 2023b: Managing and protecting Natura 2000 sites. – <environment.ec.europa.eu/topics/nature-and-biodiversity/natura-2000/managing-and-protecting-natura-2000-sites_en>.

Farming and Wildlife Advisory Group SW (FWAG SW), Somerset Wildlife Trust (SWT), Somerset Council & Somerset Rivers Authority 2023: Somerset Trails. – <adaptingthelevels.com/somerset-trails>.

Finnish Environment Institute 2019a: Saimaa Ringed Seal – *Pusa hispida saimensis*. Assessment 2019. – <punainenkirja.laji.fi/en/results/MX.289298?checklist=MR.424>.

— 2019b: Arctic fox – *Vulpes lagopus*. Assessment 2019. – <punainenkirja.laji.fi/en/results/MX.46542?checklist=MR.424>.

— 2022: Towards coherent protected area network in Finland (KOKASU). – <syke.fi/en-US/Research__Development/Research_and_development_projects/Projects/Towards_coherent_protected_area_network_in_Finland_KOKASU>.

— 2023a: Finnish inventory programme for underwater marine diversity. – <ymparisto.fi/en/nature-waters-and-seas/natural-diversity/conservation-and-research-programmes/velmu-programme>.

— 2023b: Suojelualueverkoston suunnittelu muuttuvassa ilmastossa (SUMI). – <syke.fi/hankkeet/sumi>.

— 2023c: Red List for Finnish species. – <ymparisto.fi/en/nature-waters-and-seas/natural-diversity/diversity-species/threat-level-assessments-species#:~:text=The%20online%20service%20of%20the,causes%20for%20Red%20List%20status>.

Gilligan, B., Dudley, N., Fernandez de Tejada, A. & Toivonen, H. 2005: Management Effectiveness Evaluation of Finland's Protected Areas. – Metsähallitus, Helsinki, Finland.

GO FAIR 2023: FAIR Priciples. – <go-fair.org/fair-principles>.

Heinonen, M. (ed.) 2013: Applying IUCN Protected Area Management Categories in Finland. – Metsähallitus, Natural Heritage Services, Helsinki, Finland.

— 2014: Finland (case study). – In: Stolton, S., Redford, K. H. & Dudley, N., The Futures of Privately Protected Areas. Gland, Switzerland: IUCN.

— (ed) 2016: Principles of Protected Area Management in Finland. – Nature Protection Publications of Metsähallitus. Series B 217. 143 pp.
— & Alanen, A. (eds.) 2022: Suojelualueverkostoa tukevat luonnon monimuotoisuutta turvaavat alueet Suomessa : OECM-työryhmän ehdotus. – Ympäristöministeriön julkaisuja 2022: 16. <urn.fi/URN:ISBN:978-952-361-393-5>.
Hockings, M., Stolton, S., Leverington, F., Dudley, N., Courrau, J. & Valentine, P. 2006: Evaluating Effectiveness: A framework for assessing management effectiveness of protected areas. 2nd edition. – IUCN, Gland, Switzerland & Cambridge, UK. xiv + 105 pp.
Interagency Council 2022: Visitor Use Management Overview. – <visitorusemanagement.nps.gov/VUM/VumOverview>.
International Institute for Environment and Development 2023: Site-level assessment of governance and equity (SAGE). – <iied.org/site-level-assessment-governance-equity-sage>.
ISO Committee 2023: ISO/TC 207/SC 1: Climate change – how ISO 14001 helps including with adaptation. – <committee.iso.org/sites/tc207sc1/home/projects/ongoing/supporting-environmental-and-bus/climate-change-and-iso-1.html>.
IUCN-WCPA Task Force on OECMs 2019: Recognising and reporting other effective area-based conservation measures. – IUCN, Gland, Switzerland.
Jonas, H. D., Ahmadia, G. N., Bingham, H. C., Briggs, J., Butchart, D. H. M., Cariño, J., Chassot, O., Chaudhary, S., et al. 2021: Equitable and effective area-based conservation: towards the conserved areas paradigm. – PARKS 27 (1): 71–84. 10.2305/IUCN.CH.2021.PARKS-27-1HJ.en.
Johnson, D. M. & Haynes, K. J. 2023: Spatio-temporal dynamics of forest insect populations under climate change. – Current Opinion in Insect Science 56: 101020.
Juntunen, S. & Stolt, E. 2013: Akwé: Kon -ohjeiden soveltaminen Hammastunturin erämaa-alueen hoito- ja käyttösuunnitelmassa. Loppuraportti / Akwé: Kon -rávvagiid heiveheapmi Bátneduoddara meahcceguovllu dikšun- ja geavahanplánas. Loahpparaporta / Application of Akwé: Kon Guidelines in the Management and Land Use Plan for the Hammastunturi. Final Report. – Metsähallitus, Vantaa. <julkaisut.metsa.fi/wp-content/uploads/sites/2/2013/11/akwekonraportti2013.pdf>. 72 pp.
Konu H. & Kajala L. 2012: Segmenting protected area visitors based on their motivations. – Nature Protection Publications of Metsähallitus. Series A 207. <julkaisut.metsa.fi/wp-content/uploads/sites/2/2013/08/a194.pdf>. 72 pp.
— , Neuvonen, M., Mikkola, J., Kajala, L., Tapaninen, M. & Tyrväinen, L. 2021: Suomen kansallispuistojen virkistyskäyttö 2000–2019. [Recreational use of the Finnish national parks in 2000–2019. – Metsähallituksen luonnonsuojelujulkaisuja. Sarja A 236. <julkaisut.metsa.fi/wp-content/uploads/sites/2/2022/02/a236.pdf>. 131 pp.
Kuusela, S. 2018: Introducing the project: Finnish protected area network in a changing climate (SUMI). – Poster in Conservation of Arctic Flora and Fauna (CAFF) Congress 2018. <arcticbiodiversity.is/index.php/program/posters/260-introducing-the-project-finnish-protected-area-network-in-a-changing-climate-sumi?category_access=1>.
Kuusisto-Hjort, P. 2011: Matalajärven valumavesien hallintasuunnitelma. – Espoon kaupunkisuunnittelukeskuksen julkaisuja 2/2011. <static.espoo.fi/cdn/ff/9VK9bOAYC58I6mFI4GVzVA1FISM_r7UWlHf6a7c5NHE/1624973075/public/2021-06/Matalaj%C3%A4rven%20valumavesien%20hallintasuunnitelma%202011.pdf>. 57 pp.

Lopoukhine, N. & Ferreira de Souza, B. 2012: What does Target 11 really mean? – PARKS 18 (1): 5–8.

Mac Dougall, D. 2023: 'Sad, angry, betrayed and empty': Sanna Marin's human rights reforms for indigenous Sámi fails. – Euronews 24.2.2023. <euronews.com/2023/02/24/sad-angry-betrayed-and-empty-sanna-marins-human-rights-legislation-for-indigenous-sami-fai>.

Metsähallitus 2023a: Annual and Responsibility Report 2022: Towards a carbon neutral, ecologically sustainable and equal society. – Metsähallitus, Helsinki, Finland. 148 pp.

— 2023b: Everyman's Right. – Website of Metsähallitus. <nationalparks.fi/everymansright>.

— 2023c: Suojelualueiden hoidon ja käytön periaatteet. [Principles of Protected Area Management in Finland]. – Metsähallituksen luonnonsuojelujulkaisuja. Sarja B 272. <julkaisut.metsa.fi/wp-content/uploads/sites/2/2023/10/b272.pdf>. 247 pp.

— 2023d: Lundui.fi web site. – Website of Metsähallitus. <lundui.fi>.

— 2023e: Responsibility Policy steers joint activities. – Website of Metsähallitus.<metsa.fi/en/about-us/compliance-and-governance/policys>.

— 2023f: A three-million-hectare project: Remote sensing Northern Lapland. – Website of Metsähallitus. <metsa.fi/en/project/remote-sensing-northern-lapland>.

— 2023g: Principles of Sustainable Tourism. – Website of Metsähallitus. <metsa.fi/en/responsible-business/nature-tourism-and-sustainability/principles-of-sustainable-tourism>.

— 2023h: Outdoor Etiquette. – Website of Metsähallitus. <nationalparks.fi/hikinginfinland/visitorguidelines>.

— 2023i: Litter. – Website of Metsähallitus. <nationalparks.fi/hikinginfinland/visitorguidelines/litter>.

— 2023j: Visitation Numbers. – Website of Metsähallitus. <metsa.fi/en/outdoors/visitor-monitoring-and-impacts/visitation-numbers-and-visitor-profiles>.

— 2023k: Economic Benefits from National Parks. – Website of Metsähallitus. <metsa.fi/en/economic%20benefits%20of%20national%20parks>.

— 2023l: Health Benefits from National Parks. – Website of Metsähallitus. <metsa.fi/en/outdoors/nature-and-health/health-benefits-from-national-parks>.

— & Saamelaiskäräjät 2020: Toimintamalli Akwé: Kon -ohjeiden soveltamisesta Metsähallituksen ja Saamelaiskäräjien välisessä yhteistyössä / Doaibmamálle Akwé: Kon -rávvagiid heiveheamis Meahciráđđehusa ja Sámedikki gaskasaš ovttasbarggus / Toimâmalli Akwé: Kon -ravvui heiviitmist Meccihaldâttâs já sämitige koskâsâš ohtsâšpargoost / Tuåimmjem-mall Akwé: Kon -vuäppõõzzi suåvvtummšest Meä'cchalltõõzz da Sää'mtee'ğğ kõskksaž õhttsažtuâjast. – Metsähallitus, Vantaa. <julkaisut.metsa.fi/wp-content/uploads/sites/2/2023/04/akwekon_toimintamalli.pdf>. 44 pp.

— & Sámi Parliament 2023: Akwé: Kon operating model's application in the cooperation between Metsähallitus and the Sámi Parliament. – Metsähallitus, Vantaa. <julkaisut.metsa.fi/wp-content/uploads/sites/2/2023/07/akwekon_operating-model.pdf>. 12 pp.

Ministry of Agriculture and Forestry 2023a: Information on invasive alien species in Finland. – Vieraslajit.fi website. <vieraslajit.fi>.

— 2023b: National Climate Change Adaptation Plan 2030. – <mmm.fi/en/nature-and-climate/climate-change-adaptation/national-climate-change-adaptation-plan-2030>.

Ministry of Justice 2023: Lausuntopalvelu.fi. – <lausuntopalvelu.fi>.

Pietilä, M., Saarinen, J., Virkkunen V. & Kesälä M. 2014: Tourism and Nature Conservation in Koillismaa Region, Northern Finland. – Nature Protection Publications of Metsähallitus. Series A 207. <julkaisut.metsa.fi/wp-content/uploads/sites/2/2014/09/a207.pdf>. 56 pp.

Protected Planet 2022: Management Effectiveness (PAME). – IUCN. <protectedplanet.net/en/thematic-areas/protected-areas-management-effectiveness-pame?tab=METT>.

Pöyry, J., Paukkunen, J., Heliölä, J. & Kuusaari, M. 2009: Relative contributions of local and regional factors to species richness and total density of butterflies and moths in semi-natural grasslands. – Oecologia 160: 577–587.

Rodrigues, A. S. L. & Cazalis, V. 2020: The multifaceted challenge of evaluating protected area effectiveness. – Nature Communications 11, 5147. DOI: 10.1038/s41467-020-18989-2

Secretariat of the Convention on Biological Diversity 2004: Akwé: Kon Voluntary Guidelines for the Conduct of Cultural, Environmental and Social Impact Assessment regarding Developments Proposed to Take Place on, or which are Likely to Impact on, Sacred Sites and on Lands and Waters Traditionally Occupied or Used by Indigenous and Local Communities. Montreal.

Skolt Sámi Cultural Foundation 2024: Skolt Sámi website. – <kolttasaamelaiset.fi/en>.

Stolton, S., Shadie, P. & Dudley, N. 2013: IUCN WCPA Best Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types. Best Practice Protected Area Guidelines Series No. 21, Gland, Switzerland – a reprint of the 2008 guidelines with additional guidance on assignment of categories.

— , Redford, K. H. & Dudley, N. 2014: The Futures of Privately Protected Areas. – IUCN, Gland, Switzerland.

— , Dudley, N. & Hockings, M. 2021: METT Handbook: A guide to using the Management Effectiveness Tracking Tool (METT). Second edition guidance for using METT-4. – WWF, Gland, Switzerland.

Suomen luonnonsuojeluliitto 2023: Inarin luonnonystävät esittää perustettavaksi Inarijärven kansallispuiston. – Suomen luonnonsuojeluliiton tiedote 10.2.2023. <sll.fi/inari/2023/02/10/inarijarven-kansallispuisto>.

Tammilehto, A., Härmä, P., Kallio, M., Törmä, M., Saikkonen, A., Tuominen, S., Impiö, M., Heikkinen, M., Kervinen, M., Jussila, T., Böttcher, K., Pääkkö, E., Kokko, A., Mäkelä, K. & Anttila, S. 2024a: Ylä-Lapin luonnon kaukokartoitus – Projektin loppuraportti osa 1 – Aineistot ja menetelmät. – Metsähallituksen luonnonsuojelujulkaisuja. Sarja A 248. 103 pp.

Tammilehto, A., Saikkonen, A., Pääkkö, E., Tuominen, S., Mäkelä, K., Kokko, A., Härmä, P., Kallio, M., Heikkinen, M., Impiö, M., Törmä, M. & Anttila, S. 2024b: Ylä-Lapin luonnon kaukokartoitus – Projektin loppuraportti osa 2 – Luontotyypit. – Metsähallituksen luonnonsuojelujulkaisuja. Sarja A 249. 59 pp.

UNEP-WCMC 2023: Protected Area Profile for Finland from the World Database on Protected Areas, July 2023. – <protectedplanet.net>.

Virtanen, J. 2022: Suomalaisten suhtautuminen metsien suojeluun koki ison muutoksen – yhä useampi päättää suojella metsänsä. – Ilta-Sanomat 26.12.2022. <is.fi/kotimaa/art-2000009290128.html>.

Visit Finland 2023a: Finland – sustainable travel destination. – <travel-trade.visitfinland.com/en/sustainability>.

Visit Finland 2023b: Suomen matkailudata – Matkailun tilastot. – <visitfinland.fi/suomen-matkailudata>.

Appendices

Appendix 1 Summary of system level questionnaire

The network-level questions/issues which form the basis of this report and the evaluation process in 2023 builds on the assessment undertaken in 2004 (and reported in 2005). There was some minor editing of the 2004 questions/issues and some new questions/issues were added. In addition, specific issues were highlighted for each question to guide the gathering and presentation of information on management.

In addition, the assessment aimed to consider some overarching issues, including:

- Reflect past actions, but also be forward-looking to show the networks likely effectiveness in coming years. Much will have changed over the last nearly 20 years and not all recommendations from 2004/5 will now be relevant.
- The 2020s have seen a range of ambitious new global and EU-level biodiversity agreements; consider emerging law and policy and preparedness for it.
- Is management sufficiently linked to Metsähallitus' vision?
- Consider the flexibility, resilience and adaptation of the system.
- Although the assessment will result in a narrative report, consider how data and new technologies are being used.
- Are monitoring and assessment systems reflective of the overall ambition/vision for protected areas?

The questions and evaluation criteria are summarised below. The full 2023 methodology Finland PAME 2005-2023 system assessment (pdf, 4 MB, julkaisut.metsa.fi).

1 Context

1.1 Is there a clearly articulated vision, plan and strategy, for the ongoing development and management of the Finnish protected area system within Parks and Wildlife Finland?

Poor:	No articulated vision, plan and strategy. Identification of values is incomplete and general and of little value for protected area design and management.
Fair:	Limited vision, plan and strategy articulated. Identification of values is complete but there is insufficient detail for protected area design and management.
Good:	Clear national vision, plan and strategy articulated. Identification of values is complete and there is sufficient detail on most values to guide protected area design and management.
Very good:	National vision, plan and strategy articulated with strong linkage to European context and international commitments. Identification of values is complete and there is sufficient detail on all values to guide reserve design, and strategic and day-to-day management.

1.2 Does the legislative framework adequately support the effective functioning of the protected area system?

Poor: Legislative framework is an impediment to effective functioning of the protected area system.
Fair: Legislative framework permits functioning of protected area system albeit with frequent and widespread problems.
Good: Legislative system provides for effective functioning of the protected area system within constraints.
Very good: Legislative and administrative framework supports and encourages effective functioning of the protected area system.

1.3 Is there a cohesive and nationally coordinated approach to protected area management?

Poor: Lack of cohesion and coordination obstruct effective management.
Fair: Limited cohesion and coordination cause frequent and widespread problems.
Good: Cohesion and coordination are sufficient to permit effective management of most sites.
Very good: Cohesion and coordination support effective management of all sites.

1.4 Is transboundary and regional cooperation established and maintained in a manner which supports effective management of Finnish protected areas?

Poor: Lack of cohesion and coordination obstruct effective management.
Fair: Limited cohesion and coordination cause frequent and widespread problems.
Good: Cohesion and coordination are sufficient to permit effective management of most sites.
Very good: Cohesion and coordination support effective management of all sites.

1.5 Are the values of the protected area system well documented, assessed and monitored?

Poor: Values not systematically documented, assessed or monitored.
Fair: Values generally identified but not systematically assessed and monitored.
Good: Most values systematically identified and assessed and monitored for most sites.
Very good: All values systematically identified and assessed and monitored for all sites.

1.6 Are the threats to protected area system values well documented and assessed?

Poor: Threats not systematically documented or assessed.
Fair: Threats generally identified but not systematically assessed.
Good: Most threats systematically identified and assessed for most sites.
Very good: All threats systematically identified and assessed for all sites.

1.7 Are the objectives of Natura 2000 (N2000) sites and the protected area system fully harmonised in terms of their conservation objectives and planned measures?

Poor: There are significant challenges between N2000 and national objectives that are not likely to be solved in the long term.

Fair: N2000 sites objectives are in general harmonised at the level of target species and habitats, but objectives and measures are not aligned appropriately.

Good: N2000 target species and habitats are aligned with national targets in protected areas as well as planning process, there are only minor challenges in the field planning and implementation.

Very good: N2000 and national protected areas are fully harmonised including planning documents and measures implemented in the field.

1.8 Do Finnish protected area management objectives harmonise with wider cultural objectives including those relating to the Sámi?

Poor: Objectives contradictory.

Fair: Objectives neither contradict nor support wider cultural objectives.

Good: Most objectives generally mutually supportive.

Very good: All objectives mutually supportive.

1.9 Has the Global Biodiversity Framework and the EU Biodiversity Strategy 2030 been considered at the network level and linked to the vision of the Finnish protected area system?

Poor: No amendment of the vision, plan or strategy, has been planned.

Fair: Discussions are taking place with the aim of amending the vision, plan and strategy.

Good: Goals are included into the national vision, plan and strategy, but no implementation has taken place.

Very good: Goals are included into the vision, plan and strategy, and implementation has begun.

1.10 Is the protected areas network well placed to implement the EU Nature Restoration Law proposal?

Poor: No process leading to inclusion of the Nature Restoration Law proposals in the vision, plan or strategy, has been discussed.

Fair: Discussions on the process to include the Nature Restoration Law proposals into the vision, plan and strategy have begun but no concrete actions taken.

Good: There is agreement of a process to include the Nature Restoration Law proposals into the protected areas system and network vision, plan and strategy.

Very good: The Nature Restoration Law proposals are already covered by the protected areas system and network vision, plan and strategy.

1.11 Do protected area objectives harmonise with wider environmental policy and vice versa?

Poor: Wider environmental policy is an impediment to the effective functioning of the protected area system.

Fair: The wider environmental policy permits the functioning of the protected area system albeit with frequent and widespread problems.

Good: The wider environmental policy provides for effective functioning of the protected area system within constraints.

Very good: The wider environmental policy supports and encourages effective functioning of the protected area system.

2 Planning

2.1 Are protected areas identified and categorised in an organised system?

Poor: Protected areas not categorised or systematically organised.

Fair: Protected areas generally categorised but not systematically organised.

Good: Most protected areas categorised and systematically organised.

Very good: All protected areas categorised and systematically organised.

2.2 Are individual protected areas designed and established through a systematic and scientifically based process, aligned with the strategic vision for protected areas?

Poor: protected area design and establishment totally ad hoc.

Fair: protected area design and establishment generally systematic but not scientifically based but there is little link with the strategic vision for protected areas.

Good: Design and establishment of most protected areas is systematic and scientifically based, and is linked to the strategic vision for protected areas, but linkages could be better.

Very good: Design and establishment of all protected areas systematic and scientifically based, and is linked to the strategic vision for protected areas.

2.3 Are established protected areas covered by comprehensive management plans and are these aligned to the strategic vision?

Poor: No relevant management plans in place.

Fair: Some management plans exist but are not comprehensive and are not aligned to the strategic vision.

Good: Most protected areas are covered by management plans which are comprehensive and fairly well aligned to the strategic vision.

Very good: All protected areas have management plans which are comprehensive and are aligned to the strategic vision.

2.4 Are management plans routinely and systematically updated?

Poor: No process in place for systematic review and update of plans.

Fair: Few management plans routinely and systematically updated.

Good: Most management plans routinely and systematically updated.

Very good: All management plans routinely and systematically updated.

2.5 Are protected areas located in places with the highest/most threatened biodiversity and/or other important values?

Poor: Protected area locations are unrelated to level of threat to biodiversity and other values.

Fair: Some protected area locations cover areas with most highly threatened biodiversity and other values.

Good: Most protected area locations cover areas with the most highly threatened biodiversity and other values.

Very good: All protected area locations cover areas with highly threatened biodiversity and other values.

2.6 Are stakeholders given an opportunity to participate in management planning and designation?

Poor: Little if any opportunity for stakeholder participation in management planning and designation.

Fair: Stakeholders participate in some management planning and designation.

Good: Stakeholders participate in most management planning and designation.

Very good: Stakeholders routinely and systematically participate in all management planning and designation.

2.7 Are individual protected areas integrated into a wider ecological network following the principles of the ecosystem approach?

Poor: Protected areas not integrated into a wider network.

Fair: Some limited attempts to integrate protected areas into a network.

Good: Protected areas are generally quite well integrated into a network.

Very good: Protected areas are fully integrated into a wider network.

3 Resources

3.1 Are personnel and resources well organised and managed with access to adequate resources?

Poor: Few, if any, resources explicitly allocated for protected area management.

Fair: Some resources explicitly allocated for protected area management but not systematically linked to management objectives.

Good: Most protected areas or groups of protected areas have adequate resources explicitly allocated towards achievement of specific management objectives.

Very good: All protected areas or groups of protected areas have adequate resources explicitly allocated towards achievement of specific management objectives.

3.2 How have resourcing levels varied with increases in protected areas in recent years?

Poor: Resourcing levels have remained static or reduced.

Fair: Some increase in resourcing levels but not systematically allocated.

Good: Resourcing levels proportionally increased for management of most new areas.

Very good: Resourcing levels routinely proportionally increased for management of all new areas.

3.3 At the protected area level are resources linked to priority actions?

Poor: Resources allocated ad hoc.

Fair: Some specific allocation for management of each protected area or group of protected areas.

Good: Comprehensive formulae systematically applied to decide most resource allocations to most individual protected areas or groups of protected areas.

Very good: Comprehensive formulae systematically applied to decide allocation of resources for management of individual protected areas or groups of areas.

3.4 What level of resources is provided by partners and/or volunteers?

Poor: Partners/volunteers either contribute nothing or are left to do everything in the management of the protected area or group of protected areas.

Fair: Partners/volunteers make some contribution to management of the protected area or group of protected areas but opportunities for collaboration are not systematically explored.

Good: Partner/volunteer contributions are systematically sought and negotiated for the management of most protected areas or groups of protected areas.

Very good: Partner/volunteer contributions are systematically sought and negotiated for the management of all protected areas or groups of protected areas.

3.5 Do protected area managers consider resources to be sufficient?

Poor: Most managers consider resources insufficient for most tasks.

Fair: Some managers consider resources sufficient for most tasks.

Good: Most managers consider resources sufficient for most tasks.

Very good: All managers consider resources sufficient for most tasks.

3.6 Do protected area managers consider the expertise/capacity available to them aligned with the values to be protected or intended outcomes to be provided?

Poor: Most managers do not have access to expertise/capacity necessary to achieve agreed outcomes.

Fair: Managers have limited access to all the expertise/capacity necessary to achieve agreed outcomes.

Good: Managers have access to the expertise/capacity necessary to achieve agreed outcomes, but some gaps remain.

Very good: Managers have access to all the expertise/capacity necessary to achieve agreed outcomes.

4 Process

4.1 Is management performance against relevant planning objectives and management standards routinely monitored, assessed and systematically audited as part of an ongoing "continuous improvement" process?

Poor: No performance management system exists.

Fair: Performance management is only loosely linked to planning objectives and identified management standards.

Good: Most aspects of management performance are routinely assessed and systematically audited with reference to planning objectives and identified management standards.

Very good: All important aspects of management performance are routinely assessed and systematically audited with reference to planning objectives and relevant management standards.

4.2 Is staff performance management linked to achievement of management objectives?

Poor: No linkage between staff performance management and management objectives.

Fair: Some linkage between staff performance management and management objectives, but not consistently or systematically assessed.

Good: Performance management for most staff is directly linked to achievement of relevant management objectives.

Very good: Performance management for all staff is directly linked to achievement of relevant management objectives.

4.3 Is there external and independent involvement in internal audit?

Poor: No external and independent involvement in internal audit.

Fair: Limited external involvement in formulation and implementation of audit and compliance programme but independence questioned by stakeholders.

Good: Significant external involvement in formulation and implementation of audit and compliance programme but independence and or capability of some members of audit committee questioned by some stakeholders.

Very good: Comprehensive external involvement in formulation and implementation of audit and compliance programme and independence and capability of audit committee acknowledged by all key stakeholders.

4.4 Is there effective public participation in protected area management in Finland?

Poor: Little or no public participation in protected area management.

Fair: Opportunistic public participation in some aspects of protected area management.

Good: Systematic public participation in most aspects of protected area management.

Very good: Comprehensive and systematic public participation in all important aspects of protected area management.

4.5 Is there a responsive system for handling complaints and comments about protected area management and policy?

Poor: No systematic approach to handling complaints.

Fair: Complaints handling system operational but not responsive to individual issues and limited follow-up provided.

Good: Co-ordinated system logs and responds effectively to most complaints.

Very good: All complaints systematically logged in coordinated system and timely response provided with minimal repeat complaints.

4.6 Are management systems flexible enough to respond to change, e.g., findings of management effectiveness assessments, monitoring and research results, changes in legislation, new knowledge and understanding.

Poor: Management does not recognise the need to adapt to changing conditions.

Fair: There is awareness that management systems should adapt to change, but processes do not allow this to happen rapidly or effectively.

Good: Management systems are adaptive to change, but this process could be more efficient.

Very good: Management systems are set up to be adaptive to change and have built-in resilience.

4.7 Is the protected area network being consciously managed to adapt to climate change?

Poor: There have been no efforts to consider adaptation to climate change in management of the protected area network.

Fair: Some initial thought has taken place about likely impacts of climate change, but this has yet to be incorporated into planning.

Good: Limited (or ad hoc site by site) planning has taken place about how to adapt management to predicted climate change.

Very good: Detailed plans have been drawn up considering the whole network about how to adapt management to predicted climate change, and these are being implemented.

4.8 Is the protected area network being consciously managed to prevent carbon loss and to encourage further carbon capture?

Poor: Carbon storage and carbon dioxide capture have not been considered.

Fair: Carbon storage and carbon dioxide capture have been considered in general terms but have not yet been significantly reflected in management across the protected area network.

Good: Limited (or ad hoc site by site) measures are in place to reduce carbon loss and increase carbon dioxide capture

Very good: There are active measures in place both to reduce carbon loss from the protected area network and to increase carbon dioxide capture.

4.9 Is planning in place to reduce carbon dioxide emissions in protected area management and related activities?

Poor: Carbon dioxide output has not been considered in management of the protected area network.

Fair: Carbon dioxide output has been considered in general terms but has not yet been significantly reflected in management across the protected area network.

Good: Limited (or ad hoc site by site) measures are in place to assess and reduce carbon dioxide output.

Very good: There are active measures in place across the whole protected area network (e.g., identification and monitoring of emissions, plans and targets to reduce emissions) to reduce carbon dioxide output.

4.10 Are systems in place to assess how people value / understand the value of protected areas?

Poor: No systems are in place to assess how people value / understand the value of protected areas.

Fair: The need to assess how people value / understand the value of protected areas has been considered but little actual assessment has taken place.

Good: Systems are in place to assess how people value / understand the value of protected areas and the results are reflected in strategic planning, but improvements could be made in assessment or implementation.

Very good: Systems are in place to assess how people value / understand the value of protected areas and the results are reflected in strategic planning.

5 Output

5.1 Is adequate information on protected area policy, vision and management publicly available?

Poor: Little or no information on protected area management publicly available.

Fair: Publicly available information is general and has limited relevance to management accountability and the condition of public assets.

Good: Publicly available information provides detailed insight into major management issues for most protected areas or groups of protected areas.

Very good: Comprehensive reports are routinely provided on management and condition of public assets in all protected areas or groups of protected areas.

5.2 Are visitor services appropriate for the relevant protected area category?

Poor: Visitor services and facilities are at odds with relevant protected area category and/or threaten protected area values.

Fair: Visitor services and facilities generally accord with relevant protected area category and don't threaten protected area values.

Good: All visitor services and facilities accord with relevant protected area category and most enhance protected area values.

Very good: All visitor services and facilities accord with relevant protected area category and enhance protected area values.

5.3 Are management related trends systematically evaluated and routinely reported?

Poor: Little or no systematic evaluation or routine reporting of management related trends.

Fair: Some evaluation and reporting undertaken but neither systematic nor routine.

Good: Systematic evaluation and routine reporting of management related trends undertaken for most protected areas or groups of protected areas.

Very good: Systematic evaluation and routine reporting of management related trends undertaken for all protected areas or groups of protected areas.

5.4 Is there a systematic maintenance schedule in place for built infrastructure/assets?

Poor: No systematic inventory or maintenance schedule.

Fair: Systematic inventory undertaken and maintenance schedule in place for some sites.

Good: Systematic inventory provides the basis for maintenance schedule for most sites.

Very good: Systematic inventory provides the basis for maintenance schedule for all sites.

5.5 Does Finland fulfil its monitoring and reporting obligations under European Directives and international conventions?

Poor: There is no monitoring and reporting scheme in place, and few, if any, reporting obligations are fulfilled.

Fair: The national monitoring and reporting scheme is inadequate to fulfil reporting needs.

Good: There is a monitoring and reporting scheme in place, but it is not fully effective and reporting could be improved.

Very good: There is a fully effective monitoring and reporting scheme in place, allowing all reporting needs to be fulfilled to a high standard and in a timely manner.

5.6 Are visitor use trends systematically monitored and reported in protected areas which have tourism as a management objective?

Poor: Little or no systematic evaluation or routine reporting of visitor use trends.

Fair: Some evaluation and reporting of visitor use is undertaken but neither systematic nor routine.

Good: Systematic evaluation and routine reporting of visitor use is undertaken for most protected areas or groups of protected areas.

Very good: Systematic evaluation and routine reporting of visitor use is undertaken.

6. Outcomes

6.1 Are threatened species populations stable or increasing?

Poor: Threatened species populations declining.

Fair: Some threatened species populations declining, most others stable.

Good: Most threatened species populations are increasing, most others stable.

Very good: All threatened species populations are either increasing or stable.

6.2 Are selected indicator species within acceptable ranges?

Poor:	Most selected indicator species are outside acceptable ranges.
Fair:	Many selected indicator species are outside acceptable ranges.
Good:	Most selected indicator species are within acceptable ranges.
Very good:	All selected indicator species are within acceptable ranges.

6.3 Are biological communities at a mix of ages and spacings that will support native biodiversity?

Poor:	Biological communities unlikely to be able to sustain native biodiversity.
Fair:	Some biological communities are likely to be able to sustain native biodiversity.
Good:	Most biological communities are likely to be able to sustain native biodiversity.
Very good:	All biological communities are likely to be able to sustain native biodiversity.

6.4 Are the expectations of visitors generally met or exceeded?

Poor:	Expectations of visitors generally not met.
Fair:	Expectations of many visitors to many sites are met.
Good:	Expectations of most visitors to most sites are met.
Very good:	Expectations of most visitors to all sites are met.

6.5 Are neighbours and adjacent communities supportive of protected area management?

Poor:	Neighbours/adjacent communities are hostile.
Fair:	Key neighbours/communities are supportive.
Good:	Most neighbours/communities are supportive of protected area management for most sites.
Very good:	Most neighbours and communities are supportive of protected area management for all sites.

6.6 Are cultural heritage assets protected?

Poor:	Little or no management undertaken, or despite management efforts, deterioration of cultural heritage assets continues, or values are unknown.
Fair:	Some management activity, but deterioration continues.
Good:	Planned approach to management underway at most sites and deterioration of assets is being redressed.
Very good:	Planned approach to management underway at all sites and deterioration of assets is being significantly redressed.

6.7 Is ecosystem functionality and health being maintained?

Poor:	There is no monitoring of ecosystem functionality and health.
Fair:	Ecosystem functionality and health monitoring is planned or only minimally taking place.
Good:	Monitoring of ecosystem functionality and health is taking place, but is not extensive enough, or not effectively fed back into management, to ensure full maintenance of functionality and health
Very good:	Monitoring of ecosystem functionality and health feeds into adaptive management to ensure functionality and health is maintained.

Appendix 2 Site level Management Effectiveness Tracking Tool (METT) results

As part of the evaluation, the Management Effectiveness Tracking Tool (METT) was used to assess management effectiveness at five selected protected areas across Finland. The assessments were carried out by Parks & Wildlife Finland (PWF) local staff teams, each led by a senior specialist: Kaldoaivi Wilderness Reserve by Pirjo Rautiainen, Oulanka National Park by Teija Turunen, Torronsuo National Park by Mari Laukkanen, Nuuksio National Park by Asko Ijäs and Ekenäs Archipelago National Park by Aija Nieminen. All the selected national PAs are also designated as Natura 2000 sites, with more or less overlapping boundaries.

The first version of METT was published by the World Bank/WWF Alliance for Forest Conservation and Sustainable Use ("the Alliance") in 2002, after a year of development. Since then, four versions have been published "officially", and many individual users have adapted the METT for their own purposes. The METT has become the commonest protected area management effectiveness tool and has been used in over 5,000 protected areas covering over a fifth of the world's terrestrial protected areas (by area) in at least 127 countries. The METT (Protected Planet 2022) is open source, and users are encouraged to adapt as necessary (Stolton et al. 2021).

The METT consists of two main sections: datasheets of key information on the protected area and an assessment form containing a questionnaire with four alternative responses to 38 questions. Each question has an associated score, a data field for notes and a justification for the answers, and a place to list steps to improve management if necessary.

The five METT assessments carried out as part of the system evaluation of PWF provided a wealth of detail which will hopefully be of use to the sites and to PWF as a whole. In general, the evaluation team used the METT assessments as an additional source of site information to support the discussion sections on each system-level question.

Figure 1 provides a summary of the METT scores across all five sites. All areas of management are strong, but site level planning is clearly extremely effective throughout the network; all other elements are sound, but the weakest area when compared with the other management elements is outcomes, as assessed against site objectives.

In addition, a summary of results is provided below along with short outlines of specific management issues from each site, highlighting the diversity of habitats and management across the PWF network of protected areas. The sites are ordered north to south following the order of the evaluation visit (see Appendices 3 and 4).

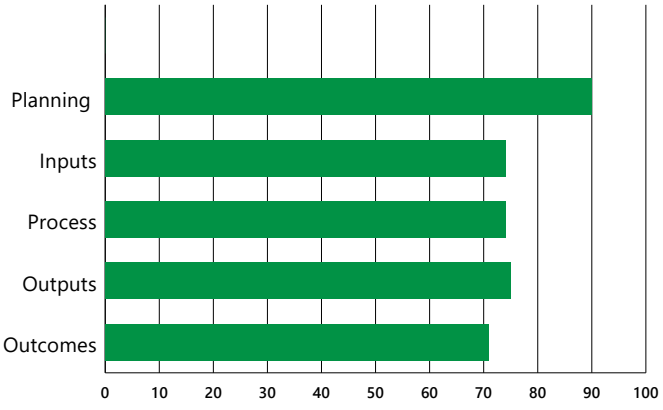


Figure 1. Summary of the METT scores across all five protected areas assessed. The scores are represented as a percentage of the responses for all the questions in each category of the WCPA Framework for the five sites assessed (see Box 3, Figure 7).

A Kaldoaivi Wilderness Reserve (Category Ib)

Overview: Kaldoaivi covers 2 924 km² and protects about 12% of the Sámi Homeland (see Box 11) in the far north of Finland. The area is specifically intended for reindeer herding (see Box 7) and the land may not be used in a manner that would significantly impact reindeer herding. Reindeer owned by four local cooperatives (Kaldoaivi, Näätämö, Muddusjärvi and Vätsäri) graze the area. The Wilderness Reserve is roadless and has remained in a near natural state. Only traditional means of livelihood, such as hunting, fishing, berry picking and reindeer husbandry along with a limited amount of tourism activities can be practised in the area according to legislation. The area is a highland plateau, with open fells and mountain birch forests dominating the landscape. There are some areas of open Scots pine forests in the south of the area and palsa mires occur widely. Endangered Arctic fox and Lesser white-fronted geese are abundant, but do not breed in the area. Many waterfowl and waders breed in large mires and in the numerous lakes. Kaldoaivi is the only place where Myricaria (*Myricaria germanica*) grows in Finland. Atlantic salmon spawns in Näätämöjoki and tributaries of the Tenojoki river and there are several populations of Freshwater pearl mussel (*Margaritifera margaritifera*).

Main values:

- Species included in the Birds Directive and Habitats Directive of the European Union.
- Marshes, small freshwater ponds and streams and bird species living in them.
- Fell habitats.
- Sámi culture including reindeer husbandry and other traditional Sámi livelihoods such as fishing, hunting and handicrafts.
- Nationally important landscape area.

Ecosystem services: Cultural, spiritual and aesthetic, water (quality/quantity), recreation and tourism and wild food including fish.

Management objective 1: To preserve the character of the Wilderness Reserve, secure the Sámi culture and livelihoods, and to develop a sustainable multi-purpose use of nature (in accordance with the Finnish Wilderness Act).

Management objective 2: To safeguard Europe's most valuable and threatened species and habitats, listed under the EU Birds and Habitats Directives (as part of the EU's Natura 2000 network).

Primary threat: Climate change and land use. The caterpillars of geometrid moths have episodic outbreaks, which lead to large defoliation of subarctic mountain birch forests. The grazing pressure by semi-domesticated reindeer has a negative effect on the regeneration (reindeer eat seedlings and saplings) of the defoliated birch forests and may even prevent the regeneration altogether.

Secondary threat: Invasive and problem species. Rising temperatures because of global warming allow the red fox to expand into the habitat of the Arctic fox. The larger and more aggressive red fox has a competitive advantage over the Arctic fox. There is also a serious problem with large influxes of humpback salmon, a non-native salmonid. Atlantic salmon numbers have fallen so low that most fishing of the species has been banned for the past two years. Monitoring of spawning and measures to reduce numbers are being carried out in cooperation with Norwegian authorities.

PWF working with the Sámi

The Act governing Metsähallitus states that the natural resources that Metsähallitus stewards in the Sámi Homeland shall be managed, used and protected in such a way that the preconditions for practising the Sámi culture can be safeguarded. To assess the preconditions for practising the Sámi culture, Metsähallitus and the Sámi Parliament use

Table 1. Overview of status of values in Kadoaivi Wilderness Reserve.

Main value	Condition	Trend	Potential management responses
Species included in the Birds Directive and Habitats Directive of the European Union	Fair	Stable	Culling of red fox population
Marshes, small freshwater ponds and streams and bird species living in them	Fair	Deteriorating	Halt climate change
Sámi culture	Very good	Stable	Halt climate change
Fell habitats	Good	Deteriorating	Halt climate change, management of reindeer grazing
Nationally important landscape area	Very good	Stable	No management actions needed

a jointly developed operating model based on the voluntary *Akwé: Kon Guidelines* (see Box 17). By a joint decision of Metsähallitus and the Sámi Parliament, and the Skolt Sámi Village Committee (Skolt Sámi Cultural Foundation 2024), the Akwé: Kon model may also be used in individual projects on special sites which have a significant impact on the preconditions for practising the Sámi culture. In addition to Akwé: Kon, PWF have an obligation to negotiate with the Sámi Parliament according to the Act: *"The authorities shall negotiate with the Sámi Parliament in all far-reaching and important measures which may directly and in a specific way affect the status of the Sámi as an indigenous people and which concern the following matters in the Sámi Homeland: (1) community planning; (2) the management, use, leasing and assignment of state lands, protected areas and wilderness reserves; (3) applications for licences to stake mineral mine claims or file mining patents; (4) legislative or administrative changes to the occupations belonging to the Sámi form of culture; (5) the development of the teaching of and in the Sámi language in schools, as well as the social and health services; or (6) any other matters affecting the Sámi language and culture or the status of the Sámi as an indigenous people."*

Day-to-day work includes producing information in the three Sámi languages on the area and management activities, as well formal and informal meetings and negotiations with different Sámi actors and operators, taking care of the Sámi cultural heritage sites and producing information on the natural and cultural heritage of the Sámi Homeland.

Future challenges

What were once seen as pristine habitats are changing, in particular mountain birch habitats and palsa mires. Kaldoaivi is a large site, but climate change presents significant challenges already, for example, a significant number of palsa mounds in the mires have thawed. The plant and animal species adapted to the subarctic and Arctic areas have nowhere to move to. Even though there are large areas of protected areas and wilderness reserves in the northernmost Finnish Lapland, it is not enough to save the species and habitats from climate change.

Occasional geometrid moth outbreaks have affected large areas of mountain birch habitats. Habitats would recover more easily if the grazing pressure of reindeer could be reduced. However, Metsähallitus has no authority to limit the number of reindeer or steer the grazing areas of the reindeer herds. The recent Remote Sensing project revealed that the state of mountain birch forests in some areas is alarming. The produced data is necessary for decision-makers when nationwide strategies or programmes are prepared. Palsa mires are already severely affected by

climate change, but there are no effective management practices that could be used to restore them.

Where management is possible it can be extensive and expensive. For example, the displacement of the Arctic fox with the red fox has had several management responses including the culling of the red fox population, additional feeding of the Arctic fox, collaboration with neighbouring countries and translocating Arctic foxes raised in captivity.

B. Oulanka National Park (Category II)

Overview: Famous for its rivers and rapids, the 285 km^2 Oulanka National Park is one of the most species rich areas in Finland. Thanks to its location it has a mixture of species from the north, south and east and a river valley microclimate. There are 650 protected species, some of which are unique to Oulanka.

Oulanka National Park and other surrounding protected areas provide a strong added value for the image of the region. This provides wide benefits to local livelihoods. Nationally, Oulanka is one of the most beneficial parks to local communities when looking at its economic impacts. In 2022, the local economic impact of visitors' spending in Oulanka was €25 million and an equivalent of 196 person-years of employment was created in the area.

Oulanka National Park is directly connected to Paanajärvi National Park in Russia, which is four times as large as Oulanka. Transboundary cooperation with Paanajärvi has been active but is on hold for now due to the war in Ukraine.

Main values:

1. Rich diversity of natural habitats.
2. Exceptionally diverse range of species including significant numbers of endangered species.
3. Rich diversity of bird species including many birds of prey.
4. The rivers sustain unique habitats for many rare species.
5. Rich cultural heritage.

Ecosystem services: Outdoor recreation and tourism, education and research and wild food (including reindeer herding, hunting, fishing, berry-picking).

Management objective 1: Ensuring the preservation of natural and cultural values of the area.

Management objective 2: Developing nature tourism and other outdoor recreational uses of the area sustainably and together with partners.

Oulanka has a wider diversity of threats than some other protected areas due to its location and biological diversity; two key threats are given below.

Primary threat: Resource use. There is a risk of illegal hunting in the national park, especially when it comes to large carnivores. Fishing can affect the endangered adfluvial brown trout native to the river Oulankajoki. There is also some illegal fishing in the national park. Overfishing of the brown trout on the Russian side is a significant problem.

Secondary threat: Invasive and other problem species. There is a risk of invasive alien species entering the area. Mink (*Neovison vison*) already exists in the area. Fish stocking outside the national park may introduce non-native pathogens to the national park's native fish populations.

PWF's role in education and visitor experiences

Oulanka National Park is famous for its beautiful scenery, and today the national park's trails and sights are visited year-round by a significant number of national and international visitors. As a result, it is one of the most visited national parks in Finland, with 3.5 million visits in 2022.

Table 2. Overview of status of values in Oulanka National Park.

Main value	Condition	Trend	Potential management responses
Rich diversity of natural habitats	Good	Improving	Restoration and management of habitats
Exceptionally diverse range of species including significant number of endangered species	Good	Stable	Management of habitats, experiments on increasing population size of rare vascular plant species
Rich diversity of bird species including many birds of prey	Good	Stable	Restoration and management of habitats
The rivers sustain unique habitats for many rare species	Good	Deteriorating	Responsible fisheries management
Rich cultural heritage	Good	Stable	More resources for monitoring, surveys and implementing the management plan

PWF has a policy for environmental education and awareness, supplemented by Oulanka's own policy. Related work is mainly carried out by the Oulanka Visitor Centre which was opened in 1988 and has around 80,000 visitors annually. The digital customer service provision is also strong. Customer services concentrates on guiding the visitors to ensure they know the rules and regulations of the national park and are aware of the exceptional values of the area.

Cooperation with local schools is done as much as possible with limited resources. The most important themes in school cooperation are responsible hiking and nature protection in general. For local people, Oulanka is nature's "classroom" available every day of the year. There are day excursions for schoolchildren and adventure sports camps which help children acquire skills, attitudes and behaviour to respect nature, and become interested in environmental protection and sustainable development. Oulanka is integrated into the school activities with, for example, children hiking part of the Karhunkierros Trail during their primary school years. These connections with local schools could be even more effective with more resources. When younger generations understand the role of national parks, local attitudes will develop to be more positive toward protection.

Future challenges

There is a need for more planning to face the challenges that are emerging due to climate change. The management of the national park is dependent on the maintenance routes used during wintertime (with snowmobiles on snow and ice). Due to climate change, the winters are changing. Although snow is still expected at these latitudes, ice cover on lakes and rivers is getting weaker due to warmer winters. This leads to situations where the location of maintenance routes must be changed and moved away from lakes and rivers. The CLAP project (Climate change communication and adaptation in Arctic protected areas) will focus on a few protected areas, one of which is Oulanka (see question 4.7).

Improving the condition of brown trout in the River Oulankajoki requires active cooperation with the Russians to be effective, since overfishing is a problem on the Russian side. For now, cooperation with the Russians is not possible. The state of the brown trout population is being actively monitored and fishing the trout has been forbidden in the national park since 2015. There are also certain areas where all fishing is forbidden, since those areas are important for reproduction of brown trout. Experimental release of fertilised native brown trout eggs has been carried out as well. Periodic harvesting of

locally dense pike populations is done to aid survival of trout juveniles.

C Torronsuo National Park (Category II)

Overview: Torronsuo covers 25,5 km² and is the largest raised bog in southern Finland. It has unique integrity and uniformity as a large bog landscape and remains in a near natural state with diverse lepidoptera and avifauna. The Torronsuo area has been an area of interest for geologists and mineralogists since the 1700s; many different minerals, some very rare, have been found in the area.

Torronsuo is one of the most important attractions in southwest Häme. It is especially suitable for day trips. Lake Talpianjärvi is an important staging area for birds during migration and the area is classified internationally as an Important Bird Area. Torronsuo is in the enviable position of having a stable conservation status with no major threats.

According to the visitor survey and visitor statistics, the impact on the local economy of spending by the national park visitors was at €2.3 million in terms of income and approximately an equivalent of 20 person-years of work in terms of employment in 2022.

Main values:

1. Torronsuo is the largest raised bog in southern Finland and remains in a near natural state.
2. Bird species of mires, wetlands and aquatic environment.
3. Geological sites/values (rare minerals, old quarry, peat layer).
4. Role as wilderness area and undisturbed mire landscape/entity.
5. Outdoor recreational value.

Ecosystem services: Water (quality/quantity), recreation and tourism and climate mitigation (carbon sequestration /storage).

Management objective 1: Preserve the natural values of the area and safeguard its natural state.

Management objective 2: Promote sustainable outdoor recreation in suitable areas.

As noted above the threats to the site are minimal and come from potential threats currently beyond the park boundaries.

Primary threat: Energy production and mining. Potential mining sites might be investigated outside of the national park and wind farms are planned/built in near-by regions, both of which could impact the areas wilderness values and undisturbed mire landscape.

Secondary threat: Invasive and problem species. There are lupins (Lupinus) close to the park's borders and raccoon dogs (*Nyctereutes procyonoides*) live in the area. Raccoon dogs are omnivores and pose a threat to the bird species in the area.

PWF securing vital habitat

Since Torronsuo was established in 1990, new areas have been acquired for the state and incorporated into the park as part of establishing the Natura 2000 network. Habitat restoration measures have been carried out and the state of bog/mire habitats has improved significantly. The Torronsuo Natura 2000 site covers 3,090 hectares and is protected through the NCA. Approximately 3,030 hectares of this is included in Torronsuo National Park. The remaining 60 hectares are not yet included and are areas that are already reserved for conservation purposes but not yet transferred to Metsähallitus. Executing the transfer and including the areas into the national park would improve the management.

Additional restoration measures on Lake Talpianjärvi would require further land areas to be bought. The open water areas and mosaics of water and vegetation, that are important as bird nesting and breeding habitat, have decreased due to overgrowth by vegetation. This is caused by previous land use that is still affecting the area and can also be partly natural. One of the main restoration methods would be raising the water table to improve the habitat. However,

Table 3. Overview of status of values in Torronsuo National Park.

Main value	Condition	Trend	Potential management responses
Torronsuo is the largest raised bog in southern Finland, and it remains in a nearly natural state	Very good	Improving	No management actions required at the moment
Bird species of mires, wetlands and aquatic environment	Very good	Stable	Restoration of Lake Talpianjärvi when possible (land acquisition)
Geological sites/values (rare minerals, old quarry, peat layer)	Very good	Stable	Advocacy work if needed
Role as wilderness area & undisturbed mire landscape/entity	Good	Stable	Advocacy work when needed
Outdoor recreational value	Very good	Stable	The goal is to maintain the current level of services

this would affect the areas surrounding the protected area and thus additional areas would need to be bought. Also, for dredging, additional areas would be needed for placing the vegetation mass produced by dredging. Land for conservation purposes will need to be sold voluntarily by local landowners and so far, negotiations have not been successful, as the surrounding area is good agricultural land and landowners are unwilling to sell.

Resources for advocacy work of the national park management, in order to influence land use planning outside of the park that might adversely affect natural values of the Torronsuo, are needed to secure continued conservation success. There is potential development activity outside of the park and there is an increasing need for advocacy work. Unfortunately, resources for this work are not increasing with the need.

Future challenges

Climate change will affect the species distribution in Torronsuo as some northern/Arctic species that are now at the edge of their distribution area will eventually disappear even though the habitat is otherwise suitable. For example, for some of the butterfly species (*Oeneis jutta*, *Pyrgus centaureae*, *Boloria freija*) there are no ecological corridors to "retreat" to the north. For birds like *Pluvialis apricaria* and *Lagopus lagopus*, the next suitable habitats are in Ostrobothnia and Satakunta regions.

Outdoor recreational use of the park is likely to change due to climate change. The snow-covered season is going to be shorter or non-existent. This will lead to the loss of winter activities like skiing and more use of hiking trails. There is no winter maintenance on the trails currently, as visitor pressure is not high during the winter season, however this may need to change.

D Nuuksio National Park (Category II)

Overview: Nuuksio National Park is a mosaic of natural forest, mire lake and rocky habitats, with some small patches of forest groves and meadows covering 56 km^2. It is an important area for many endangered species (e.g., mosses, mammals and birds) which are typical for mature and old-growth forests in southern Finland. Lake Matalajärvi is one of the few naturally nutrient-rich lakes in Uusimaa Region where the natural state and vegetation are preserved. Lake Matalajärvi's aquatic flora and fauna is representative and submerged plants in the lake include *Najas tenuissima*, which is a nationally threatened species and included in the EU Habitat Directive. In addition to representative aquatic flora, Lake Matalajärvi is among the most important breeding and staging areas for waterfowl in the Uusimaa region. The importance of Lake Matalajärvi for staging waterfowl has increased in previous years

Table 4. Overview of status of values in Nuuksio National Park.

Main value	Condition	Trend	Potential management responses
EU Directive habitats of Nuuksio	Fair	Improving	State of habitats improving due to natural development and management
Threatened and directive species of the Nuuksio area	Fair	Stable	Improving viability by management and restriction areas for specific habitats
Tourism and outdoor recreational use	Very good	Stable	Maintenance and construction of visitor infrastructure, enhancing accessibility for visitors, marketing and communication
Environmental education awareness	Very good	Stable	Collaboration with Finnish Nature Centre Haltia, cooperation with local schools and EUROPARC's Junior Ranger Programme
Habitats and species of the Lake Matalajärvi area	Fair	Deteriorating	Careful planning including external areas

and significant flocks of birds are regularly found at the lake.

Nuuksio is also among the most important breeding sites for many forest birds including red-throated diver (*Gavia stellata*), capercaillie (*Tetrao urogallus*) and birds of prey. Distribution of these species has largely declined in Uusimaa region due to active forestry and regional development.

The park is the third most visited national park in Finland, with over 300,000 visits annually, and an important area for outdoor recreation, nature-based tourism and environmental education. In addition to hiking, the park is actively used for many different nature-based sports including orienteering, trail running and biking. There are approximately 40 companies or entrepreneurs providing nature-based services in the park and its surroundings. Nuuksio is also a popular area for school and kindergarten visits and the area plays an important role for increasing environmental education and awareness in Helsinki Metropolitan Area.

Main values:

1. EU Directive habitats of Nuuksio.
2. Threatened and EU Directive species of the Nuuksio area.
3. Tourism and outdoor recreational use.
4. Environmental education awareness.
5. Habitats and species of the Lake Matalajärvi area.

Ecosystem services: Outdoor recreation and tourism and education and research.

Management objective 1: Biodiversity in the park increases. State of the habitats and endangered species is maintained and improved through effective management and restoration.

Management objective 2: Nuuksio provides a basis for wide-ranging outdoor recreation and nature-based tourism activities. Outdoor recreation and tourism are developed in a sustainable manner and the development and use does not compromise the natural values of Nuuksio National Park.

Primary threat: Pollution. Lake Matalajärvi is affected by the nutrient and solid material inflow from the surrounding urban, industrial and agricultural areas. Eutrophication is a particular threat to *Najas tenuissima*, which is found in only a few locations within the Uusimaa Region.

Secondary threat: Natural system modification. Nuuksio National Park is located close to the Helsinki Metropolitan Area and the natural habitats around the park are fragmented by highways and urban development. Habitat fragmentation is a particular challenge for species which require large territories and for which the movement between the park and surrounding forest habitats is essential. For example, the livelihood of the forest bird capercaillie is considered signifi-

cantly affected by habitat fragmentation around the park.

Challenges in maintaining integrity in more urbanised areas

Nuuksio National Park is located close to the Helsinki Metropolitan Area and there are pressures from urban development (e.g., residential buildings, industry, roads and traffic) around the park. Although the current regional and municipal level plans do not place new development activities within the park, the buffer zones particularly in the southern edge of the park and around Lake Matalajärvi are narrow and the loss of ecological connectivity between Nuuksio and surrounding forest habitats is a potential threat for certain habitats or species. There are also existing and planned roads and/or railways, which potentially create barriers for animal movement.

Maintaining ecological networks around Nuuksio thus requires significant advocacy work. The main actors in this work are the Regional Council of Helsinki-Uusimaa (responsible for regional planning) and cities and municipalities around Nuuksio. The Regional Council prepared a region-wide analysis on the ecological network to support regional planning. This analysis also identified multiple ecological corridors important for Nuuksio. For PWF, multiple statements have been given on the master plans to maintain these corridors and to avoid construction in the immediate vicinity of the park.

At present, impacts of regional development on the park are mitigated mainly through discussions with the planning authorities (e.g., planners, ELY Centres, Transport and the Environment for Uusimaa, Helsinki-Uusimaa Regional Council). Large areas located immediately around the park are established either as PPAs or outdoor recreational areas, in which industrial or residential development is limited and habitats are managed mainly to promote nature conservation or outdoor recreation.

In recent years, there have been discussions about enlarging the park, because of its rich biodiversity values. Expanding the park would improve resilience, diminish disturbance originating from external areas and create connections to the privately protected areas (PPAs) surrounding the park. Areas governed by the cities are currently mainly used for outdoor recreation; the attachment of these areas to the park would also potentially mitigate the risks of urban development to the natural environment.

Challenges related to the eutrophication in Lake Matalajärvi and nutrient loads from the surrounding areas were identified in the early 1990s. A management plan for the whole Lake Matalajärvi watershed was finalised in 2011 (Kuusisto-Hjort 2011), however the plan was only partially executed. More recently, a number of municipal plans to develop residential areas and industry within the Lake Matalajärvi watershed have been prepared. Although no development actions have been planned within the national park area, development within the watershed can have significant impacts on Lake Matalajärvi through its impact on surface waters and nutrient flows to the lake. Technical structures to manage runoff waters and nutrient flows to Lake Matalajärvi have been required in all these plans so that no additional nutrient load should be discharged from the paved areas to Lake Matalajärvi. PWF has participated in the cooperation groups on these plans, and provided expert assistance and statements on how impacts of development activities on Lake Matalajärvi could be mitigated. However, a more comprehensive plan for the lake catchment area would be required to fully control the lake eutrophication and further protect its lake habitats and species.

Collaboration also takes place regarding outdoor recreational activities. PWF, Finnish Nature Centre Haltia and the cities of Helsinki and Espoo cooperated to build a connected trail network and other outdoor recreational infrastructure, allowing longer hiking trips.

Planning of outdoor recreational infrastructure often considers not only Nuuksio but also surrounding outdoor recreational areas which are governed by the Cities of Espoo and Helsinki. The updated management plan identifies new plans for marketing and communication and development of nature-based tourism, not only for Nuuksio but for the whole Nuuksio lakeland area. There has also been discussion in recent years on whether outdoor recreational areas managed by the City of Helsinki should be attached to Nuuksio and in this way enlarge the park. Discussions about this are currently being held between City of Helsinki and the Ministry of the Environment.

Tourism challenges

Nuuksio National Park is an urban park with many visitors. During spring and autumn weekends, there are peak visitor times in the park. The campsites and campfire areas are overcrowded during these times. In the updated Nuuksio management plan (draft in 2023, not yet approved), PWF has identified certain services (e.g., biking trails, reservable camping sites for groups, etc.) in which further development is needed. The objective of developing outdoor recreation and tourism in the park is not only to provide better visitor experience but also to promote sustainable use of the park and to mitigate the impacts of outdoor recreation to the natural values through more effective behaviour management.

Limits of Acceptable Change (LAC) for Nuuksio were developed in 2020 and these parameters are monitored annually. Parameters which are followed in LAC include for example the breeding success of red-throated diver, the counts of people using public transport to access the park, etc. In addition, methods to monitor the state of habitats and their erosion due to outdoor recreation and the state of the capercaillie population in Nuuksio are currently being developed.

Generally, most visitors in Nuuksio follow the regulations and rules defined in the site regulation orders and outdoor etiquette (Metsähallitus 2023h). Although illegal activities (e.g., illegal camping and campfires) are limited to a very small proportion of people, these can have at least local impacts. This is a particular issue in Nuuksio due to the high overall number of visitors. Illegal camping has so far been tackled through both increased communication about the rules of the park and continuous monitoring by local park staff. Also, collaboration between PWF and the regional police department aims to show the visitors that the rules and regulations are regularly monitored. Current efforts to limit illegal activities have already had a significant impact, but this work needs to be continued.

E Ekenäs Archipelago National Park (Category II)

Overview: Ekenäs Archipelago National Park was established to preserve a representative part of the archipelago and marine nature of the Gulf of Finland. The park is 84% marine and 16% islands. The protected area is quite small (55 km^2) but with the adjacent Natura 2000 areas it makes up a large, connected area, which supports both viable underwater and terrestrial populations of the known species and their habitats. In addition, there are 27 marine PPAs around the park, which cover 673 ha of land and 3,560 ha of water.

The park protects nationally important endangered habitat forming species such as bladderwrack (*Fucus vesiculosus*, EN), eelgrass (*Zostera marina*, VU) and charales (VU) and includes habitats important for blue mussel (*Mytilus trossulus*, LC). It also includes breeding areas for archipelago birds, such as gulls and eider duck.

The Ekenäs Archipelago was well populated until the early 1900s, but today many villages are abandoned. On the island of Rödjan there is a fisherman's hut that shows how people lived in the archipelago in

Table 5. Overview of status of values in Ekenäs Archipelago National Park.

Main value	Condition	Trend	Potential management responses
Archipelago birds	Good	Stable	Continuation of removal of invasive alien species (mink, raccoon dog) and keeping habitats open for bird nesting.
Dynamic open habitats and old forests	Good	Deteriorating	Continuation of removal of reed and young trees from dynamic open habitats and rather concentrating on few areas than trying to improve them all with active measures.
Marine habitats and species	Good	Stable	Active monitoring and development of underwater indicators. Piloting of underwater restorations.
Outdoor recreational use and nature tourism	Good	Stable	More budget for service infrastructure.
Marine research	Fair	Improving	Environmental research is one of the reasons the Ekenäs Archipelago was established as a protected area. In order to conduct research in the park, one must apply for a permit to do so. As the manager of the NP, Parks & Wildlife Finland should encourage more research to be conducted within the NP.

days gone by. The national park has several popular outdoor recreational island destinations with infrastructure for visitors, such as piers, observation towers, etc.

Marine and coastal ecology research has been conducted in the Ekenäs Archipelago for over a hundred years. This long-term monitoring is an important source of information, for example, in terms of climate change monitoring.

Main values:

1. Archipelago birds.
2. Dynamic open habitats and old forests.
3. Marine habitats and species.
4. Outdoor recreational use and nature tourism.
5. Marine research.

Ecosystem services: Recreation and tourism, education and research and climate mitigation (carbon sequestration /storage).

Management objective: To preserve one of the most representative parts of the archipelago and marine nature of the Gulf of Finland and to promote environmental research and outdoor recreation.

Primary threat: Pollution. Specifically, excess nutrients from the southern Baltic Sea and from land use (agriculture and forestry) cause eutrophication, which accelerates growth of annual filamentous algae changing the species composition of marine habitats and thus degrading their condition. The inner and middle parts of the national park do not have strong currents, which would enable more efficient mixing of the stratified water layers (stratification caused by salinity and temperature). Instead, nutrients, especially nitrogen and phosphorus, build up in the water causing eutrophication, which can be observed in increased blue-green algae blooms and as anoxic conditions on the sea floor. Also, filamentous and other algae drift to shores, which accelerates overgrowth (such as reeds) on narrow coastal shores degrading the state of coastal meadows. In addition, marine litter, which originates mostly from land and maritime traffic, tends to accumulate in the coastal areas of the outer archipelago.

Secondary threat: Invasive and problem species (e.g., native species moving outside their normal range due to impacts of climate change which are then impacting other

native species). Japanese rose (*Rosa rugosa*) spreads uncontrollably on sandy beaches and can form impenetrable thickets, completely displacing the original coastal species. Small predatory mammals such as the American mink (*Neovison vison*) and raccoon dog (*Nyctereutes procyonoides*) are widespread in the coastal and archipelago area of the Finnish Baltic Sea and both species have large-scale negative effects on native species, especially on avifauna. In addition, the white-tailed deer population threatens traditional biotopes through grazing. In underwater marine habitats, round goby (*Neogobius melanostomus*), Harris mud crab (*Rhithropanopeus harrisii*), fishhook waterflea (*Cercopagis pengoi*) and sea walnut (*Mnemiopsis leidyi*) are fairly recent invasive alien species in the park, which may have harmful effects on native species, such us bladderwrack. Non-native transplanted trees, such as Middle European spruce and sycamore maple (*Acer pseudoplatanus*) are also a problem in open habitats and old forests.

Monitoring, research and management responses

As noted above, Ekenäs Archipelago National Park has a long history of monitoring and research. Mapping of underwater marine habitats and species was carried out 17 years ago through the VELMU Programme (The Finnish Inventory Programme for the Underwater Marine Environment) and during this time thousands of underwater observations were gathered within the park. Among other things, the underwater data has enabled modelling of Natura 2000 habitats (reefs, lagoons and islets and islands) in the park area. The last reasonably large-scale underwater survey within the park took place in 2020 (dive surveys and drones were used). In 2021, surveys were made in lagoon habitats for potential occurrence of endangered species (e.g., *Chara horrida*). On land, some inventories have been carried out on polyphores and vascular plants, but basic information on species is quite scarce and the present information is mostly quite old. The last large-scale survey on archipelago birds was conducted in 2017.

Active long-term scientific monitoring has been conducted on blue mussel, which gives an indication how mussel will tolerate the effects of climate change. The structure and function of the mussel beds is declining, and this is mainly due to climate change and changes of the general conditions in the Baltic Sea. Mussel beds are for example negatively affected by the high temperature peaks and warmer and less saline waters. Due to these changes, it should be noted that although Ekenäs Archipelago is known for these habitats, it is uncertain whether they will remain if climate change and eutrophication continues.

Overall climate change sets new challenges for all monitoring and research, since there is evidence of negative fast changes among habitat forming species. Climate change can potentially decrease salinity, increase record breaking heatwaves and strengthen eutrophication through increased precipitation and land-based runoffs in the park. Underwater surveys are thus likely to be out of date after 20 years which means that new surveys should be planned soon, however there could be challenges finding sufficient budget to meet this need.

One of the most relevant ongoing studies is the CoastClim project, which explores the potential of coastal ecosystems to act as natural solutions to mitigate climate change; whether healthy coastal ecosystems (such as bladderwrack habitats) can act as carbon sinks, and in contrast what is the role of degraded coastal ecosystems in emitting large amounts of greenhouse gases. Eelgrass and its capacity to store carbon has been widely studied but the impact in the northern Baltic Sea is minimal. First steps have however been taken in marine restoration measures,

when eelgrass has been transplanted within the park, to strengthen the species' resilience to climate change.

Much of the research and monitoring being undertaken currently is project based. A new underwater marine macrophyte monitoring programme was launched in the Gulf of Finland in 2021. According to the EU Habitats, the Water Framework and the Marine Strategy Framework Directives, Member States are required to monitor and evaluate changes in quality and distribution of marine habitats to protect marine nature. PWF is responsible for monitoring sand, gravel and mud habitats every third year. The quality of submerged aquatic vegetation is monitored particularly on the mud habitat sites, since it is one of the key indicators of the ecological status of coastal ecosystems in the Baltic Sea. Two of the mud monitoring sites (Potten and Skedöfladan) are situated in the inner archipelago of the Ekenäs Archipelago. The monitoring is providing important data on the state and long-term changes of the marine environment in the park. In addition, the Biodiversea LIFE IP project will develop a systematic and standardised monitoring of biodiversity and biodiversity indicators in shallow photic areas, which will benefit the park. The project is also developing an underwater limits of acceptable change (LAC) methodology for marine habitats in selected protected areas to measure impacts from tourism, such as recreational boaters. The indicators will be applicable to the Ekenäs Archipelago and the park might be one of the pilot areas for the LAC work. On land, invasive alien species (mink and raccoon dog) are monitored, due to their potential impact on avifauna. There is also monitoring of land species, such as endangered butterflies (Apollo) and vascular plants (*Salsola kali*) and the dispersal of transplanted non-native trees.

The Tvärminne Zoological Station (TZS) owned by the University of Helsinki is located near the protected area. TZS is a marine station which serves as a centre for a variety of high-quality marine research, however most of the research focuses on the features and patterns of coastal ecology and ecosystems of the whole Baltic Sea. Although many TZS research projects provide important data for management purposes, their scope is often wider than the park as their role is to provide general data about the state of the Baltic Sea. However, these results can also provide information applicable to park management. For example, TZS has monitored sea water temperature for decades, which is important data in view of climate change when considering the state of species and habitats in the park.

In 2022, a novel approach was applied to the management effectiveness of underwater marine nature in a project called "Assessment of the effectivity of Finland's marine protected areas". The method evaluated the management effectiveness of marine protected areas in Ekenäs and Hangö Archipelago and Pojo Bay Natura 2000 area. The ranking was based on the natural values to be protected, pressures and threats to these values, and whether the pressures can be reduced, or the condition of the values can be improved through site-specific measures. The three assessment categories were:

1. Measures not possible: habitats are subject to human pressures that have a negative impact on their natural values and that cannot be addressed by measures within the protected area.
2. Need for measures not recognised: habitats and their natural values are not subjected to significant known threats.
3. Need for measures recognised: habitats subjected to threats that can be mitigated through management, restrictions or restoration of species and habitats.

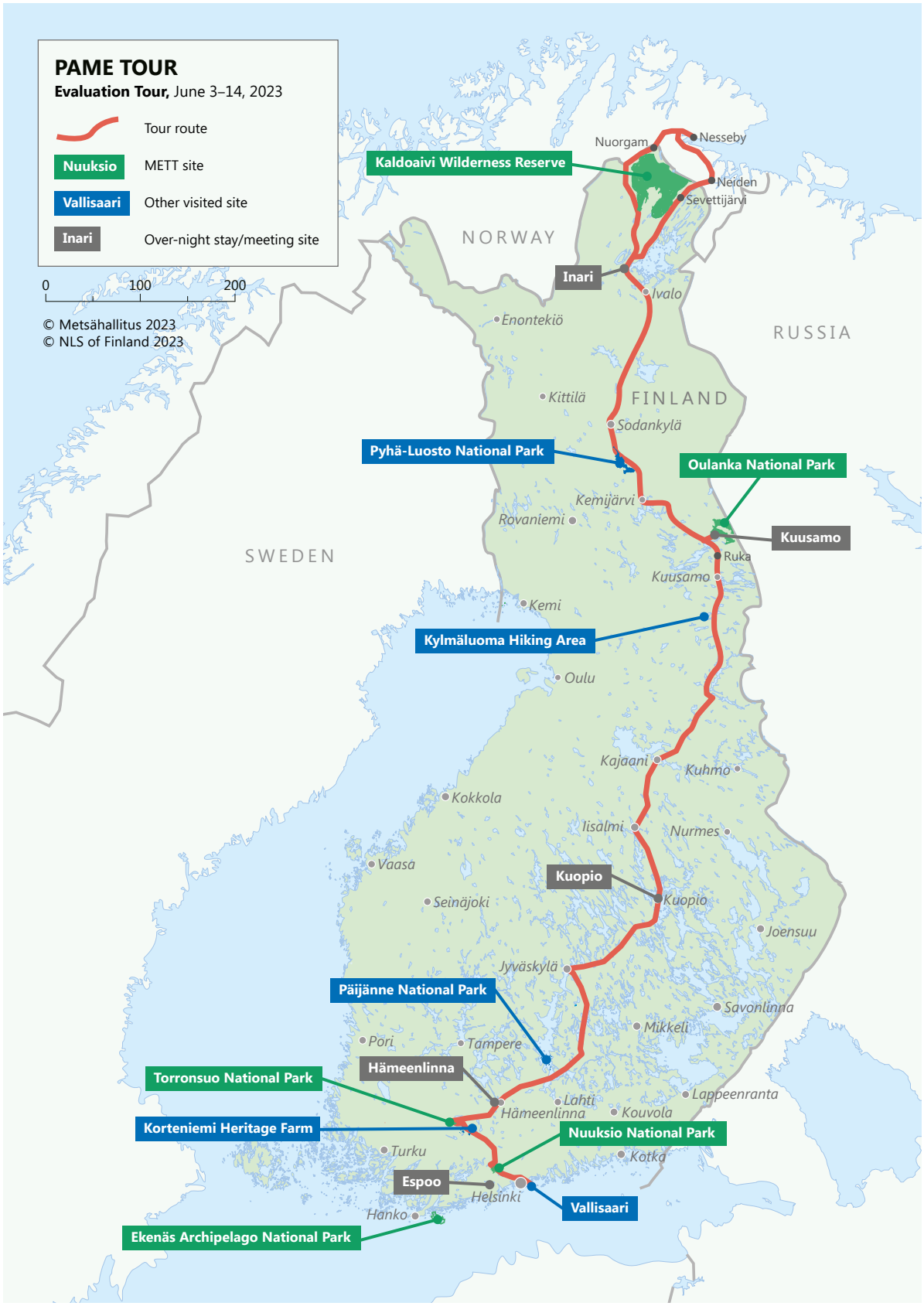
According to the assessment, 92% of Ekenäs Archipelago National Park was categorised as "need for measures not recognised", 4% as "measures not possible" due to e.g., marinas or boat lanes and 4% as "need for measures recognised".

Overall, there is a need for a systematic monitoring programme across the whole park. Archipelago birds and monitoring of terrestrial species and habitats need more regular monitoring efforts, but resources are not available. There is a need for species inventories on several taxa and archaeological sites should be surveyed more comprehensively. In particular, more effort should be put into wreck surveys, since the area around Jussarö has been the site of many shipwrecks in past centuries.

In terms of the impact of monitoring and research on management, this differs greatly depending on habitat characteristics. Old coniferous forests do not need any active measures, since they improve through natural development. Underwater marine habitats (blue mussel and red algae beds) are challenging habitats to actively improve, since eutrophication and climate change constitute the biggest threats, and the most important measure is to actively monitor these habitats, since the methods to reduce nutrient inputs from land areas have proven to be very difficult. Narrow stony/sandy shores are dynamic rather quickly changing habitats which require the most active measures, and a lot has been done to prevent overgrowth on them. Also, open and half open islets and islands are under active measures such as invasive species removal, etc. It is challenging to find methods to decrease nutrient flows from land to sea. Some impacts from outside the park can be regulated through permitting processes through the Water and Nature Conservation Acts. Currently under development are natural resource plans for the state-owned marine areas, which consider marine protected areas, which may help.

Appendix 3 PAME evaluation tour: route and venues

The five protected areas evaluated using METT are indicated. Assessments of the sites are summarised from north to south in Appendix 2.



Appendix 4 PAME evaluation tour: programme and acknowledgements

A Schedule

Lapland Regional Unit

Friday 2.6
Arrival at Rovaniemi airport, by car to hotel in Inari.
Saturday 3.6

- Meeting with PWF Personnel, themes: evaluation visit agenda, Parks & Wildlife Finland, Lapland Regional Unit, Game and Fisheries warden's work, protected areas management in Sámi Homeland, Akwe Kon, METT of Kaldoaivi Wilderness Reserve.
- A guided tour at Siida Sámi Museum and Nature Centre
- Walk in the evening: Jäniskoski

Sunday 4.6

- By bus around Kaldoaivi Wilderness Reserve and visit in Varanger Fjord.
- Meeting with Skolt Sámi Village Council and visit in Skolt Sámi Heritage House.

Monday 5.6

- Meeting with PWF Personnel, themes: Climate Change mitigation and adaption in Metsähallitus and PWL, Case, SUMI project and Pallas–Yllästunturi NP, Case, remote sensing in Upper Lapland project, climate change and visitor management.
- By car to Pyhätunturi-Luosto NP.
- Meeting with PWF Personnel, themes: customer service in PWF, digital development in customer service, service design in PWF.
- By car to Oulanka NP

Ostrobothnia-Kainuu Regional Unit

Tuesday 6.6

- Meeting with PWF personnel, themes: Ostrobothnia-Kainuu Reagional Unit, Oulanka NP METT, planning instruments and processes, measuring sustainability of recreation and tourism, tourism cooperation, recreation services and visitor management.
- Trip to Oulanka NP: Myllykoski and Kallioportti

Wednesday 7.6

- By car to Oulanka Visitor Centre, introduction of Visitor Centre.
- Hiiden Hurmos Nature Trail
- Research cooperation and introduction of Oulanka Research Station
- Meeting with PWF personnel, themes: Communication, partnership and stakeholder work, Oulanka NP interpretation and communications (Minna Koramo)

Thursday 8.6

- by car to Ruka Holiday Resort
- Meeting with tourism sector and regional authorities, themes: cooperation with Metsähallitus, importance of protected areas in regional development.
- By car and visit to Kylmäluoma National Hiking Area
- By car to City of Kuopio

Lakeland Regional Unit

Friday 9.6

- By car to Päijänne NP. Introduction to Healthy Parks Healthy People program and Geopark cooperation in Finland.
- By car to City of Hämeenlinna
- Meeting with PWF personnel, themes: prioritization and Zonation analysis, management of projects.

Saturday 10.6

- Meeting with PWF personnel, themes: Lakeland Regional Unit, restoration, biotope management, species protection and data management.
- Visit in Aulanko protected area and introduction to National Urban Parks concept.

Sunday 11.6

- By car to Torronsuo NP, Kiljamonkierros Nature Trail
- By car to Korteniemi Heritage Farm. Introduction of conservation and management of cultural heritage in PWF
- By car to Nuuksio NP

Coastal and Metropolitan Regional Unit

Monday 12.6

- Meeting with PWF personnel, themes: Coastal and Metropolitan Regional Unit, marine protected areas and marine conservation, Ekenäs Archipelago NP METT, Nuuksio NP METT
- Introduction to Management Effectiveness project in Estonia
- Visit to Nuuksio NP

Tuesday 13.6

- Meeting with NGO's, theme: cooperation with PWF, importance of protected areas.
- Introduction and visit to Finnish Nature Center Haltia.
- Meeting with PWF Senior Management Team.
- Meeting with Finnish Nature Panel, themes: research cooperation with PWF and nature conservation issues in Finland

Wednesday 14.6

- By car and ferry to Vallisaari
- Visit and introduction to Vallisaari and Helsinki Biennial 2023
- Introcuction to PWF international affairs and cooperation.
- Closing meeting

B People met and interviewed

Acknowledgements

The evaluation team directs many thanks to all the people met during the field trip in Finland. People met are listed according to the tour programme (see Appendix 4A). The team apologies to anyone neglected.

Saturday 3.6

Henrik Jansson	Executive Director	PWF
Pirjo Seurujärvi	Regional Director	PWF
Joel Erkkonen	Manager, Outdoor Recreation	PWF
Jussi Viitanen	Manager, Game and Fisheries	PWF
Pertti Itkonen	Manager, Nature Conservation	PWF
Heli Rekiranta	Senior Specialist, Communications	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF
Jari Liimatainen	Game and Fisheries Warden	PWF

Sunday 4.6

Joel Erkkonen	Manager, Outdoor Recreation	PWF
Pertti Itkonen	Manager, Nature Conservation	PWF
Marja Männistö	Senior Specialist, Tourism	PWF
Heli Rekiranta	Senior Specialist, Communications	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF
Alexander Kopf	Field Manager	PWF
Terhi Järvi	The Skolt Sámi Village Committee	
Tapio Kiviniemi	The Skolt Sámi Village Committee	
Jarno Mäki	The Skolt Sámi Village Committee	

Monday 5.6

Joel Erkkonen	Manager, Outdoor Recreation	PWF
Katja Heikkinen	Manager, Customer Service	PWF
Tuula Kurikka	Lead Specialist, Nature Conservation	PWF
Pauliina Kulmala	Senior Specialist, Nature Conservation	PWF
Heli Rekiranta	Senior Specialist, Communications	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF
Niko Tynkkynen	Senior Specialist, Digital and Customer Service	PWF
Anna Tammilehto	Project Manager	PWF
Linda Vanni	Service Designer	PWF

Tuesday 6.6

Henrik Jansson	Executive Director	PWF
Pirkko Siikamäki	Regional Director	PWF
Sari Alatossava	Manager, Outdoor Recreation	PWF
Arto Vilen	Manager, Land Use	PWF
Liisa Kajala	Senior Specialist, Digital and Customer Service	PWF
Venla Karkola	Senior Specialist, Tourism	PWF

Heli Rekiranta	Senior Specialist, Communications	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF
Rami Tuominiemi	Senior Specialist, Outdoor Recreation	PWF
Teija Turunen	Senior Specialist, Land Use	PWF

Wednesday 7.6

Henrik Jansson	Executive Director	PWF
Pirkko Siikamäki	Regional Director	PWF
Johanna Salomaa-Valkamo	Director, Communications and Partnerships	PWF
Sari Alatossava	Manager, Outdoor Recreation	PWF
Arto Vilen	Manager, Land Use	PWF
Venla Karkola	Senior Specialist, Tourism	PWF
Minna Koramo	Senior Specialist, Communications	PWF
Tiina Laitinen	Senior Specialist, Nature Conservation	PWF
Heli Rekiranta	Senior Specialist, Communications	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF
Teija Turunen	Senior Specialist, Land Use	PWF
Tiia Koramo	Customer Service Officer	PWF
Emmi Virsula	Customer Service Officer	PWF
Jyrki Mäkelä	Birdlife Finland	
Riku Paavola	Oulanka Research Station	

Thursday 8.6

Henrik Jansson	Executive Director	PWF
Johanna Salomaa-Valkamo	Director, Communications and Partnerships	PWF
Sari Alatossava	Manager, Outdoor Recreation	PWF
Arto Vilen	Manager, Land Use	PWF
Venla Karkola	Senior Specialist, Tourism	PWF
Heli Rekiranta	Senior Specialist, Communications	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF
Teija Turunen	Senior Specialist, Land Use	PWF
Virpi Aittokoski	Business Finland	
Jari Karsikko	City of Kuusamo	
Kirsi Manninen	Rukapalvelu	
Rauno Malinen	Council of Oulu Region	
Heikki Ojala	Council of Oulu Region	
Lea Riekki	Scandic Hotel Rukahovi	
Heidi Savolainen	Adventure Apes	
Tessa Suopanki	Naturpolis	

Friday 9.6

Raimo Itkonen	Regional Director	PWF
Tuula Kurikka	Lead Specialist, Nature Conservation	PWF
Santtu Kareksela	Senior Specialist, Nature Conservation	PWF
Mari Laukkanen	Senior Specialist, Outdoor Recreation	PWF
Sanna-Kaisa Rautio	Senior Specialist, Outdoor Recreation	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF

Saturday 10.6

Raimo Itkonen	Regional Director	PWF
Tuula Kurikka	Lead Specialist, Nature Conservation	PWF
Jari Ilmonen	Senior Specialist, Nature Conservation	PWF
Santtu Kareksela	Senior Specialist, Nature Conservation	PWF
Mari Laukkanen	Senior Specialist, Outdoor Recreation	PWF
Sanna-Kaisa Rautio	Senior Specialist, Outdoor Recreation	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF

Sunday 11.6

Raimo Itkonen	Regional Director	PWF
Anu Vauramo	Lead Specialist, Cultural Heritage	PWF
Anne Halla-Aho	Senior Specialist, Outdoor Recreation	PWF
Teijo Heinänen	Senior Specialist, Nature Conservation	PWF
Mari Laukkanen	Senior Specialist, Outdoor Recreation	PWF
Hilja Palviainen	Senior Specialist, Cultural Heritage	PWF
Sanna-Kaisa Rautio	Senior Specialist, Outdoor Recreation	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF

Monday 12.6

Henrik Jansson	Executive Director	PWF
Mikael Nordström	Regional Director	PWF
Joel Heino	Manager, Outdoor Recreation	PWF
Annukka Rasinmäki	Manager, Land Use	PWF
Anu Riihimäki	Manager, Marine Conservation	PWF
Asko Ijäs	Senior Specialist, Land Use	PWF
Tiina Kanerva	Senior Specialist, Nature Conservation	PWF
Aija Nieminen	Senior Specialist, Marine Conservation	PWF
Kristiina Niikkonen	Senior Specialist, Land Use	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF
Marju Keis	Estonian Environmental Board	
Leelo Kukk	Estonian Environmental Board	

Tuesday 13.6

Juha S. Niemelä	Director General	Metsähallitus
Henrik Jansson	Executive Director	PWF
Johanna Salomaa-Valkamo	Director, Communications and Partnerships	PWF
Harri Karjalainen	Director, Nature Centre Haltia	PWF
Raimo Itkonen	Regional Director	PWF
Mikael Nordström	Regional Director	PWF
Pirjo Seurujärvi	Regional Director	PWF
Pirkko Siikamäki	Regional Director	PWF
Jussi Päivinen	Strategy Manager	PWF
Jussi Viitanen	Manager, Game and Fisheries	PWF
Mervi Heinonen	Senior Specialist, Nature Conservation	PWF
Sanna-Kaisa Juvonen	Senior Specialist, International Affairs	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF

Janne Kotiaho	Finnish Nature Panel (Chair)	
Sanna Autere	Finnish Nature Panel	
Jaana Bäck	Finnish Nature Panel	
Ilona Laine	Finnish Nature Panel	
Hanna Paulomäki	Finnish Nature Panel	
Ari Sinkkonen	Finnish Nature Panel	
Eki Karlsson	Outdoor Association of Finland	
Marju Keis	Estonian Environmental Board	
Leelo Kukk	Estonian Environmental Board	
Paloma Hannonen	Finnish Association for Nature Conservation	

Wednesday 14.6

Mervi Heinonen	Senior Specialist, Nature Conservation	PWF
Sanna-Kaisa Juvonen	Senior Specialist, International Affairs	PWF
Matti Tapaninen	Senior Specialist, Outdoor Recreation	PWF
Tiia Tanskanen	Specialist, International Affairs	PWF
Marju Keis	Estonian Environmental Board	
Leelo Kukk	Estonian Environmental Board	

Appendix 5 Menu of protected area values

The value menu is used by Metsähallitus Parks & Wildlife Finland for protected area management planning and Natura 2000 site assessments.
PA = Protected area in the national network, NA = Natura 2000 site.

Value class: Natural values

Value type	**Criteria and indicators** (examples)
Habitats and species listed by Habitats Directive	• distribution and representativeness in area and conservation status within PA/ NA networks • population within area and conservation status within PA/NA networks
Species listed by Birds Directive	• population within area and conservation status within PA/NA networks
Red-listed habitat types	• distribution and representativeness in area and conservation status within PA/ NA networks
Red-listed species	• population within area and conservation status within PA/NA networks
Other protected species	• population and conservation status
Biotope community/ species assemblage	• status of indicator habitat, amount and management situation within area and PA/ NA-networks • status of indicator species (birds, butterflies, fish, other key species, e.g. marine blue mussel)
Ecosystem (structure, function)	• structure of forest (dead wood, tree species and age distribution) • hydrological state of peatland • ecological state of surface / groundwater
Geological feature	• value class of feature • extent within area and conservation status within PA/ NA-networks
Wilderness-quality (remoteness)	• proportion of remote zone

Value class: Cultural values

Value type	**Criteria and indicators** (examples)
Natural or cultural landscape	• proportion/extent of nationally valuable landscape
Built cultural environment	• number/extent of nationally valuable cultural env.
Valuable buildings	• number/condition of protected or valuable buildings
Archaelogical sites	• number/condition of ancient remains
Local cultural features	• Sámi Homeland / archipelago area; • significance of area for local cultural heritage

Value class: Appreciation and awareness

Value type	**Criteria and indicators** (examples)
Nature interpretation	• customer service points, number of visits • number of people in guided groups
Environmental education	• nature trails (km) • proportion of students in guided groups

Value class: Research and monitoring

Value type	**Criteria and indicators** (examples)
Significance for research	• number of research projects/sites
Significance for monitoring	• number of monitoring sites

Value class: Outdoor recreation and tourism

Value type	**Criteria and indicators** (examples)
Recreation in natural/ cultural sites	• PA type, amount and condition of infrastructure • number and type of visits, satisfaction, benefit value
Nature tourism entrepreneurship	• number of entrepreneur agreements • satisfaction (cooperation)

Value class: Natural resource use

Value type	**Criteria and indicators** (examples)
Hunting and fishing	• proportion and significance of area for use
Reindeer herding and subsistence economy	• proportion and significance of area for use
Other use (e.g. wood, water, berries/fungi)	• proportion and significance of area for use

Uusimmat Metsähallituksen luonnonsuojelujulkaisut

Sarja A

No 241 Metsähallitus 2022: Hyvät käytännöt maakotkalle aiheutuvien vaikutusten arviointiin – esimerkkiraportti Nimettömänkankaan tuulivoimahankkeesta. 59 s.

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