

Communications initiative for ecosystem services

Raising awareness of nature's work free of charge

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Raising awareness of nature's work free of charge

Final report from government commission M2014/1903/Nm

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Foreword

Ecosystem services are the foundation of our well-being. Yet they still remain invisible in many decisions that affect society. By recognising and evaluating ecosystem services, more conscious decisions can be made about issues like land and water resources. In this way, we can influence our future well-being and quality of life.

This is the final report commissioned by the government for implementing a communications initiative for ecosystem services during 2014–2017. The purpose of the initiative was to increase understanding of the values and importance of biodiversity and ecosystem services in society, as well as to contribute, as far as possible, to attaining the targets from the relevant environmental quality objectives.

The ecosystem services network has been the hub in the implementation of the commission. The network consists of more than 50 individuals from municipalities, county councils, land-based industries, and the construction and infrastructure sector. The individuals in this network – all of whom have made great progress in implementing systematic approaches to ecosystem services – learn from each other and build on each other's knowledge and experience. Thirteen partnering government agencies have also been involved in the initiative.

The Swedish Environmental Protection Agency would like to warmly thank the members of the ecosystem services network. Thank you for your commitment, drive and willingness to acknowledge and evaluate ecosystem services in your organisations and decisions. I also wish to extend a warm thanks to the partnering government agencies for your commitment and willingness to share your knowledge and experience.

When the initiative began, much effort was put into discussing and communicating definitions and terminology. Now that we are submitting our final commissioned report, the systematic consideration of ecosystem services has become an increasingly integral part of organisational activities and decisions. The Swedish Environmental Protection Agency looks forward to continuing our communication efforts to get even more people and organisations to discover the value of nature's free work – ecosystem services.

Stockholm, January 2018

Björn Risinger

Director General

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1 Summary in Swedish

Regeringsuppdragets slutmål om att öka förståelsen för den biologiska mångfaldens och ekosystemtjänsternas värden och betydelse i samhället är en fortsatt utmaning. Det gäller även slutmålet om att öka måluppfyllelsen för berörda miljö kvalitetsmål. Men arbetet går framåt. Den effektrelaterade uppföljningen av genomförda åtgärder visar att det har skett markanta förflyttningar inom alla tre områdena kunskap, attityd och handling sedan kommunikationssatsningens start. Det tyder på att kommunikationssatsningen helt eller delvis nått de uppsatta målen.

Navet i kommunikationssatsningen är nätverket för ekosystemtjänster. I nätverket finns drygt 50 personer från aktörer som fungerar som vidareförmedlare inom kommuner, länsstyrelser, företag och organisationer inom areella näringar samt bygg- och infrastruktursektorn, se bilaga 1. Personerna inom nätverket lär av varandra och bygger vidare på varandras kunskap om att arbeta systematiskt med ekosystemtjänster. Även samverkansmyndigheterna för uppdraget är aktiva i samverkan med nätverket.

Synen på framtiden är positiv. En uppföljande mätning, inom en större grupp vidareförmedlare än nätverket för ekosystemtjänster, visar att 75 procent av dem bedömer att fler beslut inom den egna sektorn kommer att fattas utifrån kännedom om värdet av ekosystemtjänster inom två till fem år. Samma bild finns hos samverkansmyndigheterna, 80 procent bedömer att fler beslut fattas utifrån kännedom om ekosystemtjänster inom två till fem år.

Naturvårdsverkets nätverk har gett effekt. Medlemmarna i nätverket har högre engagemang i frågan än andra delgrupper och diskuterar frågan oftare än andra. Nätverket har också i hög utsträckning stor eller avgörande betydelse för medlemmarnas interna arbete med att ta med värdet av ekosystemtjänster i beslut.

Fortsatt strategiskt arbete för att lyfta värdet och betydelsen av ekosystemtjänster i samhället kommer att ske genom en samverkansåtgärd i miljömålsrådet. Åtgärden omfattar också att fortsätta driva nätverket för ekosystemtjänster. Samverkansåtgärden är förankrad i miljömålsrådet och genomförs av Naturvårdsverket i samverkan med Boverket, Skogsstyrelsen, Transportstyrelsen, Energimyndigheten, länsstyrelserna, Riksantikvarieämbetet, Havs- och vattenmyndigheten, Trafikverket och Sveriges geologiska undersökning Myndigheter som inte är medlemmar i miljömålsrådet kan också medverka i genomförandet.

2 Summary

The ultimate goal of the government commission – to raise awareness of the value of biodiversity and ecosystem services and their importance to society – remains a challenge. The same is true regarding the ultimate goal of improving levels of attainment of the environmental quality objectives relevant to this government commission. But this work is progressing. Impact evaluations of the implemented measures show that there has been marked movement in knowledge, attitudes and action since the start of the communications project. This suggests that the communications initiative has wholly or partially achieved its set objectives.

The hub of the communications initiative is the ecosystem services network. The network comprises just over 50 individuals acting as intermediaries within municipalities, county administrative boards, businesses and organisations within land-based industries and the construction and infrastructure sector (see Appendix 1). These individuals are learning from each other and building on each other's knowledge about how to work systematically with ecosystem services. The participating government agencies associated with the government commission are also actively collaborating with the network.

The outlook for the future is positive. A follow-up evaluation within the group of intermediaries has shown that 75 percent assess that more decisions within their own sectors will be made based on awareness of the value of ecosystem services in the next two to five years. The same picture has emerged in the participating government agencies, where 80 percent assess that more decisions based on awareness of the value of ecosystem services will be made in the next two to five years.

The Swedish Environmental Protection Agency's network has made an impact. The members of the network have a higher level of commitment to the issue than other subgroups, and discuss it more frequently than others. To a high degree, the network is also of significant or crucial importance to the work of the members themselves towards including the value of ecosystem services in their decisions.

Continuing strategic efforts to promote the value and importance of ecosystem services for society will take place by means of a collaborative measure in the Environmental Objectives Council. The measure also entails continuing the ecosystem services network. The measure is implemented by the Swedish EPA in collaboration with the Swedish National Board of Building, Planning and Housing, Swedish Forest Agency, Swedish Transport Agency, Swedish Energy Agency, county administrative boards, Swedish National Heritage Board, Swedish Agency for Marine and Water Management, Swedish Transport Administration, and Geological Survey of Sweden. Government agencies that are not members of the Environmental Objectives Council will also be able to participate.

3 The commission

In August 2014, the Swedish EPA was commissioned by the government to implement a communications initiative on ecosystem services ending 10 December 2017.

The purpose of the initiative under this commission was to raise awareness of the values and importance that biodiversity and ecosystem services bring to society, as well as to contribute, as far as possible, to attaining the targets from the relevant environmental quality objectives. The communication objectives of the initiative were also formulated in the commission (see Section 5.1.1 on communication objectives under the government commission).

In addition to presenting the measures implemented, the final report was to include an impact evaluation of the measures. The report was also to include proposals for how government agencies and other stakeholders could continue to build knowledge and experience in this area after completion of the commission, with a view to pass on the lessons learned. The commission also included the development of guidance for central government agencies, county administrative boards and municipalities in accordance with Bill 2013/14:141. According to the commission, the Swedish EPA was to cooperate on relevant issues with the following agencies: the Swedish Agency for Marine and Water Management, Geological Survey of Sweden, Sami Parliament, Swedish National Heritage Board, Vinnova, Swedish Energy Agency, Swedish Forest Agency, Swedish Board of Agriculture, National Board of Housing, Building and Planning, Swedish Agency for Economic and Regional Growth, and county administrative boards and other regional actors. When needed, consultations were also to take place with other relevant agencies, in particular those with responsibilities in the Swedish Environmental Objectives system. The Swedish EPA also cooperated with the Swedish Transport Administration and, to some extent, the Swedish Armed Forces.

The agencies collaborated when the meetings of the ecosystem services network were planned and conducted. The agencies also co-authored published opinion articles, organised seminars and produced information material. During the commission period, regular status meetings were conducted to provide updates and support in our common efforts to integrate ecosystem services into each agency's operations and decisions.

An interim report was submitted to the government on 24 September 2015¹ and 29 September 2016.²

¹ Naturvårdsverket 2015. Delredovisning av uppdrag om kommunikationssatsning om ekosystemtjänster M2014/1903/Nm. Communication 2015-09-24, case number NV-06179-14.

² Ibid.

4 Strategy depends on intermediaries

The main strategy of the Swedish EPA's communications initiative is to work through intermediaries. The network for ecosystem services (see Appendix 1) acted as the intermediaries. This strategy was identified in a previous government commission to the Swedish EPA.³ All the activities under this government commission were carried out using this main strategy.

The basic idea behind the strategy stems from the considerable effort needed, which is more effective using combined forces rather than a single catalyst. Getting the work done via the sectors and people who already had experience was also judged to be a more accessible path to achieving change. There is another advantage that was not discussed in the introductory strategies. The intermediaries come from municipalities, county administrative boards and private companies in the construction and infrastructure sector as well as in land-based industries, in particular within the forestry, fishing and food production sectors. Apart from the county administrative boards, these are the industries and sectors that the Swedish EPA – within its framework and role as a government agency – exerts less influence over. With a focus on the milestone target of progressively integrating the value of ecosystem services into important decisions on land and water resources, the intermediaries thus provide us with a channel for influencing decisions outside our own area of activity.

Initial needs analyses showed that the group of intermediaries had a great need for exchanging knowledge and experiences with other experienced professionals who systematically integrate ecosystem services in their operations and decisions. This is why the group of intermediaries created a network.

The knowledge objectives of the communications initiative stimulated the network members' commitment and willingness to act as intermediaries. Early on, it was identified that the drive behind their involvement was grounded in their professional roles. Their drive to engage with this issue mainly stemmed from a professional interest, not a financial or personal one. Throughout this work, the Swedish EPA has been humbled by the fact that ecosystem services touch many people whom the network members monitor and manage. This concluding reflection is something worth considering for other agencies or stakeholders in society who plan to approach this topic using the intermediary strategy. Combining forces often makes a greater impact.

³ Naturvårdsverket 2013. Hur ökar vi förståelsen av ekosystemtjänsternas värden? Redovisning av ett regeringsuppdrag om att ta fram ett förslag till projektplan för en kommunikationssatsning om ekosystemtjänster 2015-2017. Communication, case number NV-04535-13.

4.1.1 Strengthening the network's role as spokesperson

Network members were primarily recruited for their work on ecosystem services. Several of the Swedish EPA's efforts have revolved around strengthening and facilitating the role of the network members as communicators and intermediaries. For trade fairs and seminars, a special booth was developed to promote and facilitate conversations about ecosystem services in urban planning. General and topic-specific PowerPoint presentations were also developed containing mini-handbooks on presentation techniques.

Starting in 2016, the initiative invested resources in influencing media coverage on ecosystem services. Through this activity, the network has become the voice of ecosystem services through the publication of several co-authored opinion pieces.⁴

A survey of the network in the spring of 2016 revealed a shortcoming that hinders its ability to influence decision-makers. A majority of the respondents found it difficult to formulate the benefit of taking ecosystem services into consideration in their own operations. Since the autumn of 2016, part of each network meeting was therefore dedicated to strengthening the participants' communication skills. The focus of this training was to enable them to communicate the benefits of ecosystem services in their own operations and in matters not directly related to the environment, such as health and health care, housing construction, urban planning, business administration and economics, schools and education, and the labour market. A brief summary of this work has been compiled.⁵

A 2017 follow-up of the survey shows that the network members are still some way from being able to formulate the benefits more concretely for their own operations. However, the study shows an increased understanding that these types of examples and documents are what network members need to formulate and communicate, in order to get their message across.^{6,7}

⁴ Selected materials and images from 2015–2017.
http://www.naturvardsverket.se/Documents/publikationer6400/6798_bilaga2_press_meetings.pdf

⁵ Så bidrar ekosystemtjänster till viktiga samhällsfrågor.
http://www.naturvardsverket.se/upload/miljoarbete-i-samhallet/miljoarbete-i-sverige/ekosystemtjanster/bilder-och-material/EST_nytta_samhalle_FINAL.pdf

⁶ Naturvårdsverket 2018. Effektmätning av kommunikationsarbete med nätverk för ekosystemtjänster. Report 6796, pp. 13–14, 16–17.

⁷ Monthly information, ecosystem services network,
http://www.naturvardsverket.se/Documents/publikationer6400/6798_bilaga1_natverk_intervjuer.pdf

5 Impact evaluation of completed measures

5.1.1 Communication objectives under the government commission

As tasked by the government, the Swedish EPA was to strive to achieve the following communication objectives:

- Ensure the group of intermediaries has sufficient knowledge, dedication and willingness to spread the message (Knowledge).
- Ensure that knowledge transfer and participatory processes are established and there is more consensus among the intermediaries on the value to society of well-functioning ecosystem services (Attitudes).
- By communicating knowledge and an understanding of ecosystem services and their values, the intermediaries should promote the increased integration of this knowledge into the decision-making processes of the target groups (Action).

Follow-up measurements reveal marked advances in all three areas – knowledge, attitudes and action – since the start of the communications initiative. There is much evidence to suggest that the initiative has completely or partially achieved its objectives.

5.1.1.1 KNOWLEDGE OBJECTIVES ACHIEVED

In particular, knowledge of ecosystem services increased during the period the communications initiative was in progress from 2014 to 2017. An entire 75 percent of a wider group of intermediaries comprising 200 people (more than the number of members in the Swedish EPA's network) state an increase, or significant increase, in general knowledge about ecosystem services in their own sector over the last three years. The result suggests that members of the ecosystem services network have succeeded in disseminating knowledge in their organisations and sectors. The involvement in ecosystem service issues and the value of ecosystem services was also estimated by the wider group of intermediaries to be higher in 2017 than before the initiative began in 2014.

Still, the wider group of intermediaries feels that the issue is quite difficult to communicate, most likely because of its complexity. Increased knowledge does not automatically mean that the issue is perceived as being easier to communicate. New challenges often bring deeper or increased knowledge. A survey sent to the ecosystem services network shows that the concept itself creates difficulties. People who find it easy to communicate the value of ecosystem services attribute it to the concept and their own knowledge.

And those who find it difficult state that the difficulty is due to the wording of the concept itself and a lack of general knowledge.⁸

The Swedish EPA's network seems to have produced results. The members of the network have a higher level of commitment to the issue than the wider group of intermediaries and discuss the issue more often than others.⁹

However, the general level of factual knowledge has not been measured in the network because it was ascertained at the time the network members were recruited. On the other hand, issues surrounding knowledge and engagement were measured after each meeting with the network (see Section 6.2.1 on network meetings).

5.1.1.2 ATTITUDE OBJECTIVES ACHIEVED

The view of the future is positive, both within the wider group of intermediaries and in the ecosystem services network. Three-quarters of the wider group of intermediaries believe that more decisions in their own sectors will be taken within two to five years based on knowledge of the value of ecosystem services. In the ecosystem services network, more than two-thirds (68 percent) estimate that the increase will take place within two years¹⁰.

The consensus on the value of ecosystem services within the intermediary group was not systematically measured during the work of the commission. However, consensus was apparent in the implementation of the communications initiative. For example, the majority of the various sectors of the network came together to co-author several opinion articles expressing the societal value of ecosystem services. A majority of the sectors also participated in the exchange of knowledge between network members during the network meetings.

Stakeholders in the forestry sector participated in communications initiatives, albeit to a lesser extent than other sectors in the network. But this does not mean that the consensus is any weaker concerning the value of ecosystem services. Other reasons explain this lack of participation. For example, the focus of the opinion articles and network meetings was on ecosystem services in cities rather than in forests. Also, organisations may have communication strategies that do not include the current communications initiatives.

⁸ Naturvårdsverket 2018. Effektmätning av kommunikationsarbete med nätverk för ekosystemtjänster. Report 6796, pp. 15–17.

⁹ Ibid., pp. 47–48.

¹⁰ Ibid., pp. 47, 7.

5.1.1.3 ACTION OBJECTIVES ACHIEVED

The number of intermediaries who discuss the value of ecosystem services both in their own organisation and in other contexts has increased. In the larger intermediary group, 69 percent state that they discuss the value of ecosystem services within their own organisation often or sometimes. The corresponding figure at the outset of the government commission in 2014 was 57 percent.¹¹ In the ecosystem services network, 86 percent state that they discuss the value with their colleagues every month or more often.¹²

In the larger intermediary group, several people state that they have an approach to raising awareness of the value of ecosystem services, which indicates increased action. This is clearly confirmed in the ecosystem services network, where an overwhelming majority, 74 percent, have recently helped to incorporate the value of ecosystem services in decisions within their own organisation.¹³

5.1.2 How ecosystem services are part of network decision-making

The ecosystem services network has influenced the decisions of their own organisations over the past year. On the question “Is the value of ecosystem services an integral part of decision-making in your organisation?”, the percentage of respondents that stated ‘No, never’ decreased markedly in one year, from 29 down to 9 percent. During the period, there seems to have been some increase in the number of decisions, since more respondents stated ‘Yes, but rarely’.¹⁴

There is a wide distribution of responses from the network regarding the types of decisions in which ecosystem services are integrated. Among other decisions, the members of the network have influenced local government plans (master and local development planning) as well as construction companies’ construction projects and land acquisitions. An example response:

“The valuation of biological diversity and important natural values are always included in local land planning, for example. We are also very engaged in the values for outdoor recreation. A recent example is when we had two proposed road locations, where one would have involved felling trees, an impact on recreational values, forests near schools, etc. while the other option would have made less impact. The latter option was chosen because of the great natural values and ecosystem services (though not really expressed as such).”¹⁵

¹¹ Ibid., p. 45.

¹² Ibid., p. 13.

¹³ Ibid., pp. 44, 9.

¹⁴ Ibid., pp. 7–8.

¹⁵ Ibid., pp. 47–48.

5.1.3 Importance of the network

The Swedish EPA's network seems to have produced results. In a comparison between the network and the wider group of intermediaries, the network members state a higher level of commitment and discuss the issue more often¹⁶.

Members' participation in the network is also important to their work with ecosystem services. More than half say that membership is crucial or important in their own work. However, not everyone is positive. Four out of 34 respondents state that the network has little or no meaning in their own work¹⁷.

Participation in the network has also given members a better understanding of how to integrate the value of ecosystem services into decision-making – just over half of the respondents state that this is true or true to a large extent. Network participation has also increased the ability of members to talk about ecosystem services with decision-makers. A majority believe that only the meetings contributed in this respect.¹⁸

¹⁶ Ibid., pp. 47–48.

¹⁷ Ibid., p. 19.

¹⁸ Ibid., p. 20.

6 Implemented measures

6.1 Press and media

To create additional impact in our communication efforts, the Swedish EPA launched more active media efforts for 2016 and 2017. The regional media and specialised press were identified as priority channels. Discussions about ecosystem services are most common in opinion articles, so the project implemented several initiatives to reach a broader audience through the news sections of different media outlets. Among other initiatives, the project conducted a SIFO survey, an opinion survey, with four questions to the public about their attitudes towards nature's free work. The questions revolved around four themes: pollination, children's health, urban trees and decision-making in urban planning. Our work on the SIFO survey resulted in the publication of nine editorials and twelve opinion pieces, which were signed together with the network.

During 2017 up until the beginning of November, our press efforts resulted in a total of 25 articles or features, including 13 in priority regional media, 2 in national media and 10 in the trade press.¹⁹

Experience from promoting ecosystem services in editorial channels reveals that discussion forums are still the channels more open to discussions of the issue. News sections reach a larger audience and can help to achieve the environmental objectives' milestone target of raising awareness of the values. Yet news sections want more sensational stories, which are not consistent with the long-term perspective of ecosystems, biodiversity and ecosystem services. The question also remains of whether the effort to achieve the target is worth the resources it would take to further popularize the topic. More long-term efforts, at a level that is possible together with the ecosystem services network, are probably a better way of investing resources.

6.1.1 @ecoserviceAnki on Twitter

The Swedish EPA has an official ecosystem services tweeter for the initiative, @ecoserviceAnki. This Twitter account was launched in March 2016, and by December 2017 had more than 360 followers, both nationally and internationally. Collaboration and sharing of tweets from @ecoserviceAnki is done via the Swedish EPA Twitter account @naturvardsverk, which has 9,500 followers.

The idea is for the posts to be inspiring, spread awareness and let people know about the latest activities and events related to ecosystem services.

¹⁹ Selected materials and images from 2015–2017. http://www.naturvardsverket.se/Documents/publikationer6400/6798_bilaga2_press_meetings.pdf

The Twitter account has helped the Swedish EPA reach a broader target group in society and create new contacts.²⁰

6.2 Events, meetings and conversations

6.2.1 Network meetings for exchanging knowledge and experiences

The main purpose of the network meetings was identified in an initial needs analyses. Those who have embarked on more systematic efforts around ecosystem services express a great need for exchanging experiences and knowledge. In addition to this main purpose, the Swedish EPA's involvement at the meetings aimed to encourage networking and discussions about how to more clearly express the benefits of ecosystem services.

Initially, the network met once every half year. In 2017, however, the Swedish EPA arranged two meetings per term with the goal of increasing the pace and involving more people in the organisational efforts. This brought a clearer scope to the meetings, but did not result in more participants or more people involved in organisational efforts.

The Swedish EPA periodically measures the participation level in the network. Our goal is for 80 percent of members to participate in meetings during the year and for at least 70 percent to hold meetings in their own organisations to transfer knowledge. However, the participation goal was not measured during the entire year. The measurement was done manually by analysing email responses, and the results have not changed since 2015. In May 2017, 65 percent of network members aimed to attend the network meeting, but in practice 25 percent were able to participate. The figures therefore do not apply for the entire year. The only stated reason for non-participation was other business commitments, which is to be expected from business professionals.

The network includes a few members who made clear early on that they did not have the intention or opportunity to participate in the meetings. These people have not been excluded, because the network performs more functions than simply meeting for experience-sharing. We are nearly on target. In a survey of the ecosystem services network, 76 percent stated that they have participated or are planning to participate in the network meetings during 2017.²¹

However, the question of whether the network members pass on the shared knowledge to their own organisation was measured after each network meeting. Not unexpectedly, everyone who participated in a network meeting, and who responded to a follow-up questionnaire, stated that they will meet up with colleagues and managers for the

²⁰ Ibid.

²¹ Naturvårdsverket 2018. Effektmätning av kommunikationsarbete med nätverk för ekosystemtjänster. Report 6796, p. 18.

remainder of the term to pass on what they have learned. The survey of the network offers a more accurate picture, where 70 percent (25 out of 35) discuss ecosystem services with their managers every month and over 85 percent (30 out of 35) do so with their colleagues.²²

The quality of the meetings has also been evaluated, both through survey questions to the participants after each meeting and in the survey of the entire network during 2016 and 2017. In this way, the meetings have been able to evolve and receive higher quality ratings. After the October 2017 meeting, 10 of 12 replied that they had the knowledge they could use in their work; 11 of 12 replied that there was enough time for conversations and discussions; and 11 of 12 had an idea of what issues others in the network were working with. The 2017 survey of the entire Swedish EPA network provides a supplementary picture. In that survey, 70 percent (24 out of 34) responded that the network meetings positively influenced their own ability to communicate the value of ecosystem services to decision-makers²³.

The biggest challenge in organising the meetings has been to meet the network's diverse needs regarding different topics. Ecosystem services affect a wide spectrum of areas across a diverse range of sectors, including municipalities, county administrative boards, land-based industries (forestry, agriculture, fisheries), and the construction and infrastructure sector. At the same time, evaluations of the meetings reveal that the participants want to leverage this diversity at the next meeting. This is one of the reasons for not arranging meetings by sector. In autumn 2017, however, the meetings were more thematic, with a special focus on agricultural ecosystem services and urban ecosystem services. Yet this did not result in a higher number of participants from different sectors, which can be interpreted as being mainly due to people's own busy schedules.²⁴

6.2.2 Seminars and workshops

The strategy in this government commission has been to participate as co-organisers at upcoming conferences, seminars and workshops aimed at the target groups for this initiative. With this approach, we can reach the end target groups for the initiative in a context they are familiar with and have a connection to. Our strategy also involved creating a forum for the organisations in the network where they could share their work as well as their knowledge and experience with industry colleagues.

²² Ibid., p. 13.

²³ Ibid., p. 20.

²⁴ Selected materials and images from 2015-2017.
http://www.naturvardsverket.se/Documents/publikationer6400/6798_bilaga2_press_meetings.pdf

Together with the partnering government agencies for this commission and the ecosystem services network, the Swedish EPA initiated many conversations by having a booth where we encouraged dialogue about ecosystem services in the built environment.

In 2015, the commission sparked awareness-raising conversations and discussions on the value of ecosystem services at a total of 13 events with more than 630 participants. In 2016, the corresponding figures were 8 major events with about 650 participants in total. And in 2017, there were 9 major events with about 1,150 participants. Events included Climate Adaptation Sweden, Platform Days for Sustainable Urban Development, the final conference for the Vinnova project C/O City, and the Sweden Green Building Council (SGBC) Conference on sustainable construction.

The target groups for the seminars and workshops the Swedish EPA arranged were the same as the target groups for the initiative – strategists, experts and decision-makers at municipalities, county administrative boards, land-based industries, and the construction and infrastructure sector. Consultants, researchers, government agencies and students also participated in the seminars and dialogues²⁵.

6.2.3 Dedicated Facebook group

The Facebook group “Jobba mer med ekosystemtjänster” (“Get involved in ecosystem services”) was created in order to broaden the conversation with more stakeholders than in the network’s sectors and industries. The group was created in early November 2016 with the goal of attracting 120 members before August 2017. In November 2017, the group had 187 members. One post in the group is seen on average by 130 people.²⁶

6.2.4 Digital network platform

Individuals from the communications network and the partnering government agencies have access to a digital network platform on ecosystem services. The platform’s goal is twofold: to facilitate information-sharing and to enable contact with relevant persons.

Getting more activity and increasing the number of network contacts via this common network platform and other digital arenas has been a major challenge. It is challenging to redirect data traffic to a new platform.

²⁵ Ibid.

²⁶ Ibid.

The network platform performs the function of offering the ability to share documents. It has not acted as a channel for communication among the network members. Communication has instead taken place through other channels, in particular Facebook, Twitter, email and telephone.²⁷

6.3 Knowledge and guidance

The initiative initially focused on adapting information to the target groups. This strategy gave way to another one during the implementation itself. Instead, the initiative has focused on categorising information by topic based on themes such as health, beneficial insects, climate adaptation and stormwater management. More micro-targeting has since taken place in meetings between network or project members and the target groups.

6.3.1 Guide for valuing ecosystem services

Any society with sustainable development goals needs to recognise the value of ecosystem services. The valuation of ecosystem services provides decision guidance about which areas to preserve and which to develop, and which ecosystem services a business depends on for its livelihood.

A need for better tools to evaluate ecosystem services was identified early in the network during its work. The Swedish EPA therefore created an easily accessible guide in the spring of 2015 on how to value ecosystem services²⁸. It is a practical guide that contains step-by-step descriptions and different examples. It caters to people who work at municipalities, private companies, government agencies, county administrative boards and special interest groups. Our hope at the Swedish EPA is that the guide will facilitate and inspire more people to start valuing ecosystem services. The guide has been used in the initiative to develop other activities specifically targeted to the network, but also for a wider audience. In 2016 and 2017, the Swedish EPA placed even more focus on concrete, educational activities that illustrated the benefits of valuing ecosystem services. One such effort involved conducting workshops about valuation, such as a workshop with valuation experts at the network meeting in Malmö in autumn 2016. Other activities included presentations given during courses, for example the course “Ecosystem services in spatial planning” offered in cooperation with the Technology Institute in November 2016, as well as through hands-on valuation exercises with the network. Activities also took place at various conferences and seminars aimed at a wider audience, for example at the conference on climate adaptation sponsored by the magazine *Aktuell Hållbarhet* (“Current Sustainability”) and at the final conference for the “C/O City” project in autumn 2017.

²⁷ Monthly information, ecosystem services network, http://www.naturvardsverket.se/Documents/publikationer6400/6798_bilaga1_natverk_intervjuer.pdf

²⁸ Naturvårdsverket 2015. Guide för värdering av ekosystemtjänster. Report 6690.

The guide has helped people, both within the network and a wider audience, to understand the meaning of ecosystem services valuation. It has also provided practical approaches to getting started with valuation. Several stakeholders have realised the benefits of valuing ecosystem services and integrating these values into their organisations. The production and distribution of the valuation guide has made a noticeable impact. More network stakeholders state that they have gained a greater understanding of what the valuation of ecosystem services means (about 10 percent more in 2017 than in 2016). Several stakeholders, such as Skellefteå Municipality and the City of Stockholm, have used the guide in practice for conducting valuation studies (qualitative, quantitative and monetary).

In the 2017 impact evaluation, 61 percent of network members state that they used or are planning to use the ecosystem services valuation guide.²⁹ A follow-up measurement also confirms the above reflections, where more of the respondents (a roughly 10 percent increase since 2014) state that they now have a method within their own organisation for highlighting the value of ecosystem services compared to before the initiative.³⁰ Of the stakeholders included in the measurement, more are deciding to describe the value of functioning ecosystem services than before the initiative (88 percent in 2017 compared with 76 percent in 2014). Statistics indicate that the website about the guide attracted more than 900 visitors in 2017, compared with about 570 in 2016. The number of times the guide was downloaded has increased significantly in the last six months (see Figure 1).

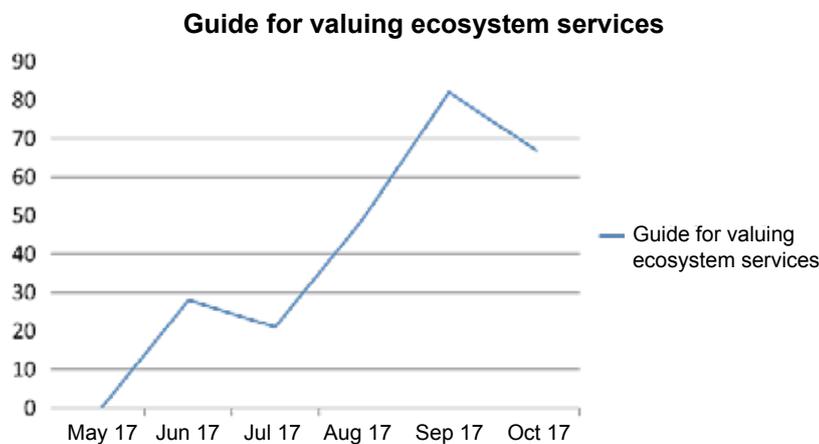


Figure 1. Downloads of Swedish EPA report “Guide for valuing ecosystem services” during the period May–October 2017.

²⁹ Naturvårdsverket 2018. Effektmätning av kommunikationsarbete med nätverk för ekosystemtjänster. Report 6796, p. 18.

³⁰ Ibid., p. 40.

6.3.2 The case for more ecosystem services

The members of the ecosystem services network need easily understandable and well-formulated arguments for why ecosystem services should be taken into account in business operations and decision-making. That is why we created the report “The case for more ecosystem services”.³¹

The report was written in collaboration with the environmental consultancy Ekologi-gruppen AB. Equipped with collected arguments for ecosystem services, network members can more effectively disseminate knowledge and communicate the value of ecosystem services within their respective organisations. The report contains statistics, studies and research showing how ecosystem services contribute to people's welfare and well-being. A condensed version of the report is also available.³²

The Swedish EPA hopes that the contents of this report inspire more people to recognise and value ecosystem services when taking decisions related to planning, strategy, investment and other decisions. Another of our goals is for everyone to be able to make use of the report, including laypeople not professionally involved in environmental issues. Our arguments are divided into four themes: Water in Urban and Natural Landscapes, Beneficial Organisms, Human Health, and Climate Impact and Adaptation. The arguments are described using real-world examples as far as possible. There is also a description of the many different functions of ecosystems.

The report has been actively shared via Facebook and Twitter by using recurring posts with messaging taken from the report. The report has been used at trade fairs as well as in interviews with the press and for creating opinion pieces. The content of the report has also served as the basis for three short videos and a PowerPoint presentation. These productions are intended primarily for use by the people from the ecosystem services network in their continued work. The videos are published on the Swedish EPA's YouTube channel so that they can be more widely disseminated.³³

6.3.3 Guidance for integrating ecosystem services into government operations

The guide “Integrating ecosystem services into government operations” is based on a stepwise approach to ecosystem service assessment in all or part of a government agency's operations³⁴. The assessment makes visible the ways an agency influences and depends on ecosystem services. This knowledge enables agencies to include and inte-

³¹ Naturvårdsverket 2017. The case for more ecosystem services. Report 6736.

³² Naturvårdsverket 2017. Condensed version of the report “The case for more ecosystem services.”

³³ Stressad? Ta en dos natur: <https://youtu.be/gaBGSbf1ZmQ>
Upptäck det osynliga arbetet i staden: https://youtu.be/kzMdE54_lfw
Låt den rätte göra jobbet – sätt naturen i arbete: <https://youtu.be/A2AKRMXycxQ>

³⁴ Naturvårdsverket 2016. Integrera ekosystemtjänster i myndigheters verksamhet. Report 6733.

grate ecosystem services into their operations and decisions. The guide was developed by environmental consultancy firms Albaeco and U&We on behalf of the Swedish EPA.

The guide contains a report and associated Excel file that can be used to support their work. The guide begins with a survey of how all or part of an agency's operations (activities) are connected to different ecosystems and environmental quality objectives.

Next, an analysis is made of the ecosystem services that each activity is connected to. Also included are an assessment of the status of these selected ecosystem services and the agency's influence over the services. This knowledge can then be used to integrate ecosystem services into operations and decisions where relevant, such as when funds are to be allocated or in an environmental assessment of the agency's environmental management. Up until the end of October 2017, the webpage containing the guidance attracted more than 700 visitors, making it the second-most visited guide on ecosystem services on the Swedish EPA website.

The guide is used by agencies like the Swedish EPA for integrating ecosystem services into wildlife management, and by the County Administrative Board in Västerbotten for integrating ecosystem services into its decisions about how to create nature reserves.

6.3.4 Podcast: Nature's invisible work — Ecosystem services, the built environment, municipalities

A Swedish podcast about nature's invisible work – ecosystem services – and the built environment and municipalities has been developed as part of the guidance for municipalities, county administrative boards and corporate initiatives on ecosystem services.³⁵ Sweden has 290 municipalities, and some of them have surveyed which ecosystem services exist in their municipality or in areas under development. These surveys then act as guidance for the municipality's governing documents for buildings and infrastructure. But creating the surveys requires resources. So, is it worth making the investment? And what do the surveys mean for county administrative boards and construction companies and property managers? The podcast will be shared when the final report for this project is submitted.

6.3.5 Ecosystem services in practice

The report "Ecosystem services in practice" presents the practical applications of ecosystem services in planning and decision-making in Sweden.³⁶ The report also contains a compilation of real-world examples. The report's purpose is to gather experiences and inspire the readers themselves to take the next step in approaching, analysing and integrating ecosystem services into their businesses, for example when creating plans and strategies and taking decisions.

³⁵ Nature's invisible work – ecosystem services, the built environment and municipalities <https://soundcloud.com/naturvardsverket/naturens-osynliga-arbete-ekosystemtjanster-bebyggelse-kommuner> (in Swedish)

³⁶ Naturvårdsverket 2016. Ekosystemtjänster i praktiken. Report 6724.

The report, which is written on behalf of the Swedish EPA by researchers at the Centre for Biological Diversity in Uppsala, has been distributed during conferences, trade fairs and via contacts of the ecosystem services network.

6.3.6 Infographics on ecosystem services in urban and cultivated landscapes

Two infographics were developed within the project, one depicting ecosystem services in urban environments³⁷ and the other ecosystem services in cultivated landscapes³⁸. Their purpose is to clearly demonstrate the potential of different parts of the landscape to deliver ecosystem services.

The infographics and accompanying illustrations were developed in collaboration with the relevant government agencies and with the support of some of the network members. They are publicly available and can be downloaded from the websites of the Swedish EPA, the National Board of Housing, Building and Planning, and the Swedish Board of Agriculture. By the end of October 2017, the infographic for ecosystem services in urban environments had been downloaded nearly 1,150 times (847 from the EPA and 300 from the National Board of Housing websites). The infographic for ecosystem services in cultivated landscapes was downloaded 275 times (from the EPA).

6.3.7 Presentations about ecosystem services

To make it easier for the network to further disseminate knowledge, the project has developed several practical tools:

- Supporting documentation for the discussion and analysis of two ecosystem services presentations given by experts Gretchen Daily and Pavan Sukhdev (autumn 2015).
- A mini-tutorial on presentation techniques (autumn 2015).
- A general PowerPoint presentation about ecosystem services, including script and presentation techniques (year-end 2015/2016).
- A PowerPoint presentation for the report “The case for more ecosystem services” with script (year-end 2016/2017).

The survey of the network shows that the network did not use the presentations to any great extent in 2017. Only 15 percent state that they have used or are planning to use them. In the previous year's survey, 46 percent replied that they used the presentations. Either the need has declined or it is not as appealing for the network. The presentations have been published on a network collaboration platform. Unfortunately, the webpage

³⁷ <https://www.naturvardsverket.se/upload/miljoarbete-i-samhallet/miljoarbete-i-sverige/ekosystemtjanster/bilder-och-material/natu-4260-ekotjanster-staden-uppslagutskrift.pdf>

³⁸ <https://www.naturvardsverket.se/upload/miljoarbete-i-samhallet/miljoarbete-i-sverige/ekosystemtjanster/bilder-och-material/natu-4260-ekotjanster-odlingslandskapet-uppslagutskrift.pdf>

is rarely used by the network – only 33 percent state that they are active there. Yet statistics show that the general PowerPoint presentation is the second most opened document on the entire collaboration platform.

6.3.8 Visitor traffic to Swedish EPA website

Although the communications initiative is primarily aimed at professionals in municipalities, county administrative boards, land-based industries, and construction and infrastructure companies, web statistics show that the largest group visiting Swedish EPA web pages dedicated to ecosystem services is private individuals. Of the visitors, 62 percent are private individuals. The number of visitors from municipalities is 11 percent, from companies 9 percent and from other government agencies 7 percent. It should be noted that the majority of visitors to the Swedish EPA's web pages in general – 63 percent – are private individuals. Of visitors to the Swedish EPA's home page, 8 percent come from municipalities and 17 percent from private companies.

Figure 2 shows visitor statistics for the Swedish EPA's webpages on ecosystem services. These statistics show that there is a greater interest than that created through the government commission. For the communications initiative, a landing page and a FAQ page were prioritised. Those pages did not get the same amount of traffic as a page explaining more about what ecosystem services are.

Page contents	26 Oct 2015 – 25 Oct 2016	26 Oct 2016 – 25 Oct 2017
Ecosystem landing page	5,155	3,278
What are ecosystem services	3,084	8,773
Valuing ecosystem services	568	913
FAQ	1,180	946
Images and materials	1,948	1,893
Research and more info on ecosystem services	668	401
Guidance – valuing ecosystem services		1,336
Guidance – for government decision-making		701
Guidance – for ecosystem services in environmental impact assessments		534

Figure 2. Statistics on the number of visitors to Swedish EPA webpages about ecosystem services. The figure compares the total number of visitors in October 2015–October 2016 with the period October 2016–October 2017.

Of the network members, 58 percent state that they are using the information about ecosystem services available on the Swedish EPA website.³⁹

³⁹ Naturvårdsverket 2018. Effektmätning av kommunikationsarbete med nätverk för ekosystemtjänster. Report 6796, p. 18.

7 Integrating ecosystem services into decision-making

7.1 Pilots at the county administrative board

On two occasions during 2016 and 2017, the Swedish EPA tasked the county administrative boards of Östergötland, Skåne and Västerbotten with conducting pilot projects. The purpose was to develop and consolidate work methods within the county administrative boards, so that the value of ecosystem services is taken into account when taking decisions and stating positions. Over the years, the three pilot counties have worked to integrate ecosystem service perspectives into a variety of cases, including:

- Case processing for regional business support
- Permits for environmentally hazardous activities and water operations under the Environmental Code
- The creation of nature reserves and cases concerning biotope protection exemptions under the Environmental Code
- Exemptions under the Off-Road Driving Act
- Planning in accordance with the Planning and Building Act and the Roads Act

The pilot counties have worked to develop tools and checklists for efficiently processing cases while taking into account ecosystem services. The results include a checklist for the creation of nature reserves and a general checklist for cases involving changes in land use, such as environmental court hearings, infrastructure cases and local development cases. Guidance has also been developed on how the county administrative board can help the municipality to take ecosystem services into account during planning in accordance with the Planning and Building Act. The pilot counties have also shared their experiences with administrative officers at other county boards on how to integrate ecosystem services into case management. This was done via three webinars and workshops at the end of 2017.

The counties' pilot tests have shown that a simple and well-structured analysis of ecosystem services provides added value in case management. The ecosystem service analysis provides a broader justification for shaping attitudes and thus better decision guidance documentation. For more details, see the final report of the pilot counties.⁴⁰

⁴⁰ County councils of Västerbotten, Östergötland and Skåne, 2017. Att uppmärksamma värdet av ekosystemtjänster i beslut och ställningstaganden – del II. Verktyg för att arbeta med ekosystemtjänster i olika ärenden och verksamhetsområden hos länsstyrelserna – med exempel. Report. 2017:27 (Skåne's report series).

7.2 Ecosystem services in the decision-making of the ecosystem services network

The ecosystem services network can showcase a variety of examples illustrating how ecosystem services are part of the network members' activities. The network has extensive experience in promoting the consideration of ecosystem services in decisions within its own organisation. For example, network members have indicated the use of ecosystem service analyses prior to land acquisition and the inclusion of ecosystem service valuation in municipal master planning and local development decisions. The network also has experience of valuing ecosystem services during the creation of municipal nature reserves and when planning how to restore wetlands.

The network includes representatives from industries whose livelihood depends on ecosystem services. In taking a position on how to develop industry, ecosystem services are always, in some way, included in decisions – even if “ecosystem services” is not the exact term used.

7.3 Ecosystem services in government decision-making

More than 80 percent of the partnering government agencies in the initiative state that they have recently played a part in the inclusion of ecosystem service valuations in one or more decisions in their organisation. Examples of such decisions include:

- Research projects on ecosystem services within environmental impact assessments
- Providing guidance on how to integrate the value of ecosystem services into municipal master plans and local plans, with the support of the Planning and Building Act
- Training on ecosystem services for staff at the agency
- Surveys and status assessments of forest ecosystem services.

According to the partnering government agencies, successfully influencing decision-makers to consider the value of ecosystem services requires directives from the government or new guidelines from the EU. Individual efforts to promote and justify the reasons for considering the value of ecosystems in organisational planning and use it to an organisation's advantage are also highlighted as important, as well as acknowledging green structures as a whole and their relationship with community development, welfare, business development and innovation. Another plus is being able to show the many different values of green environments and cross-sectoral collaboration. Influencing decision-makers also requires a better understanding of ecosystem services, including the ability to convey concrete and relevant examples of its economic values.

We assess that the integration of ecosystem services in decision-making is well under-way. A large proportion – close to 80 percent – of the partnering government agencies estimate that, within two to five years, more decisions in their sector or industry will be based on an understanding of the value of different ecosystem services.

7.3.1 Processes for integrating ecosystem services at partnering government agencies

A memorandum to earlier interim reports for this commission⁴¹ reported on the integration of ecosystem services in prioritised processes at the different agencies, including workflows, the scope for introducing ecosystem services in their processes, barriers and opportunities, as well as next steps to be taken at each agency.

The prioritised processes and corresponding responsible agencies are as follows:

- Regulatory impact assessments (Swedish Agency for Marine and Water Management)
- Municipal master plans and local plans (National Board of Housing, Building and Planning)
- Managing support for broad-leaved deciduous forests and for natural and cultural environmental measures, NOKÅS (Swedish Forest Agency)
- Regulations and general advice on environmental aid, compensation for organic production and compensatory aid (Swedish Board of Agriculture)
- Sustainability criteria for biofuels and bioliquids (Swedish Energy Agency)
- Action research (Swedish Transport Administration)
- Awarding of project grants (Vinnova)
- Environmental impact assessments and environmental assessments (Swedish Environmental Protection Agency)

The Swedish EPA wishes to emphasise that these prioritised processes are in no way the only relevant ones in this context. There are many more important processes in which ecosystem services should be integrated.

Reflecting back on this work, we see that there are relatively simple methods for including ecosystem services in different processes, but the methods should be adapted to the circumstances. For example, an agency might need to wait until guidelines are updated or new ones created, or professional training might be needed within the organisation to promote the right mindset.

⁴¹ Participating government agencies' selection of processes for integrating the value of ecosystem services, report. PM with case number NV-06179-14.

For all the agencies involved, process integration brings them a step closer towards the objective of integrating the value of ecosystem services into decisions and attitude-shaping.

7.4 Integrating ecosystem services into decision-making – opportunities and challenges

7.4.1 Ecosystem services are the connecting link among different societal issues

A clear lesson was learned after completing this commission: ecosystem services and their values represent an extensive area that affects a wide range of societal issues, including labour and housing markets, socioeconomics and business economics, climate adaptation, urban planning and, not least, public health. This partly explains the sluggish pace of raising awareness of the values of ecosystem services. It is a fundamental change process that people face on both a national and a global level, in terms of individual attitudes and societal structures.

If we think about the long-term changes in attitudes and norms underlying other fundamental issues in society, such as gender equality or diversity, a communications initiative from a Swedish government agency would seem not to suffice. Having said that, we should not stop trying to change norms and attitudes around nature's often invisible work. More people need to discover nature's services and stop considering green spaces and water as just nice bits of decoration.

And from the ongoing follow-up of our research efforts on the value of ecosystem services, we can also conclude that these services bring a broader perspective to organisational and societal changes, touching upon many different issues in society all at once⁴². Opportunities to make a difference are indeed available using relatively simple ecosystem service analyses to develop operations. Highlighting various ecosystem services right at the outset is an important step to take⁴³.

7.4.1.1 USE THE MOMENTUM OF AGENDA 2030 EFFORTS

Agenda 2030 makes clear that ecosystem services act as the connecting link among different societal issues. Achieving all 17 goals depends directly or indirectly on well-functioning ecosystem services. For example, goal 11 (Sustainable cities and communities), goal 14 (Life below water) and goal 15 (Life on land) directly depend on well-functioning ecosystem services. An example of a more indirect dependence on ecosystem services can be found in goal 1 (No poverty).

⁴² Naturvårdsverket 2018. Follow-up of research funding for the value of ecosystem services. Not yet published.

⁴³ Naturvårdsverket 2016. Ekosystemtjänster i praktiken. Report 6724.

Efforts towards achieving the Agenda 2030 goals have, in a short time, had a major impact among many different stakeholders in Sweden and other countries. So, the time is ripe to integrate the value of ecosystem services into more decisions in society. As we continue to communicate the value, the Swedish EPA therefore believes that the message should focus on how integrating ecosystem services into societal decisions is a vital part of the solution to achieve the Agenda 2030 goals.

7.4.1.2 INTEGRATING ECOSYSTEM SERVICES INTO REGIONAL ACTION PLANS FOR GREEN INFRASTRUCTURE CAN LEAD TO MORE DECISIONS

The implementation of the 2 regional green infrastructure action plans, which will take effect in 2018, will offer an important context for sharing and illustrating the value of ecosystem services for many different sectors. Green infrastructure offers an idea of how nature's functions and qualities are distributed geographically. It gives an indication of which species and habitats must continue to exist in the landscape long into the future. Green infrastructure also tells us about how green spaces and water deliver ecosystem services to us humans.

The action plans are designed so that they can be used as guidance documents when considering landscape ecological connections and ecosystem services in land and water use decisions. They are designed based on the specific needs and circumstances of the users. The decision guidance documents can be used for spatial planning in accordance with the Planning and Building Act and infrastructure legislation, as well as for permitting processes in accordance with the Swedish Environmental Code. The action plans can also be used as guidance when determining resource use for land-based industries and when prioritising conservation efforts.

7.4.2 The approach is key – not what we call it

One lesson for our continued communication efforts is to not focus too much on the term “ecosystem services”. The Swedish EPA has concluded that what we call it is not as important as the approach behind it – that the efficient functioning of nature affects people's well-being and quality of life. The milestone target for biodiversity and ecosystem services also calls for promoting a greater awareness of the value and importance of ecosystem services, not the term itself.

Noteworthy is that the term “ecosystem” is not owned by science. Other industries use it, too, including the banking and financial sector and the IT sector. But it falls on the shoulders of those of us in the environmental profession to explain that humans have laid the foundation for their well-being and quality of life, and continue to do so, without understanding how decisions on land and water resources affect the future supply of nature's free work.

7.4.3 Guidance under the Planning and Building Act ongoing

It is possible to manage the conditions for ecosystem services within existing legislation⁴⁴ in planning and permitting processes. The municipal master plan plays a key role in enhancing the visibility of ecosystem services in spatial planning, since it provides guidance for future planning and for issuing building permits. It is therefore important for the master plan to incorporate the value of ecosystem services and to provide a long-term plan for the preservation and development of these services. However, the Planning and Building Act has a limited mandate for the management of ecosystem services in local plans, and consequently which requirements can be imposed on individual property owners. It will therefore be difficult to achieve a suitable green framework that supports ecosystem services in the built environment using current legislation.

At the same time, surveys show a huge need for more knowledge about ecosystem services at both the local and the regional level. It is also clear that only a small percentage of the 147 municipalities that participated in the survey have master plans that include the ecosystem services concept. Of the master plans adopted in 2013–2015, only 30 per cent addressed ecosystem services. Better planning guidance documents and guidance on the application of the Planning and Building Act (PBL) are also needed.⁴⁵

In light of these facts, the Swedish National Housing Board is developing guidance (during 2016–2018) on how to integrate ecosystem services in planning and construction in accordance with the Act. This guidance aims to increase knowledge, improve understanding and clarify the crucial role of ecosystem services and green structures in the sustainable development of our cities and towns. Another goal is to provide guidance on how to protect, strengthen and create ecosystem services within planning, construction and future management. The guidance in Swedish will be published online in the PBL Knowledgebase during the spring of 2018.

7.5 Communication challenges

The communication efforts have always used the milestone target of biodiversity and ecosystem services as a benchmark, even though the commission's communications objectives do not completely relate to the milestone target. And rightly so.

Communication efforts alone cannot help to achieve such a comprehensive milestone target for society in three years. But with the milestone target in mind, it is easier to identify the direction: to pinpoint which decisions should be influenced.

⁴⁴ Christina Hellström, Jonas Månsson, Christian Härdgård. Ekosystemtjänster i plan- och bygglagen. Version 1.0 2016-12-29, Delphi law firm. National Board of Housing, Building and Planning, Halbyg 5.

⁴⁵ City of Malmö 2016. BEST Report. Boverket och ekosystemtjänsterna. Får ekosystemtjänsterna tillräckligt stöd i PBL?

The Swedish EPA made an initial attempt to identify different decisions of the participating government agencies, but failed to translate this into concrete and recurring communications about which land and water resource decisions were important to influence regarding the value of ecosystem services and biodiversity. The difficulty is connected to the threat of failing ecosystems and our future ability to deliver ecosystem services. We must be able to communicate and advise on who can do what to reverse this threat; otherwise, it is difficult for communication to contribute to change. Without suggestions for concrete solutions and for which parties should take action, it is easier to skirt around the issue and delegate responsibility to someone else. The same applies if the return on investment for the change lies too far into the future.

In our role as government agency, we often face the challenge of being more concrete. It can be perceived as insignificant, or bringing a risk of misalignment, if a few decisions and decision-makers are identified as concrete examples in the communication from an agency. As an expert on this issue, there is often a desire and expectation to highlight only specific, verified examples.

Creating more concrete decision-guidance documents and thereby engaging decision-makers are two other barriers that were identified by the network as obstacles to achieving the milestone target⁴⁶. The network members also mentioned time restrictions. Change management through communication takes time – and requires extensive human resources to build up network activities on a large scale. In addition, the communication needs to be continuously adapted based on experience of testing different real-life measures.

Change efforts need to be planned with sufficient margins for testing, making adjustments and additions, and removing different elements in order to better advance the efforts. Ecosystem services work also requires a common language among the different sectors and industries who each have their own world view and drivers, a language that can support a shared understanding. Time must be allowed for such work, and this can only be achieved through face-to-face meetings and conversations between people. In this particular initiative, with the network as catalyst, the willingness of network members to understand each other must be stronger than the desire to position oneself. The Swedish EPA has structured the network meetings in a way that fosters a culture of openness for greater understanding between members.

⁴⁶ Naturvårdsverket 2018. Effektmätning av kommunikationsarbete med nätverk för ekosystemtjänster. Report 6796, pp. 12, 29–30.

8 Continuing efforts

Strategic initiatives that highlight the value and importance of ecosystem services for people throughout society will take place through the continued efforts of the ecosystem services network. In this way, lessons learned, knowledge and experience from government agencies and other stakeholders in their work with ecosystem services can be pursued.

The ecosystem services network is anchored with the Environmental Objectives Council as a collaborative measure, and is implemented by the Swedish EPA in collaboration with the National Board of Housing, Building and Planning, Swedish Forest Agency, Swedish Transport Agency, Swedish Energy Agency, county administrative boards, Swedish National Heritage Board, Swedish Agency for Marine and Water Management, Swedish Transport Administration and Geological Survey of Sweden. Anchoring is ongoing with more agencies in the Environmental Objectives Council. Agencies that are not members of the Environmental Objectives Council can also participate in the implementation.

The collaborative activity will be presented in the Swedish EPA's annual report and to the Environmental Objectives Council for further reporting to the government.

8.1 Continued communication through established network for ecosystem services

8.1.1 Discussions of the Environmental Objectives Council

At its November 2017 meeting, the Environmental Objectives Council addressed the issue of continued strategic communication efforts to highlight the importance of biodiversity and the value of ecosystem services for people's well-being and quality of life. Several agencies in the Council, led by the Swedish EPA, intend to continue running the ecosystem services network. The network members are at the forefront in their systematic approach to ecosystem services in their organisations. The network consists of more than 50 people from private companies and other organisations within agriculture, forestry, and construction and infrastructure, as well as from municipalities and county administrative boards.

This collaborative measure aims to advance knowledge about ecosystem services and to describe the values of these services so that they can be better integrated into decision-making and decision guidance documents.

8.1.2 How the measure will be implemented

The hub of the continued efforts is, as in the government commission on ecosystem services communication, the ecosystem services network. The Environmental Objectives Council agencies that participate in this measure can be active network members

or supporting members through their participation in network meetings and communication efforts such as opinion pieces. Agencies that are not members of the Council can also participate in the network as either active or supporting members.

The network meets regularly to share knowledge and brush up on skills. The network also collaborates on joint external communication initiatives in the media, which will continue to be encouraged and created by the agencies in the Council. As the agencies continue to collaborate within the network, they can effectively contribute to the integration of ecosystem services in decision-making. Collaboration will also take place between the agencies and other stakeholders who develop and implement green infrastructure action plans.

Arranging one face-to-face network meeting per term takes approximately 130 hours, allocated as follows:

- 90 hours for preparation and planning (including booking and prepping lecturers)
- 32 hours for implementation (for 4 persons, 8 hours each)
- 7 hours for follow-up

Allocated over four resources, the time corresponds to about 33 hours per person. For a supporting agency, participation at a meeting, knowledge-sharing and support of communication efforts corresponds to about 25 hours per semester.

8.1.3 Why we need the measure

Although ecosystem services are the foundation of human well-being, these services often remain invisible in many decisions that affect society. Additional structured communication efforts are needed to raise awareness of the values of biodiversity and ecosystem services and to achieve the milestone target of integrating the values into key societal decisions. The Swedish EPA's survey shows that the network plays an important role in the members' work on ecosystem services in their own organisations.

Thanks to the proposed collaborative measure, the effects of the established collaboration among 13 authorities and the ecosystem services network will be able to be managed after the initiative is completed. The work will be done using the collective skills and resources of each agency. The agencies' collective knowledge is central to Sweden's successful integration of the value and importance of ecosystem services in important decisions throughout different areas of society.

8.1.4 Results of the measure on environmental effects

Many ecosystem services are often invisible, which means that we humans take them for granted. Nature's free work and the importance of mapping and evaluating these services demand continued attention. Valuing ecosystem services does not automatically lead to a specific decision. But the valuation helps to raise awareness of the future impact of decisions on nature and ecosystem services. For example, a valuation

makes visible the costs that can arise when ecosystem services, such as natural water treatment, disappear from an area. It also helps to prioritise the ways the services can be created, protected or skipped.

8.1.5 The measure helps to achieve the environmental objectives

The measure helps to achieve the following Swedish environmental quality objectives: A Rich Diversity of Plant and Animal Life, A Varied Agricultural Landscape, Thriving Wetlands, Sustainable Forests, A Balanced Marine Environment, Flourishing Lakes and Streams, A Magnificent Mountain Landscape and A Good Built Environment.

8.1.6 Implementation timetable

Work is scheduled for 2018 and 2019.

8.2 Communication about ecosystem services in daily operations and in projects

The lessons learned, knowledge and experience gained by working on the communications initiative for ecosystem services will be used in the agencies' ongoing activities and projects in other contexts alongside their activities with the ecosystem services network. The value of ecosystem services is communicated across a diverse range of operations. In addition to nature conservation, it can be communicated in research and environmental monitoring, spatial planning, outdoor recreation and climate change efforts, including climate change adaptation. The Swedish EPA will continue to play an active role in communicating the value of ecosystem services in a Nordic context, to the EU and internationally, by sharing Sweden's experiences and by building on the outcomes and experiences of others. Examples of processes and projects in which communication about ecosystem services will play an obvious role include the continued work on green infrastructure, work on ecosystem services in urban planning and spatial planning, investments in plants, restoration of wetlands, and issues surrounding biofuel and forests.

9 Appendix 1. Ecosystem services network – members

LRF Skogsägarna	Skellefteå Municipality
Svea Skog	Lomma Municipality
Think tank Heaven or Shell	City of Gothenburg
Holmen Skog	Nacka Municipality
Mellanskog	Umeå Municipality
Södra skogsägarna	Jönköping Municipality
Skogsindustrierna	City of Malmö
Arla Foods Sweden	Tomelilla Municipality
Saltå kvarn	Helsingborg Municipality
LRF Mjök	City of Stockholm
Veidekke Entreprenad AB	Järfälla Municipality
Swedavia	Haninge Municipality
NCC	Kristianstad Municipality
Akademiska hus	City of Stockholm
Riksbyggen	Eskilstuna Municipality
Skanska Sverige	Upplands Väsby Municipality
Vasakronan	Lund Municipality
E-on	Skåne Association of Local Authorities
OBOS Sverige AB	Gothenburg region's Association of Local Authorities
Luleå Municipality	Region Skåne

Stockholm County Council

County Administrative Board of Västerbotten

County Administrative Board of Östergötland

County Administrative Board of Skåne

County Administrative Board of Örebro

County Administrative Board of Halland

County Administrative Board of Västra Götaland

County Administrative Board of Stockholm

County Administrative Board of Norrbotten

County Administrative Board of Stockholm

County Administrative Board of Jönköping

Water management agency Västerhavet,
County Administrative Board of Västra Götaland

Fishing Area Owners Association of Sweden

Communications initiative for ecosystem services

REPORT 6851

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Raising awareness of nature's work free of charge

Nature's free work – ecosystem services – is vital to human well-being. Yet these services still remain invisible in many decisions that affect society. By recognising and valuing ecosystem services, more conscious decisions can be made about issues like land and water resources. In this way, we can influence our future well-being and quality of life.

This report summarises a communications initiative to better integrate the value of ecosystem services into decision-making. The Swedish Environmental Protection Agency was commissioned by the government to carry out the initiative during 2014–2017. The hub for this initiative has been a network consisting of professionals from municipalities, county councils, land-based industries, and the construction and infrastructure sector.



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