Rooted in Values

Dinah Coops, Thao Nguyen,

Anna Kristine Halvorsen & Sari Kukkasniemi

The team

Dinah Coops

Creative Sustainability

dinah.coops@aalto.fi

Thao Nguyen

International Design Business Management

thao.3.nguyen@aalto.fi

Anna Kristine Halvorsen

Exchange, Creative Sustainability

anna.kristine.aaro.
halvorsen@stud.aho.no

Sari Kukkasniemi

Collaborative and Industrial Design

sari.kukkasniemi@aalto.fi

Summary

Today, biodiversity issues are delegated to specialized areas or developed in isolation by specific ministries in Finland. This siloed approach results in a lack of policy coherence and leads to uncoordinated action and contrasting policies for biodiversity. The Prime Minister's Office envisions a future in which the Ministries assess the interlinkages with other ministries on biodiversity each time they develop a policy. Consequently, the aim is to assess policy on *multiple dimensions*, not on the state of economy only.

We have explored how the Prime Minister's Office and the Ministry of Environment can facilitate a coherent government policy model for biodiversity. Through our research, we have identified potential enablers and barriers for policy coherence in public administration and explored various agendas and understandings on biodiversity. How to create shared understanding for assessing policy on multiple dimensions? What kind of cross-cutting interlinkages are needed between the different actors in policy planning and implementation?

We approached the challenge by establishing that for policy coherence to happen, *shared understanding* of the multiple values of nature* is needed. Without shared understanding, assessing or implementing policy on these multiple dimensions is not just ineffective, it becomes impossible. As University of Helsinki (2023) argues, problems in communication are one of the most serious problems in the world and through the proposal, we seek to place shared understanding as the corner stone of policy coherence.

The Nature Dialogue is both a method and a tool to bring people together to build dialogue around multiple values of nature. As a project-based dialogue method, it aims to facilitate contextual learning about different viewpoints, create shared understanding, and integrate multiple values of nature in decision-making. While this proposal is based in the policy implementation context, we envision that its methods can be utilised throughout the public administration to foster shared understanding and informed decision-making in all government levels.

* During the design phase we made a conscious decision to refer to nature instead of biodiversity in the proposal context for a clear conception.

Aalto University

FINNISH GOVERNMENT

Ympäristöministeriö
Miljöministeriet
Ministry of the Environment

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Some key terms

Metaphor

Contemporary theories have conceptualized metaphors as "a structuring of our cognitive system". Metaphors significantly impact how we perceive the world, categorize experiences, and structure our thoughts (Lakoff, 1987; Lakoff & Johnson, 1980).

Multiple values of nature

According to Secretariat of the Convention on Biological Diversity (n.d.), "biodiversity has multiple values, some can be quantified in monetary terms, and others are more abstract [...]." We will discuss the concept more in the report.

Reflexivity

According to Vink & Koskela-Huotari (2022), reflexivity involves being aware of existing social structures, uncovering hidden frameworks, recognizing structural conflicts, and understanding the potential for structural change.

Capacity building

"Strengthening people's capacity to determine their own values and priorities, and to organise themselves to act on these, is the basis of development" (Eade & Williams, 1995).

Introduction to the vertical ecosystem

During these twelve or so weeks of *Design for Government* course from Aalto University, the scope of our team has been in exploring opportunities for mainstreaming biodiversity in policy implementation, through building cross-cutting linkages between the vertical actors and the Ministry of Environment. This is what we call the "vertical ecosystem" — the agencies, the institutes, and the service provisioning entities (see fig. 1).

As Peter Shergold (2015) argues, good policy should harness the views of those likely to be impacted by the proposal. Focusing on the lived experiences of the employees of the ministry (i.e. policy planning) and especially on the civil servants of government agencies, institutes, and service providers (i.e. policy implementation) we can increase the likelihood that policy coherence will succeed. In other words, the grass-root perspective of the system matters.

These grass-root actors, with a focus on policy implementation, are no less varied, rich and intertwined than a biodiverse forest. But what are the stressors that disrupt this ecosystem? What might the opportunities be to nurture more mycelium inspired networks and pathways?

Next, we will take you through our research process during which we explored these questions and many more. Following this, the systemic analysis and the design intervention it led to are outlined with evidences from the research. Lastly, we will present our final proposal, the Nature Dialogue, and conclude with reflections.

To note, the study took place during the first half of 2024, a period of cost cutting by the Government. During the project, we have observed this adding increasing pressure to decisions around preserving biodiversity.
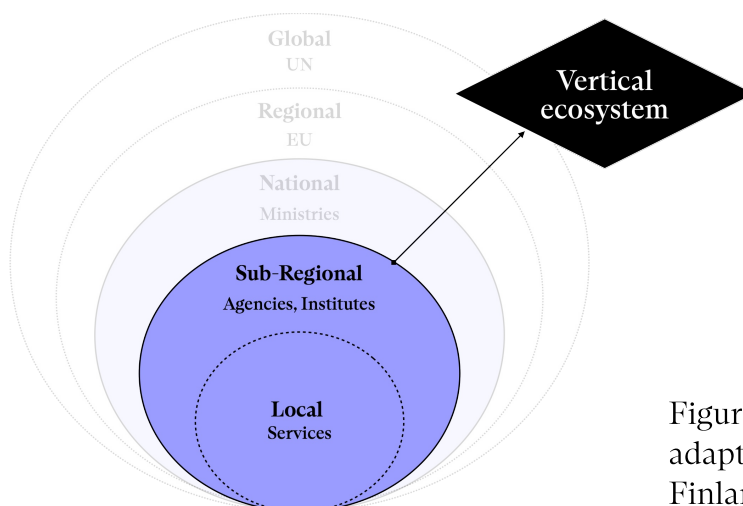

Figure 1: The ecosystem of policy. Figure adapted from National Audit Office of Finland, 2018.

Human-centered research

Context matters. Our process began by immersing ourselves into the challenge to understand both the overall system dynamics and the details that matter in the vertical ecosystem.

Biodiversity is a crosscutting theme!

Yes! Instead of talking about it, we use simple and contextual terms

For us, the term is green environment

We talk more about urban nature!
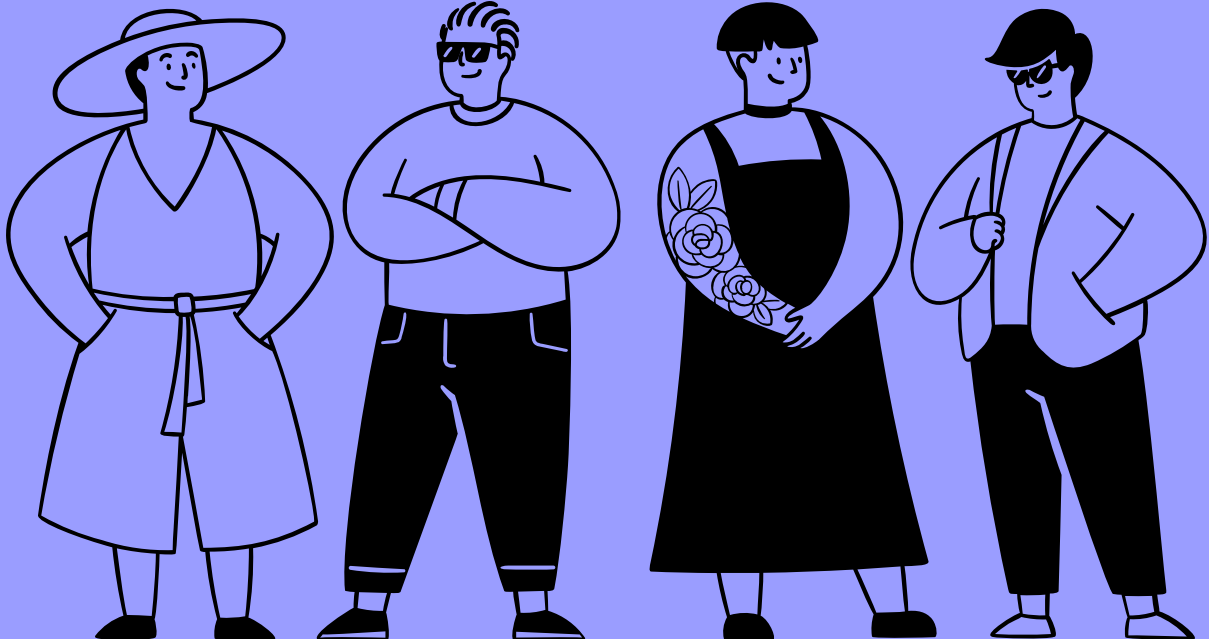
Lost in the woods

Week 2: Roundtable discussion

We kick-started the research process with a roundtable discussion at Aalto University with five partners from the Prime Minister's Office and the Ministry of Environment. As a joint effort between three student groups, we strived to dive into the topics of biodiversity, policy coherence, and collaboration.

As a thought-provoker, we asked our partners to define biodiversity at the start of the discussion. Not surprisingly, the answers varied greatly which stirred thoughts for all of us. Biodiversity might be understood differently across ministries but, also, inside the departments and units of the Ministry of Environment. Given this insight, we were asking ourselves how can the Prime Minister's Office facilitate a coherent government policy model for biodiversity?

"How can leaders feel emotionally engaged? If engagment is too technical, they just tick the boxes."

Leading Expert,
Prime Minister's
Office

Some questions were answered, while new ones emerged. For example, do the stakeholders understand the concept of biodiversity in a similar way? How many different interpretations do civil servants have about the EU Biodiversity Strategy? To find answers to these questions (and to generate many more questions), we proceeded to extensive desktop research and in-depth stakeholder interviews. Through a process that sometimes felt like being lost in the woods due to the complexity of biodiversity and policy coherence, we set out to answer our research questions.

Research questions

1. How is biodiversity understood and what are the motivations, goals, and objectives in the Ministry and in the vertical?
2. How does policy coherence on biodiversity look from the agency, institute and service providing entity's perspective?
3. What kind of structures enable collaboration between different actors in policy planning and implementation?

Weeks 2-5: Desktop research

With these thoughts and questions in mind, we conducted extensive desktop research in which we studied e.g. international and Finnish institutional websites, research papers, documents, and news. The reviewed material included, for example:

- Biodiversity and sustainability policy coherence frameworks and reports
- International, national and local biodiversity strategies and programmes
- Governance toolkits and measuring tools
- Research papers related to policy coherence and biodiversity
- Science-policy platforms and panels
- In addition, we studied the agencies, institutes and service providing entities to gain understanding of these varied actors and their roles.

> **Finding**
>
> ### The root causes of nature loss are social; values and behaviors
>
> IPBES, 2019

Through the desktop research, we started to gain a deeper understanding of the dynamics of policy coherence for biodiversity. For example, during the roundtable it was pointed that to get everyone on board for policy coherence, it may be crucial to have the notion of biodiversity to suit each actor's context, motivations, and goals. During the research, we learnt that the root causes of nature loss are social (IPBES, 2019), making *people to be the key* in the system of policy coherence.

Figure 2: Our research process.
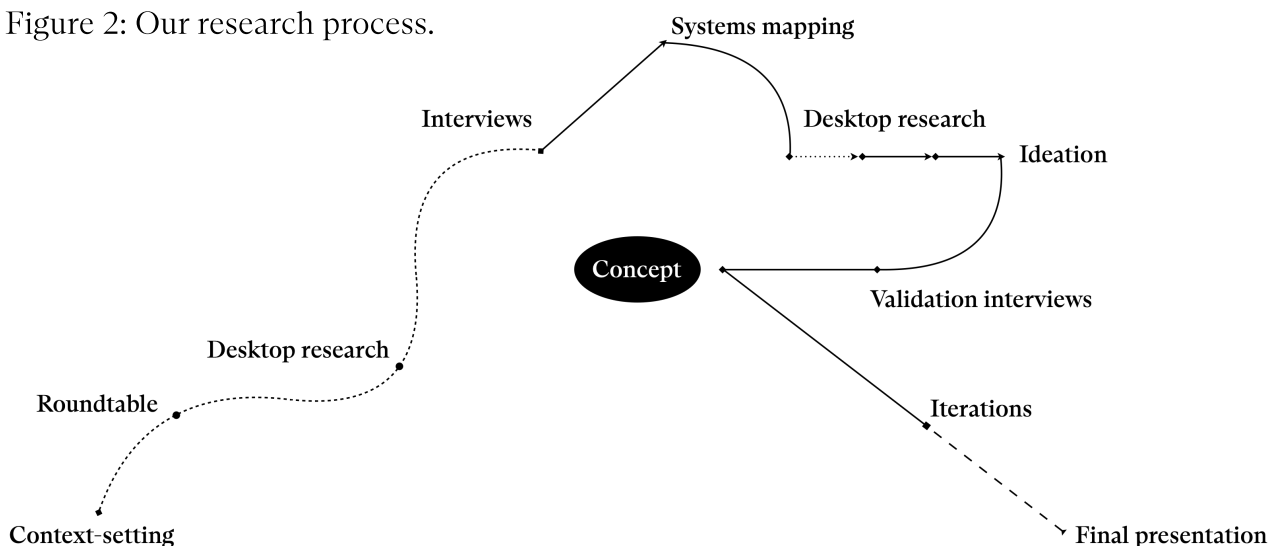
Weeks 3-4: Interviews

Our focus being the vertical, our stakeholders included a variety of actors whose work is around policy implementation: ELY centres, Metsähallitus, Luke, Syke, Motiva and Sitra. These agencies, institutes, and service providing entities do the crucial work of making policies actually happen. These in-depth interviews included:

1. Biodiversity Coordinator, ELY
2. Coordinator in Rural Environment and Climate program, ELY
3. Leading Specialist in Parks and Wildlife unit, Metsähallitus
4. Research Professor in Bioeconomy and Environment unit, Luke
5. Specialist in Urban Nature unit, Syke
6. Specialist in Acquisition and Impact Management, Motiva
7. Senior Lead in Sustainability Solutions, Sitra

"Biodiversity is very abstract topic; it's contradicting with policy that tries to make things concrete. Thus, we use conceptual level for creating mutual understanding."
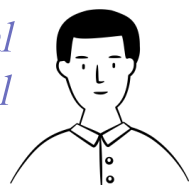
Researcher, Luke

"When we talk to organizations outside of environmental administration, it's different. Nature can mean anything"

Coordinator, ELY

In addition to these vertical actors, we interviewed stakeholders from the Ministry of Environment and from the Prime Minister's Office to gain a holistic understanding of the public administration system. The interviews included five employees of the Ministry of Environment and an employee from the Prime Minister's Office.

All semi-structured, qualitative interviews lasted around 60 minutes and most were conducted in remote setting, while a few were organised at the premises of the Ministry of Environment or the Prime Minister's Office.

Towards the forest of insights

Based on the research, we started to notice emerging patterns during the analysis, conducted with affinity mapping in Miro. Some of the findings included:

- Biodiversity is a hard concept to understand since it is both abstract and concrete, and how it is understood may depend of one's values. Thus, different conceptions are used for creating shared understanding.
- For policy coherence, political actors must to be informed of the consequences of their decisions for biodiversity.
- The relationship between the Ministry and its agencies and institutes is sometimes seen as a one-way-road.
- Change-agents are the glue in cross-organizational collaboration. Their action is enabled by personality, role, or individual values.

"We facilitate shared understanding with decision-makers by showing visualizations of nature. For example we point at a rock, and ask is this nature?"

Senior Lead, Sitra

- Even though there is will for policy coherence, there are structures that prevent people from taking action. For example, lack of institutional vision, resources for cross-organizational teaching, or mandate for actions that are towards policy coherence hinder coherence. Also, well-working habits of field-based collaboration were lost due to organizational or government hierarchies.

Finding
Informed decision-making is the most important tool in policy coherence   OECD, 2018

Overall, the human-centered research phase was an intense time period of constant new learnings of this complex system. From the roundtable discussion to the in-depth interviews, we explored the problem space from different aspects. This first phase established the strong foundation for the following phases. Next, we will guide you through our research synthesis during which we arrived at the forest of insights.

Systems analysis

Nothing exists in a vacuum. What kind of picture does our research paint of the larger parts of the policy systems? Let's take a look.

To make sense of the data we had gathered, we started by mapping the policy cycle and placing the stakeholders within the cycle, to see who were involved and what their roles were. This process both gave us a birds-eye view, but also helped us look closer and situate the more specific tension that exist within the system, at their right place. Although it helped us see more clearly, there is no use in pretending that complex systems are easy to understand.

Seeing the forest for more than the trees

Soft policy leads to soft coherence

How do policies end up in the vertical ecosystem? Often, policies start as an ambition or a goal, before becoming a task that will be carried out. These high-level, jointly agreed objectives often come from a global or a regional level, before the national level makes them into plans for the sub-regional and local levels to implement (see fig. 3).

Policies come in many shapes and forms. In terms of biodiversity, they are often so-called "soft policies". By this we mean that they take the form of non-legislative recommendations from governing institutions. In the interviews, we heard that these soft policies are ineffective, and thus, a risk for ensuring actual policy coherence on biodiversity. Our interviewees have seen well intended soft policies not followed due to financial pressures, for example. This gave us the insight that soft policy leads to soft coherence, and that there is a need for biodiversity policies to be legally binding.
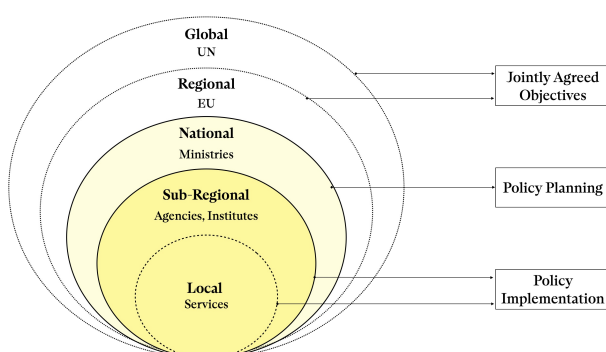
Differing interpretations

In Metsähallitus' case, they are answering both to the Ministry of the Environment and the Ministry of Agriculture and Forestry (see fig. 4). These two ministries have quite different agendas, to put it bluntly. The Ministry of Environment would like to preserve the forests and the Ministry of Agriculture and Forestry would like to cut them. While there is no right or wrong here, both ministries argue that they have these goals, in part, for the sake of preserving biodiversity. Now, for Metsähallitus' this is quite difficult to balance and can lead to processes slowing down or becoming difficult to handle.

We see that at the end of the policy cycle, when the policy hits the point of implementation, differing goals, definitions, and understandings can make the policy implementation unclear. This may lead to the decisions being kicked up to a higher level, and made in favor of creating income for Finland, which is often in direct conflict with biodiversity.

Figure 3: How policies trickle down of the policy system ladder. Figure adapted from National Audit Office of Finland, 2018.

Systems analysis

Ministry of Environment (YM)

"Protect forests"

"Cutting forests"

Ministry of Agriculture & Forestry (MMM)

Motiva

"The working bees"

"We want a Nature Law!"

SITRA

Traditional Project

Metsähallitus

ELY

SYKE

Partners

Coordinator

YM

Stakeholders

LUKE

Other ministries

Other ministries' agencies

Strategic Project

provide solutions

collaborate

trust

receive funds

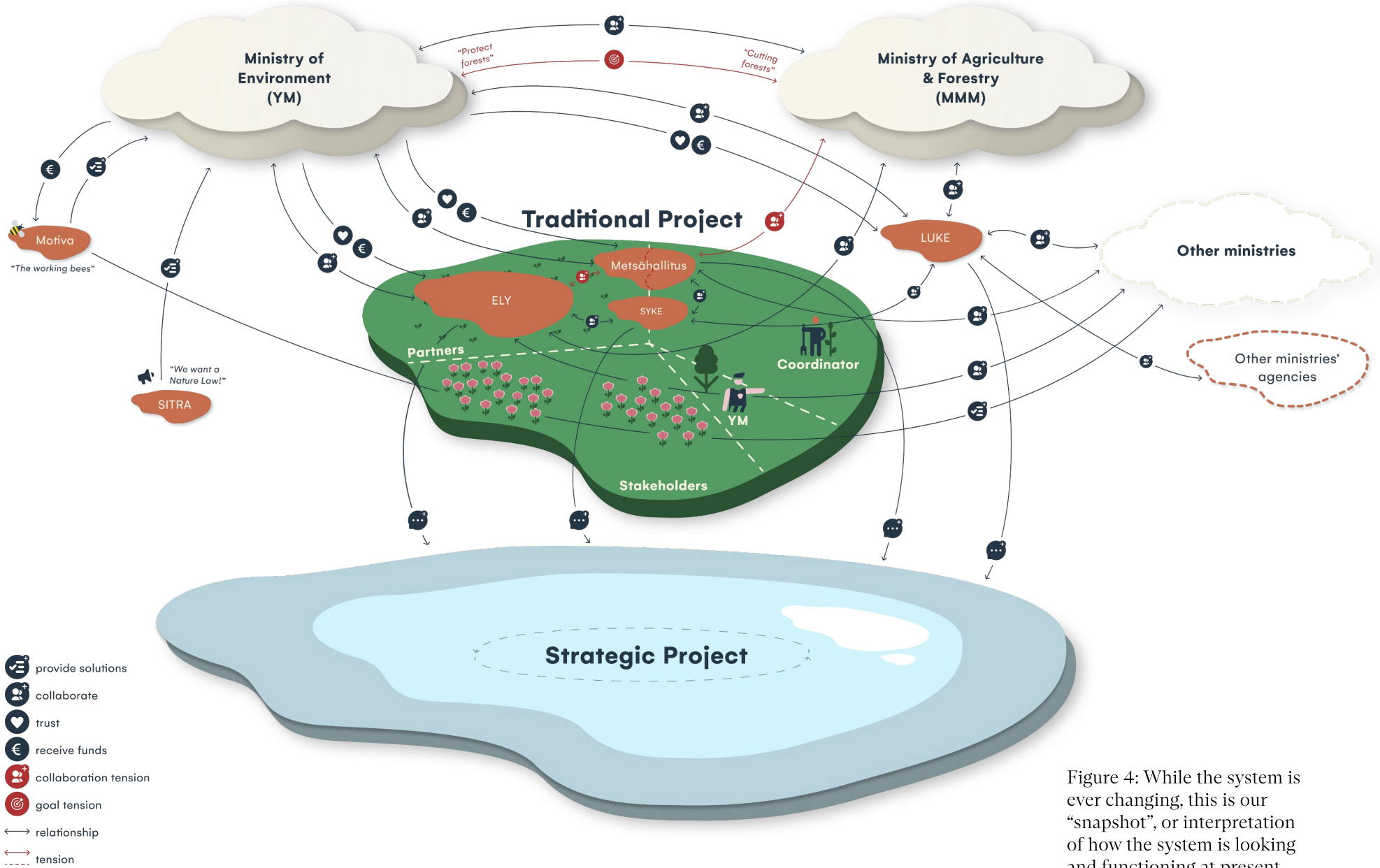collaboration tension

goal tension

⟷ relationship

⟷ tension

Figure 4: While the system is ever changing, this is our "snapshot", or interpretation of how the system is looking and functioning at present.

DfG

On creating the best conditions for growth

Social structures and collaboration

Let us move from looking at the system as a whole, and take a closer look at what it is really made of: people. Among the people we talked to, we found that they often shared an inner motivation to protect nature. The kind that makes one go the extra mile in their work, rather than just "tick the boxes". Given that biodiversity is still seen as quite a narrow topic, it seems that working within this field is not something one merely stumbles into. These people are in this line of work because it is important, both emotionally and personally, as well as important for society; the common good.

Why does this matter? Through looking at the people within the system, we can better understand how the system is working. One might say that the people are the symptom bearers. And what are systems except the ways in which we organize ourselves and each other, in order to reach our common goals?

People who work within biodiversity have a strong emotional connection to nature

"Collaboration is always dependent on people"

Coordinator, ELY

In order to achieve policy coherence for biodiversity, we see possibilities in the ways in which people collaborate. So, how do people tend to organize themselves, or rather, how should they organize? This question made us look at social structures, which can be explained as widely-accepted and repetitive social behaviors (Greenwood et al., 2008). Basically, these are the ways in which people relate to each other, whether they are conscious about them or not. Often, these are unconscious or "hidden" in the systems.

Some argue that these hidden social structures are the basis for human systems, and are continuously reproduced, through the relationships and interactions that people have within the systems. For example, we have seen that the structures and hierarchies in the vertical ecosystem, affect the civil servants sense of agency in a negative way. We view this as a key insight. Let's take a closer look at this.

From insight to opportunity

While the Ministry sees the agencies, institutes, and service providers as vital parts of the policy cycle, some of the civil servants feel that the policy-cycle is a one-way road. Slowly, this leads into feelings of low agency within the processes they are part of. As a researcher from ELY told us: *"I have been involved in several policy planning cycles, but am not sure my comments are being taken into consideration."*

Even though these people are highly motivated and emotionally engaged in the subject matter of their work, feeling stuck in a system in which they don't feel seen or heard, poses a risk of straining that vital motivation. There is a tension between the professional role you are set to fill, and your emotional needs. Does there really have to be?

The current state of the policy cycle gives people a lacking sense of agency

So, how might we move from the status quo of reproducing existing social structures, to intentionally transforming our modes of collaboration? Basically, the people need to be empowered. They need reflexivity, the ability to examine ones own emotions, reactions and motives, and how these influence what one does or thinks in a situation. Reflexivity enables people to become aware of the social structures that are in place. This in turn makes it easier to take advantage, or leverage their position, and engage in actions that can move the system closer to enabling people to go the extra mile (Vink et al., 2021).

Insight
A lacking sense of agency hinders the policy cycle Civil cervants feel that the policy cycle is a one-way road

Opportunity
Strong roots grow strong plants We can empower the civil servants within the agencies and research institutes to leverage their position within the system

With great insight comes great opportunities

To conclude our systems analysis, let's take a final look at the circumstances that create tensions within the vertical ecosystem.

Policy coherence is not the natural state of governance

Within the democratic tradition lies the practice of divisions and silos. Due to policy coherence not being the natural state (INTOSAI, 2021), the process of achieving a coherent policy for biodiversity is challenging.

Differing interpretations of the term biodiversity exist

Collaboration is difficult without shared understanding. This can turn into conflicts which can slow down processes and hinder policy implementation.

Emotional and personal values

Many expressed a strong personal motivation to protect nature, going beyond merely fulfilling job requirements. Biodiversity is a specialized field, and those working in it are often deeply committed to their work for emotional, personal, and societal reasons.

Policy coherence is about people

While people intially are highly motivated, not having their needs met by the system puts a strain on that motivation. When these needs continue to be neglected, it can challenge the goal of biodiversity policy coherence.

These insights formed the important basis of our understanding of the vertical ecosystem. Next, let's dive in to the design intervention this analysis led to.

Figure 5: Some of the important circumstances that affect the tensions within the vertical ecosystem.

* Key findings from our research
[1] INTOSAI (2021), Policy coherence and sustainability transition
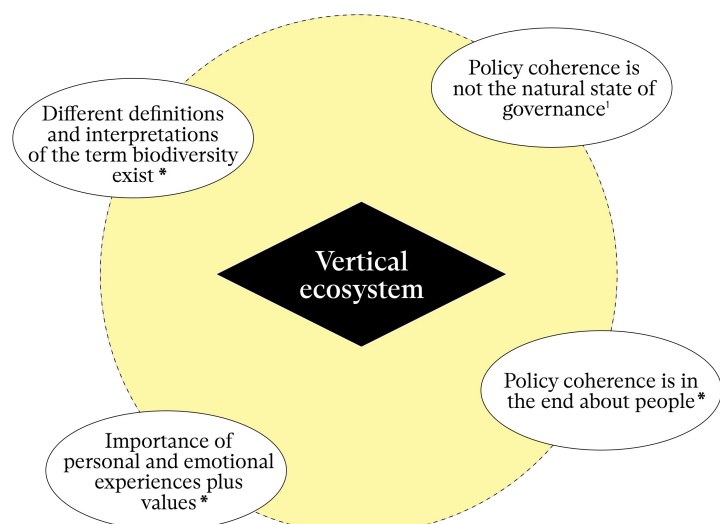
Design intervention

After gaining an overall understanding of the vertical ecosystem and brainstorming a long list of possible entry points, it was time to narrow down to one idea.

We'd then take this idea for creating positive change in support of biodiversity policy coherence to our partners in the ministry for additional ideation, then to some experts in the vertical sector for their feedback...and onto the final proposal.

It's ok if we love trees for different reasons

On imagining change

In order to narrow down our long list of entry points to one idea, we utilized practical criteria as well as the leverage point scale to anticipate the level of impact an concept idea could make.

Our practical criteria for decision making. The idea must...

1. Provide bridges between ministries and agencies or between agencies.
2. Work across policy and election cycles; be self-sustaining and not dependent on a project or single person.
3. Help create the shift in values and political will necessary to support biodiversity.

Using leverage points to anticipate level of impact

Leverage points are places within a complex system where a shift in one thing has the possibility of making much broader changes.Our analysis of ideas is grounded in the systems work of Donella Meadows, who identified twelve leverage points. These range from the simplest step of adjusting parameters in a complex situation to the most profound step of shifting the system's paradigm.

The steps, numbered one through twelve, indicate their potential impact: step one, while helpful, has the least impact, whereas step

twelve has the greatest potential for change (Meadows, 1999). Our goal was to develop an idea that could, over time, reach the twelfth step.

Initially, we considered an idea that could create the most impact. This was *facilitating personal experiences of decision-makers to reposition the value of nature,* as demonstrated by the Natural Change Project, WWF Scotland (2011). We chose this because facilitating political will is crucial for policy coherence to happen, as the existence of administrative structures and knowhow do not guarantee coherence (Prime Minister's Office Publications, 2009).

Places to intervene in a system

1	Constraints, parameters, numbers
2	Buffer sizes
3	Stocks and flows structures
4	Delays relative to change rates
5	Balancing feedback loops
6	Reinforcing feedback loops
7	Information flow structures
8	Systems rules
9	System structure/self organization
10	The system goal
11	The paradigm used to design the system
12	The power to shift the paradigm

Figure 6: Meadows' leverage points (1999).

Tapping further into our partners' knowledge and experience through ideation

Now, it was time to involve our partners in the Prime Minister's Office and the Ministry of the Environment, including one leading expert and three senior specialists, in an ideation session. They brought a wealth of knowledge and practical experience to our idea.

On the ground insights from our partners

The concept of working with the values of nature received a high level of interest, and some important points emerged.

When discussing this idea being directed towards decision-makers, a leading expert in the Prime Minister's Office commented, "Most people in Finland love nature, but if it is not connected to the decision-making they ignore it." This highlights that everyone has different values of nature, and that these contexts matter when working on policy.

This same leading expert noted, the "highest level [decision makers are] not the biggest problem. Could it be better to be at the manager and sub manager level? They have a lot of power [and there's the] most possibility for change."

"Most people in Finland love nature, but if it is not connected to the decision-making they ignore it."

Leading Expert,
Prime Minister's Office

From our seven in-depth interviews in the vertical sector, we well understood the importance of bringing together all of the different actors that play a part in policy planning and implementation.

We discussed the idea of making values visible, for example by mapping the values and mental models of those working together. This concept resonated with our partners who felt that if individuals could express their values and understand how others feel, a "joint language" could form. This would help groups learn to solve problems together. As a Senior Specialist in the Prime Minister's Office mentioned, a network to discuss and learn about other viewpoints can be helpful.

"If you can discuss with people from other sides, it is helpful. It creates a network - not just for learning, but learning about these other viewpoints"

Senior Specialist,
Prime Minister's Office

Refining ideas through validation interviews

"Behind it all is always personal values...you're at the roots of something."

Expert, Motiva

We conducted four expert interviews in this phase of the project to validate our concept idea, predominantly from the vertical sector. In these validation interviews, we again introduced our concept to get feedback and learn about further research trajectories from the policy implementation perspective. The four interviews included:

- Biodiversity Coordinator, ELY (also in the previous interview round)
- Research Professor in Bioeconomy and Environment unit, Luke (also in the previous interview round)
- Expert in Management of Sustainable Development, Motiva
- Senior Specialist, Ministry of the Environment

In our feedback sessions, we again received validation that we were on the right track with the multiple values of nature direction. As an expert at Motiva said, "Behind it all is always personal values... you're at the roots of something." We also learned about further resources and some practicalities to take into account. We'll outline 3 key takeaways here.

The first takeaway came from a Senior Specialist at the Ministry of the Environment, when we heard that they had been attempting to utilize a policy report (IPBES, 2020) that outlines a methodological assessment of the diverse values and valuation of nature in policy work. Although they saw the importance in these methods, they had not yet figured out how to practically apply this in their everyday work. Perhaps our proposal could help bridge this.

"We had this report last year – it was super important and nice but then we were stuck with what to do with it."

Senior Specialist, Ministry of Environment

The second takeaway was around ensuring that this concept would be actionable. We had learned early in our research that most of the collaborations around biodiversity were happening in project teams during the course of the project, so we were not surprised to hear an expert from ELY suggest, "Maybe this should be tied to a project/programme level?" We had already been planning to embed this concept into the project cycle to start, so this was validating.

Another way it needs to be actionable, is that it needs to feel "doable". As the Motiva expert stated, "When you said that it could be done in one meeting, it sounded doable."

"Maybe this should be tied to a project/ programme level?"

Coordinator, ELY

"It makes sense with the archetypes, so that you can put yourself in other people's shoes. It's almost like role-play."

Researcher, Luke

The third takeaway was that the idea of role-playing came up organically in our interview with an Expert at Luke. This had also been in our minds as a helpful tool for facilitating values based understanding.

How feedback helped us to land with our design intervention

Each of the four expert validation interviews gave us confidence in refining and finalizing our proposal and also we learned about many practicalities on how to make this idea actionable. With the addition of these interviews to the ideation session, we arrived at our design intervention of *making the multiple values of nature visible*. This idea corresponds to Meadows's leverage point 7 "information flow structures" and in short, means restoring missing feedback in the system (Meadows, 1999).

Taking human-sized steps

Arriving at our design intervention of *making the values of nature visible*, we also envisioned its potential future impact. Referencing back to Meadows' leverage points scale on how to intervene in a system (page 19), we see that this concept has the potential to take human-sized steps moving towards a broader ambition (Meadows, 1999).
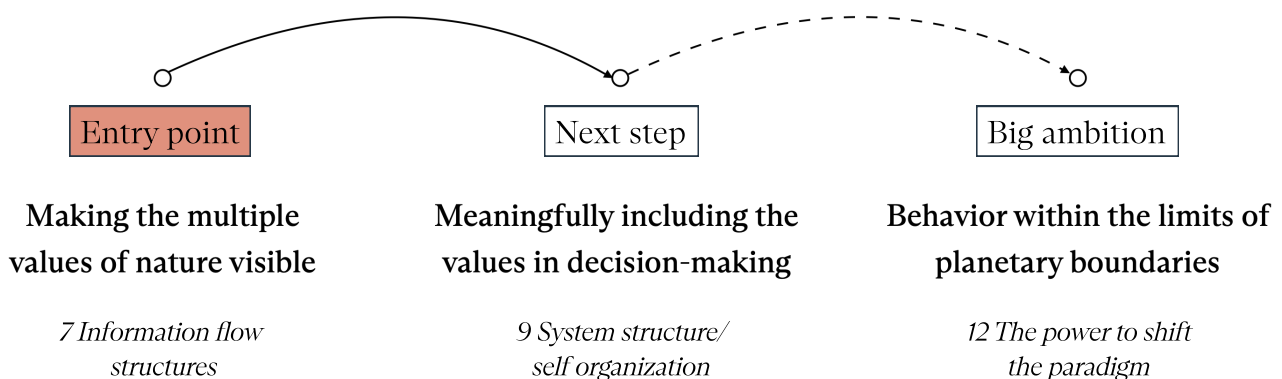
As shown in figure 7, starting with making the multiple values of nature visible as the entry point, we enable the transparency of participants' values and motivations, opening up communications and collaboration in new ways. At the next stage, integrating these multiple values of nature into the details of decision-making is anticipated to enhance the coherence of policy planning and implementation. Ultimately, we see this potentially leading to a paradigm shift where behavior in regard to policy consistently aligns with the limits of planetary boundaries.

Great, what next?

In the next section we will guide you through our final proposal. Here, we'll discuss how we propose to make the multiple values of nature visible and to become part of the process in policy making, by utilizing archetypes and role-playing to create project-based Nature Dialogues.

Figure 7: How human-sized steps may lead to a paradigm shift, in the end. Applied from Meadows' leverage points (1999).

Entry point	Next step	Big ambition
Making the multiple values of nature visible	**Meaningfully including the values in decision-making**	**Behavior within the limits of planetary boundaries**
7 Information flow structures	*9 System structure/ self organization*	*12 The power to shift the paradigm*

Final proposal

This section covers the final proposal, the Nature Dialogue, which brings people together to build dialogue around the values of nature.

As a project-based entry point, the Nature Dialogue offers opportunities to learn about different viewpoints, create shared understanding, and integrate multiple values of nature in decision-making. The proposal is based on the multiple values of nature (the concept) and consists of two main elements: the value archetypes (the tool) and the dialogue (the method).

I am difinitely a Sage, which one are you?

I think I am the Explorer!

I am the Shepherd!
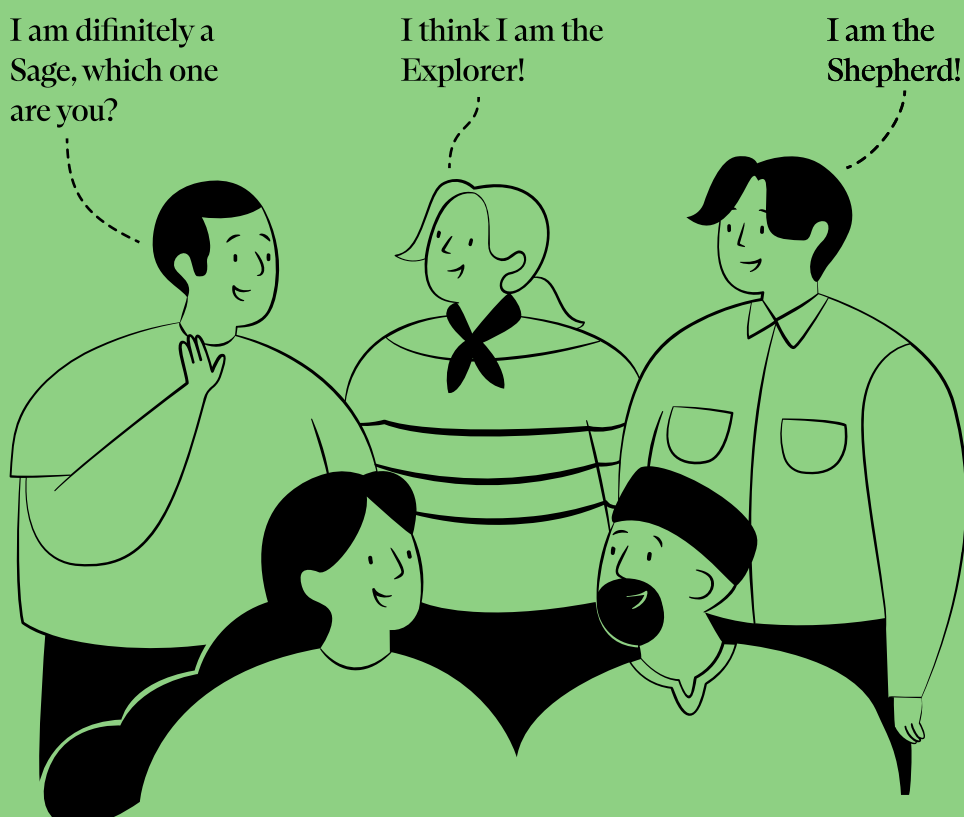
Spotlight on the multiple values of nature

Our proposal is intended to make the multiple values of nature (MVN) visible. But first, let's take a closer look at the notion of the multiple values of nature. To note, from now on, biodiversity is used interchangeably with nature.

First of all, biodiversity has multiple values. According to Secretariat of the Convention on Biological Diversity (n.d.), "some can be quantified in monetary terms, and others are more abstract. It underpins a wide range of services that support economies, food production systems, secure living conditions, and human health. It is central to many cultures, spiritual beliefs, and worldviews and has intrinsic value."

Second, the global biodiversity crisis is closely linked to how nature is valued at all political and economic decision-making levels. Despite the MVN, most policymaking and decision-making frameworks have historically prioritized a limited set of values or fail to adequately consider biodiversity and its importance (IPBES, 2022; Secretariat of the Convention on Biological Diversity, n.d.).

Therefore, by recognizing and respecting worldviews, values, and traditional knowledge, we can develop more comprehensive policies that take into account the various ways in which people perceive and value nature. This, in turn, results in more favorable outcomes for both people and the natural environment (IPBES 2022).

Finding
Decision-making frameworks often do not appropriately account for biodiversity or its values. Secretariat of the Convention on Biological Diversity, n.d.

We are inspired by the work of IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services) (2022). Their study meticulously examines the key concepts of values assessment and their interrelationships to understand the MVN. According to the values typology (see Appendix 1), there are different values and dimensions, including worldviews, broad and specific values, nature's contributions to people, and value indicators.

Despite its depth, this information appears to be quite overwhelming. How can we make it more understandable? Drawing from this comprehensive study, we aim to translate the knowledge into a widely accessible and understandable concept. Next, we will narrate how this looks through an example of the Nature Dialogue.
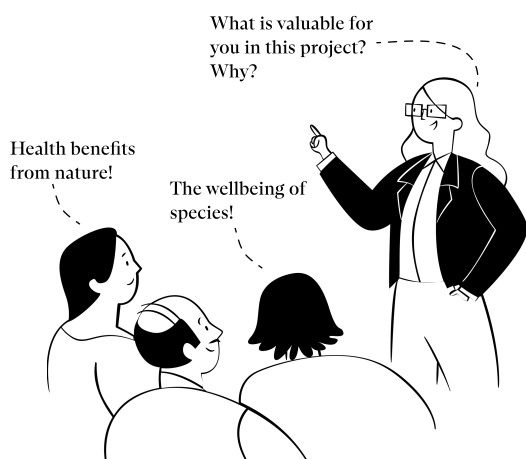
The Nature Dialogue

1.1 Before — The project group is invited to a kick-off for forest restoration in Vihti

I can't wait to get out of the office in the field

A researcher in Metsähallitus gets invited to a forest restoration project's kick-off in Vihti. She is really excited to take the day off from the office and be in nature

Participants are invited to join a core project group during a project kick-off, which comprises individuals and stakeholders from the same project. This group includes representatives from the ministry leading the project, the project coordinator, partners, and stakeholders to ensure diverse perspectives.

1.2 In Vihti, the kick-off starts with a dialogue of personal values

What is valuable for you in this project? Why?

Health benefits from nature!

The wellbeing of species!

In Vihti, an open dialogue of personal values is kicked start by a facilitator to explore different personal values on the project

This is a great opportunity that the participants could open up about their values outside traditional work setting. Moreover, with the guidance of an external facilitator, participants are able to delve into the topic which is not conventionally discussed within project setting.

#1	First steps	#2	Dialogue through role-play	#3	Values in practice and reflection	#4	Spreading the seeds

2. Through role play and dialogue, the group learns about different ways in which others value nature

From a Sage point of view, I say that...

As a Hunter, I see this differently...
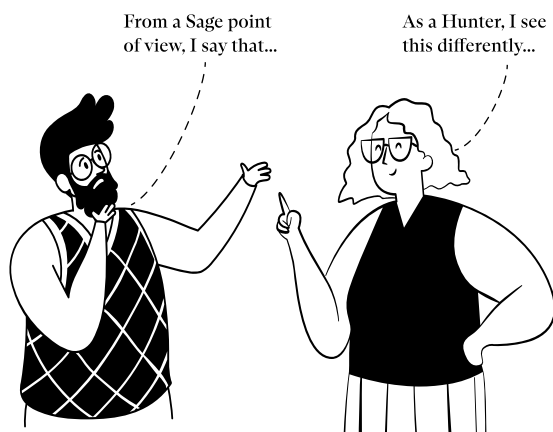
Guided by the facilitator, the group experiences different perspectives on how people value and relate to nature

Change happens when people share meaningful experiences in rich, real-world contexts (Thackara, 2020). Using *value archetypes* as different lenses of how people relate to nature, they are able to consider the issues from different viewpoints. Through these interactions, the group starts to grasp the complexity of biodiversity issues and realizes that they must incorporate diverse values and perspectives in to their work.
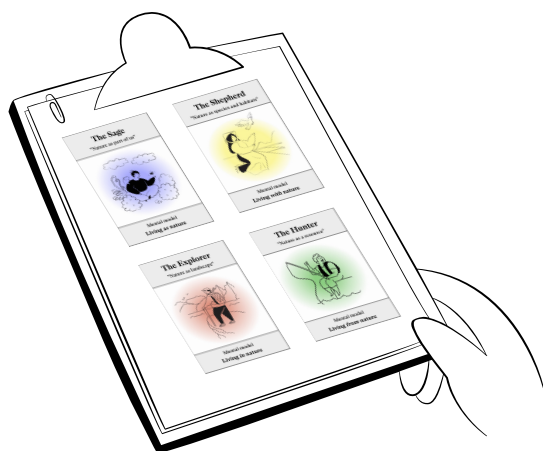
With the use of the four archetypes to represent the multiple values of nature, there's no right or wrong, strong or weak value

For example, The Sage emphasizes the intrinsic value of ecosystems. The Shepherd discusses the importance of maintaining a delicate balance with the environment. The Explorer brings a sense of adventure and curiosity to the conversation. Lastly, the Hunter provides a practical need to balance consumption with conservation to ensure the availability of natural resources in the long term. Detailed descriptions of the archetypes can be found on pages 33-34.

#1	First steps	#2	Dialogue through role-play	#3	Values in practice and reflection	#4	Spreading the seeds

3.1 Discussion of how to integrate values in decision-making of the project

How could we think about the multiple values in this project?

Our valuation methods should go beyond economic valuation!

How about we think of the rights of nature?
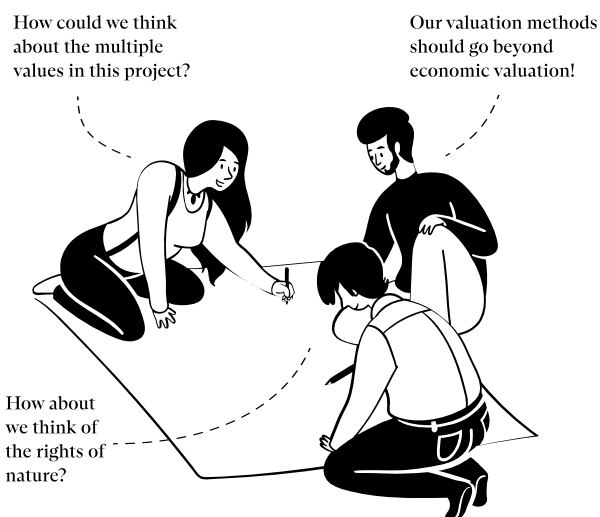
After learning about various aspects of nature, the participants practice applying the multiple values in the project context

Equipped with a diverse understanding of nature's values, the project team develops a plan reflecting their combined insights. With the help of the facilitator, they pinpoint areas where the different perspectives can provide valuable input for specific project components and how the values need to be considered in this project.

3.2 Ending with self-reflection

How do I fit in all this with my values?

As a result, individuals reflect, considering how their personal values align with those of the team and the institution, and how these values influence their life goals

Through this reflective process, participants deepen their understanding of the multiple values of nature and develop a stronger sense of agency in their relationship with the natural world.

#1	First steps	#2	Dialogue through role-play	#3	Values in practice and reflection	#4	Spreading the seeds

4. After — Spreading the seeds of change

We should integrate the multiple values of nature to our work!

What do you mean by that?
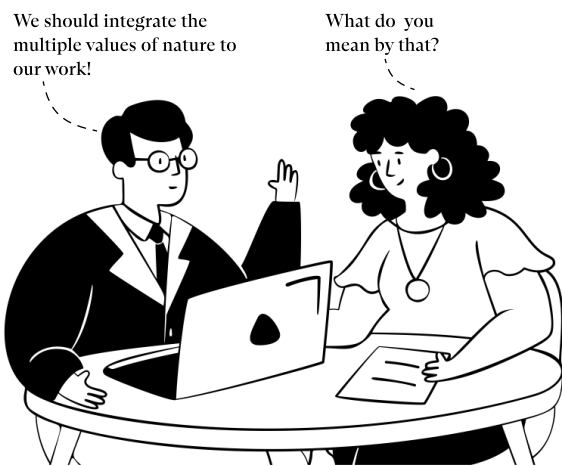
Encouraged by their experiences, a person coming from the kick-off introduces the concept to colleagues and partners

They begin by sharing their insights during meetings and workshops, demonstrating how comprehending and integrating multiple nature values can result in more inclusive and practical solutions. Their enthusiasm is infectious, and other teams soon start considering how to integrate these principles into their own initiatives.
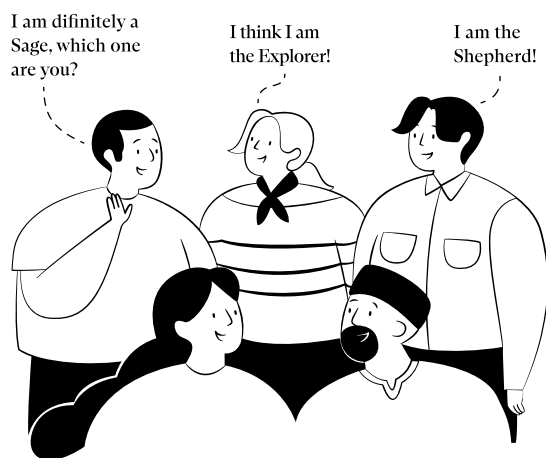
I am difinitely a Sage, which one are you?

I think I am the Explorer!

I am the Shepherd!

Over time, more and more people start using the archetypes in their conversations as they discuss projects and personal experiences

These shared metaphors enrich their dialogue and helps them better understand the values of nature. As a result, the Nature Dialogue gains momentum and potentially becomes a widespread movement. The values of nature, represented by the archetypes, continue to inspire and guide individuals and communities. This ensures that the seeds planted through the Nature Dialogue will flourish and benefit future generations.

#1	First steps	#2	Dialogue through role-play	#3	Values in practice and reflection	#4	Spreading the seeds

Who are involved?

Core project group

The Nature Dialogue is designed with limited participants to ensure high engagement. Thus, each core project group should ideally consist of 6-12 individuals. It is imperative to ensure that a *diverse range of perspectives*, encompassing decision-makers, civil servants, and (external) stakeholders are represented.

Facilitator

An external facilitator is needed to maintain impartiality and facilitate fruitful dialogue. They play a crucial role in guiding the discussions, ensuring that all voices are heard, and helping the group navigate complex issues. We suggest that this role is a job, instead of a task, to foster open, honest, and constructive dialogues.

Prime Minister's Office

The Nature Dialogue is a strategic plan mandated by the Prime Minister's Office. The neutrality provided by this mandate is crucial for the plan to succeed.

High-level commitment: The mandate represents all-of-government dedication to biodiversity. It emphasizes the significance of integrating the values of nature into policy planning and implementation frameworks.

Capacity building: The mandate aims to develop the capacity of government and affiliated organizations to understand and apply values of nature in their work.

Piloting: The mandate encourages the initiation of similar pilot projects, serving as a model for wider implementation.

Ministry that leads the project   Project coordinator   Project partners   Project stakeholders
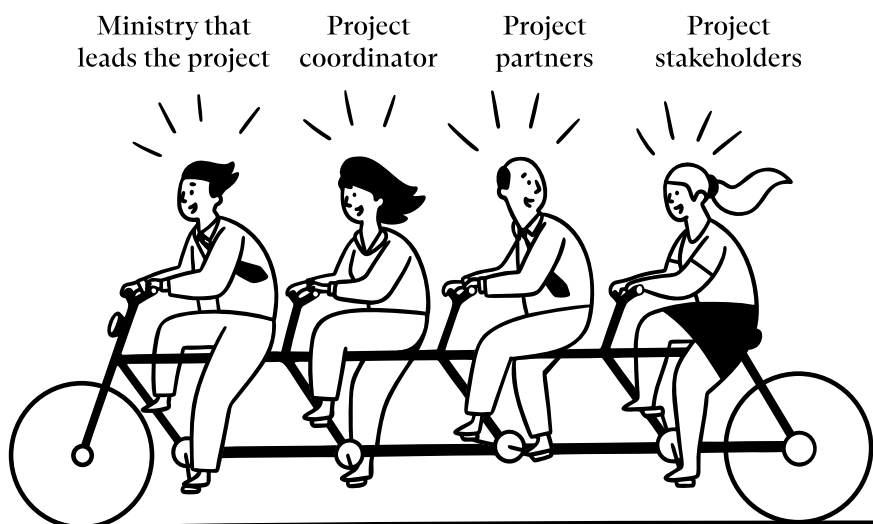
◄------- Mandated by the Prime Minister's Office

Building blocks of the Nature Dialogue

Archetypes representing the multiple values of nature

To simplify the IPBES (2022) values typology, we have devised particular human archetypes, or *metaphors*, to represent how humans value the multiple values of nature (detailed archetypes on pages 33-34).

Metaphors are not just linguistic devices; they also profoundly impact our self-reflection, anticipation, and communication. They act as mental frameworks that shape our perceptions of ourselves and the world (Moser, 2000). This method helps us bring the concept of MVN closer to people by relating to human archetypes and nudging them into thinking of and reflecting on their viewpoints of nature and others. Therefore, it is important to consider the MVN and the archetypes contextually rather than fixating on a single one. By enabling this multi-perspective self-reflection, the archetypes serve as catalysts for dialogue.

Role-play and dialogue enable reflexivity

During the Nature Dialogue, role-play and dialogue are crucial activities that exemplify the multiple interpretations of nature's values. With the help of the archetypes, role-play extends human capability by exploring how an individual and his character get along and "how they interact with one another and other characters" (Kagovere et al., 2022). Participants can try on different characters, switch positions and modes of interpretation and see themselves from a different perspective (ibid).

The core idea of Nature Dialogue is based on relational reflexivity, which Vink and Koskela-Huotari (2022) defined as the mode of reflexivity used to learn about personal differences through interactions among people. By facilitating joint activities (role-play) and engaging in interactive scenarios (dialogues), participants can develop reflexivity regarding personal values related to nature and those of others.

Integration of multiple values in decision-making

According to IPBES (2022), meaningfully embedding the multiple values of nature in decision-making is one of the leverage points to help create the necessary conditions for activating transformative change, towards more sustainable and just futures. Our proposal answers this through contextualizing the multiple values of nature to the project's decision-making processes, starting from the vertical ecosystem of policy implementation.

Descriptions of the archetypes representing the multiple values of nature

Applied from IPBES's values typology (2022)

The Sage "Nature as part of us"	Description
  Mental model **Living *as* nature**	As dawn broke over the forest, the sage awoke beneath an ancient oak, moving with deliberate grace to drink and wash at a nearby stream where he shared a quiet moment with a curious deer. His day blended picking berries with tending to the forest, checking on trees and plants, and caring for a wounded bird by crafting a splint for its wing. By afternoon, he spent some time by a waterfall, feeling the interconnectedness of life and the earth's pulse. As dusk fell, he lit a small fire, reflecting on the day's events under a canopy of stars, whispering a prayer of gratitude before drifting to sleep, embraced by the forest's nocturnal symphony.

The Shepherd "Nature as species and habitats"	Description
  Mental model **Living *with* nature**	At dawn the shepherd rose from his modest cottage, ready to tend to his flock. He moved with practiced efficiency, guiding the sheep to fresh pastures while keeping a watchful eye on the landscape. His day was spent ensuring the well-being of his animals and the health of the grasslands, repairing fences, and checking water sources. By afternoon, he walked the boundaries of his land, observing the habitats of various wildlife and ensuring they thrived alongside his flock. As dusk settled, the shepherd gathered the sheep into their pen, reflecting on his role as a steward of the land and its creatures, feeling a deep sense of responsibility and connection to the natural world around him.

Descriptions of the archetypes representing the multiple values of nature

Applied from IPBES's values typology (2022)

The Explorer	Description
"Nature as landscape"	
Mental model **Living *in* nature**	At first light, the explorer set out from his tent, eager to traverse the uncharted wilderness before him. With a keen sense of direction and a heart full of curiosity, he navigated through dense forests, over rocky terrains, and across flowing rivers, absorbing the vast beauty of the landscape. His day was spent in constant motion, climbing peaks to survey the land, noting the flora and fauna, and mapping his journey. By afternoon, he took a moment to rest and nourish himself, feeling a profound sense of belonging in the natural world. As evening fell, he set up camp, muscles pleasantly tired from the day's exertions, and sat by the fire, reflecting on the health and vitality that this life in nature brought him, deeply connected to the ever-changing landscape around him.

The Hunter	Description
"Nature as a resource"	
Mental model **Living *from* nature**	As dawn broke over the rugged terrain, the hunter emerged from his shelter, keen eyes scanning the horizon for signs of prey. With silent footsteps and steady aim, he stalked through the wilderness, viewing nature as a source of sustenance and livelihood. His day was a blend of patience and skill, tracking game through dense underbrush and across open plains. By midday, he had secured a successful hunt, providing prosperity for himself and his community. As the sun began its descent, he returned home, grateful for the bounty that nature had provided, understanding the delicate balance between taking and giving back to ensure the continuation of his way of life.

The Nature Dialogue Action Plan

the archetypes

Touchpoint

First steps/Invitation to the Nature Dialogue	Dialogue through role-play	Values in practice & reflection	Spreading the seeds

the sage · the explorer · the hunter · the shepherd

Context

Project kick-off			Organization

Stakeholder

- External facilitator
- Project members
- Project stakeholders

- Ministry project lead
- Project partners

- Project teams
- Decision-makers
- Personal connections

Goal

Make the multiple values of nature visible	Meaningfully include the multiple values of nature in decision making	Grow and formalize across sectors	Paradigm shift: Behavior within the limits planetary boundaries

Values for stakeholders

A shared understanding of multiple values of nature

The ND enables a thorough understanding of nature's multiple values, leading to more informed and inclusive decision-making that considers and respects various perspectives and creates more balanced and sustainable outcomes. The structured dialogue process encourages stakeholders to consider ecological, cultural, economic, and social aspects, leading to holistic solutions within a project.

Strengthened relational connections and psychological safety

The ND fosters stronger relationships among stakeholders by promoting empathy and mutual respect. Engaging in role-playing allows participants to better understand and appreciate each other's viewpoints and enhances communication and collaboration among stakeholders. The archetypes serve as effective tools for facilitating discussions, helping to bridge gaps in understanding, and creating a common language for diverse participants.

The project-based approach encourages active engagement and participation from various stakeholder groups within the vertical ecosystem. By involving them in the dialogue process, the proposal ensures psychological safety, and their contributions are valued.

Effortless application to existing structure

The ND can seamlessly integrate into existing project kick-off rituals and field trips. Its adaptable framework complements and enhances current practices without requiring significant changes. Apart from facilitation training, participants can adopt the activity with minimal disruption while the positive benefits are immediate.

Scalability

The proposal is designed to be scalable and replicable across different contexts and geographical locations. Its modular structure, including archetypes and dialogue approaches, can be adapted to various projects and organizational settings. This flexibility allows for widespread adoption and implementation, enabling the ND to impact more stakeholders and cross-ministry. Scalability ensures that the positive effects of the ND can be extended to numerous projects, fostering a broad-based movement towards inclusive and sustainable environmental decision-making.

Conclusion

This project started with quite a wide and somewhat theoretical scope: "how can we enable policy coherence for biodiversity, within the vertical system of the Finnish government?" Quite the mouthful. Policy coherence in and of itself is quite a new goal of government. Since it is in the nature of democracy as a way of rule to be inherently siloed, and the subject of biodiversity quite narrow in the administration, the prospect of attempting to marry the two felt quite overwhelming. However, after lots of research, extensive interviews and a lot of fruitful discussions, our proposal manages to tighten the scope from being almost all-encompassing, to being close and human. To be perfectly honest, we view this as quite a triumph.

When looking at such complex systems, it is easy to get lost in that complexity, and end up proposing a solution that will reproduce that same intangible complexity. While we initially struggled with holding space for this complexity, at some point we kind of gave in to it and ended up using it to our advantage. In the end, making something small will help address something big. We propose a method and a tool that will help support multiple parts of the system, across multiple levels. The Nature Dialogue goes to the core of the issues at hand; understanding and collaboration.

As designers, we valued having a non-linear research process. Even though we were encouraged to end it after about week five, we kept doing research and making interviews throughout the remaining weeks. While this was quite a lot of extra work, we managed to retain an open approach while simultaneously honing in on our solution.

Looking back at these past few 12 or so weeks, all of the team members have their own individual experiences to reflect on. What collectively kept us going however, is that the project is quite linked to our personal values. And just like we all have multiple values of nature, we had multiple values of project work. However, this process made us reflect on ourselves, and reflected our good and bad sides. Even though, sometimes, it could be a bit tough, we all acknowledge that we would not have ended up at this point if it weren't for our individual contributions. Each team member represented a vital set of skills needed for us to end up at the Nature Dialogue. Though at some points we might have needed such a tool for our own process, it would not exist if it had unfolded in a different way.

To reiterate the point about personal values, as designers it was such a joy to be able to work on a project situated this close to our own. In an industry where you might be put to work with something that is in opposition to your values, it feels like working on a project you truly believe in is rare. We believe in the value of our approach and the value of the Nature Dialogue. In conclusion, we would like to thank the Ministry of Environment, the Prime Minister's Office and our teaching team for enjoyable twelve weeks. Last, but certainly not least, all of the super heroes working within the vertical ecosystem: *thank you*.
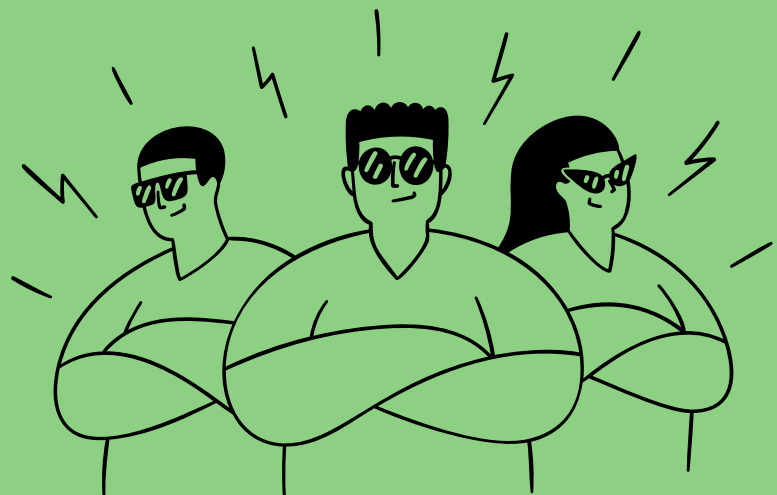
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Use of illustrations

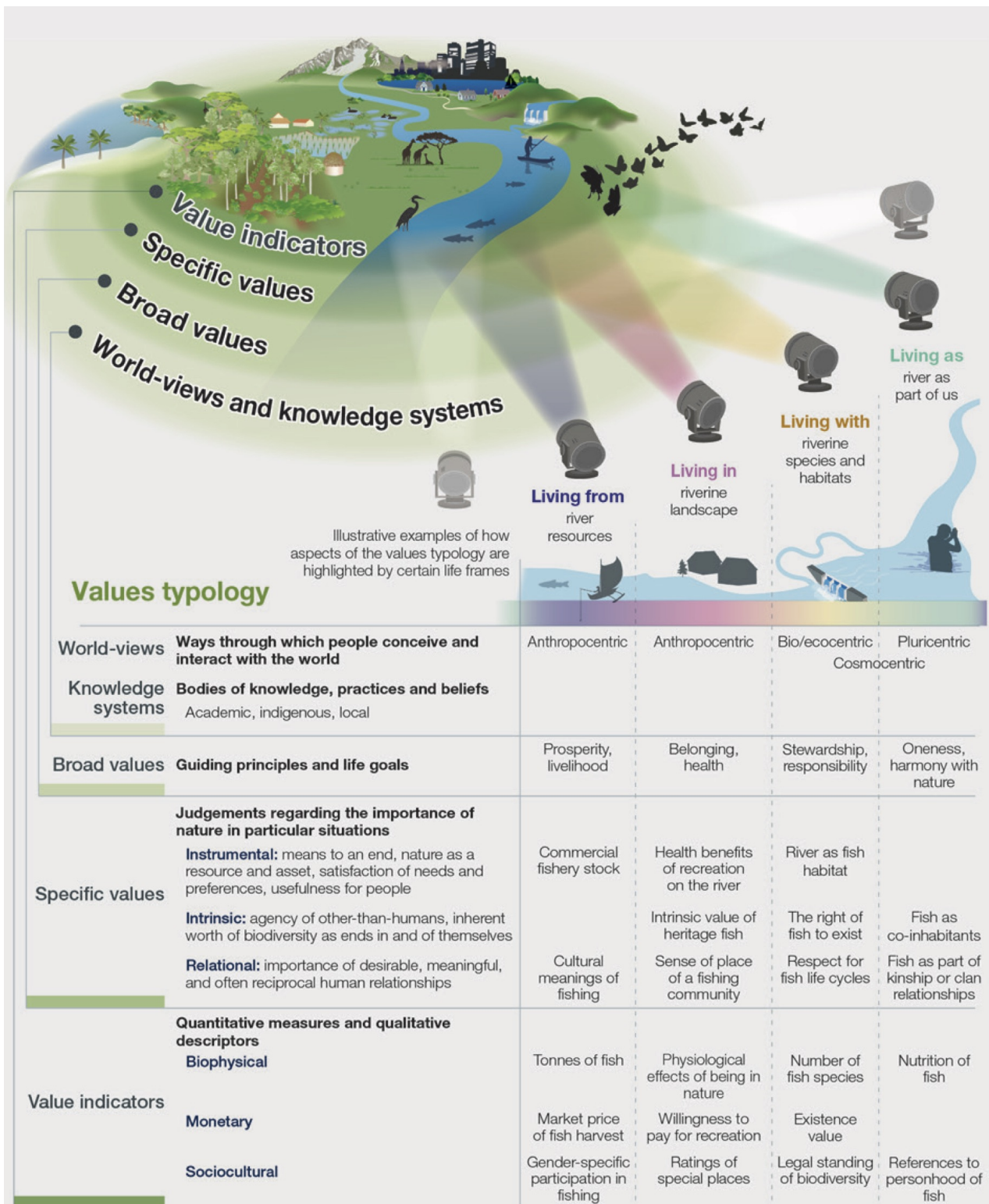Character illustrations licensed from Streamline Icons. https://www.streamlinehq.com/illustrations/milano

Value indicators

Specific values

Broad values

World-views and knowledge systems

Living as — river as part of us

Living with — riverine species and habitats

Living in — riverine landscape

Living from — river resources

Illustrative examples of how aspects of the values typology are highlighted by certain life frames

Values typology

		Living from (river resources)	Living in (riverine landscape)	Living with (riverine species and habitats)	Living as (river as part of us)
World-views	Ways through which people conceive and interact with the world	Anthropocentric	Anthropocentric	Bio/ecocentric Cosmocentric	Pluricentric
Knowledge systems	Bodies of knowledge, practices and beliefs — Academic, indigenous, local				
Broad values	Guiding principles and life goals	Prosperity, livelihood	Belonging, health	Stewardship, responsibility	Oneness, harmony with nature
Specific values	Judgements regarding the importance of nature in particular situations				
	Instrumental: means to an end, nature as a resource and asset, satisfaction of needs and preferences, usefulness for people	Commercial fishery stock	Health benefits of recreation on the river	River as fish habitat	
	Intrinsic: agency of other-than-humans, inherent worth of biodiversity as ends in and of themselves		Intrinsic value of heritage fish	The right of fish to exist	Fish as co-inhabitants
	Relational: importance of desirable, meaningful, and often reciprocal human relationships	Cultural meanings of fishing	Sense of place of a fishing community	Respect for fish life cycles	Fish as part of kinship or clan relationships
Value indicators	Quantitative measures and qualitative descriptors				
	Biophysical	Tonnes of fish	Physiological effects of being in nature	Number of fish species	Nutrition of fish
	Monetary	Market price of fish harvest	Willingness to pay for recreation	Existence value	
	Sociocultural	Gender-specific participation in fishing	Ratings of special places	Legal standing of biodiversity	References to personhood of fish

Figure SPM **2** **The values assessment typology highlights key concepts and their interrelationships to understand the diverse values of nature.**

The figure centres on potential foci of value (e.g., agroecosystems, biodiversity, cities, rivers) and concentric circles illustrate different value types and dimensions (world-views, broad and specific values, nature's contributions to people and value indicators). Life frames are not mutually exclusive; individuals or groups can hold multiple frames. Metaphorically, they are light beams that cut across value categories. Examples are highlighted of some values that might be given prominence in the context of a freshwater ecosystem {2.2; 2.3}.

Appendix 1. The values assessment typology highlights key concepts and their interrelationships to understand the diverse values of nature.