



## Verifying Voluntary Ecosystem Restoration— Case-Studies from Mozambique and Sweden

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**ABSTRACT.** Under the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets, adopted by the Conference of the Parties to the Convention on Biological Diversity, Governments have committed themselves to restoring 15 per cent of degraded ecosystems by 2020. It is not enough to rely solely on legally protected areas to conserve and restore areas. Conservation efforts must be expanded across all parts of the planet, especially to the places where people live and work. The Verified Conservation Area (VCA) approach aims to scale up conservation efforts by encouraging new stakeholders to conserve and restore areas and by providing support to their efforts. This includes recognizing ecosystem restoration and enhancing the assurance that funding provided to these efforts delivers biodiversity-positive outcomes. The VCA approach is backed by an international multistakeholder coalition including the Secretariat of the Convention on Biological Diversity and the IUCN Commission on Ecosystem Management.

By adopting a standards-based approach to recognizing area-based conservation and restoration, the VCA approach aims to establish a new, investable asset class of natural capital. VCAs may be used as an assurance mechanism for biodiversity loss mitigation and ecosystem restoration. They may also be used as a way to verify the natural-capital enhancement derived from ecosystem restoration for various landuse options, such as agriculture, fisheries, forestry, mining, ranching, recreation, or tourism. They may also be used to increase the market valuation of the land itself. In all these cases, as the VCA approach scales up, there is likely to be an increasing interest in valuing and investing in VCAs as natural capital assets.

This paper looks specifically at two VCAs that aim to restore degraded ecosystems: Cinco Grandes in Mozambique and Tullstorp Stream in Sweden. Cinco Grandes aims to restore a wilderness area by a major restocking of wildlife and establishing a sustainable wildlife-management system that engages both private investors and local communities. Tullstorp Stream has established a partnership of local farmers to restore a freshwater ecosystem, including through the establishment of ingetlands (“no-man’s lands” or “no-go areas”) for wildlife habitat, and to reduce polluted runoffs into the Baltic Sea. Both cases demonstrate the potential for recognizing the voluntary restoration of degraded ecosystems beyond protected areas, in places where people live and work.

## Vérification de la restauration volontaire des écosystèmes - Études de cas du Mozambique et de la Suède

**RÉSUMÉ.** Dans le cadre du Plan stratégique pour la diversité biologique 2011-2020 et des objectifs d’Aichi pour la biodiversité adoptés par la Conférence des Parties à la Convention sur la diversité biologique, les gouvernements se sont engagés à restaurer 15 pour cent des écosystèmes dégradés d’ici à 2020. Il ne suffit pas de compter uniquement sur les zones légalement protégées par la loi pour conserver et restaurer les écosystèmes. Les efforts de conservation doivent être étendus à toutes les parties de la planète, en particulier aux endroits où les gens vivent et travaillent. L’approche des zones de conservation vérifiées (ZCV) vise à intensifier les efforts de conservation en encourageant les nouvelles parties prenantes à conserver et à restaurer les écosystèmes et en soutenant leurs efforts. Cela comprend la reconnaissance de la restauration des écosystèmes et l’assurance que le financement accordé à ces efforts offre des résultats positifs pour la biodiversité. L’approche ZCV est soutenue par une coalition internationale multipartite comprenant le Secrétariat de la Convention sur la diversité biologique et la Commission sur la gestion des écosystèmes de l’UICN.

En adoptant une approche basée sur des normes pour reconnaître la conservation et la restauration par zones, l'approche ZCV vise à établir une nouvelle classe d'actifs investissables en capital naturel. Les ZCV peuvent servir de mécanisme d'assurance pour l'atténuation des pertes de biodiversité et la restauration des écosystèmes. Elles peuvent également servir à vérifier l'amélioration du capital naturel résultant de la restauration des écosystèmes pour diverses options d'utilisation des terres comme l'agriculture, la pêche, la foresterie, l'exploitation minière, l'élevage en ranch, les loisirs ou le tourisme. Elles peuvent également être utilisées pour augmenter la valeur marchande du terrain lui-même. Dans tous ces cas, à mesure que l'utilisation de l'approche ZCV augmente, il est vraisemblable que l'intérêt pour la valorisation et l'investissement dans les ZCV en tant qu'actifs du capital naturel augmentera.

Cet article examine spécifiquement deux ZCV qui visent à restaurer des écosystèmes dégradés: Cinco Grandes au Mozambique et Tullstorp Stream en Suède. Cinco Grandes vise à restaurer une zone sauvage par un réapprovisionnement important de la faune et en mettant en place un système durable de gestion de la faune qui engage à la fois les investisseurs privés et les communautés locales. Tullstorp Stream a établi un partenariat de fermiers locaux pour rétablir un écosystème d'eau douce, notamment en créant des «*ingetlands*» (zones où les visites, l'utilisation et les impacts humains sont strictement contrôlés et limités) pour l'habitat faunique et pour réduire les ruissellements pollués dans la mer Baltique. Les deux cas démontrent la possibilité de reconnaître la restauration volontaire des écosystèmes dégradés au-delà des zones protégées, là où les gens vivent et travaillent.

## Verificación de Restauración Voluntaria del Ecosistema - Estudios de caso de Mozambique y Suecia

**RESUMEN**<sup>1</sup>: En el marco del Plan Estratégico para la Diversidad Biológica 2011-2020 aprobado por la Conferencia de las Partes en el Convenio sobre la Diversidad Biológica, los gobiernos se han comprometido a restaurar el 15% de los ecosistemas degradados para 2020. No es suficiente con confiar exclusivamente en áreas legalmente protegidas para conservar y restaurar áreas. Los esfuerzos de conservación deben expandirse a través de todas las partes del planeta, especialmente a los lugares donde las personas viven y trabajan. El enfoque del Área de Conservación Verificada (VCA, por sus siglas en inglés) apunta a incrementar los esfuerzos de conservación alentando a los nuevos actores a conservar y restaurar áreas y apoyar esfuerzos. Esto incluye reconocer la restauración de los ecosistemas y mejorar la seguridad de que la financiación correspondiente a estos esfuerzos proporciona resultados positivos para la diversidad biológica. El enfoque de VCA está respaldado por una coalición internacional de múltiples partes interesadas, incluida la Secretaría del Convenio sobre la Diversidad Biológica y la Comisión de Gestión de Ecosistemas de la UICN.

Al adoptar un enfoque basado en estándares para reconocer la conservación y la restauración establecidas en el área, el enfoque VCA tiene como objetivo establecer una nueva clase de activos de inversión de capital natural. Las VCA pueden utilizarse como mecanismo de garantía para la mitigación y restauración de la biodiversidad. También pueden utilizarse como una forma de verificar la mejora del capital natural derivada de la restauración de ecosistemas para diversas opciones de uso de la tierra, tales como agricultura, pesca, silvicultura, minería, ganadería, recreación o turismo. Además pueden utilizarse para aumentar la valoración en el mercado de la misma tierra. En todos estos casos, a medida que el enfoque de VCA aumenta, es probable que haya un creciente interés en valorar e invertir en VCAs como activos de capital natural.

Este artículo examina específicamente dos VCA que tienen como objetivo restaurar ecosistemas degradados: Cinco Grandes en Mozambique y Tullstorp Stream en Suecia. "Cinco Grandes" tiene como objetivo restaurar un área silvestre mediante una importante repoblación de la vida silvestre y el establecimiento de un sistema sostenible de manejo de vida silvestre que involucre tanto a inversionistas privados como a comunidades locales. Tullstorp Stream ha establecido una asociación de agricultores locales para restaurar un ecosistema de agua dulce, incluyendo el establecimiento de *ingetlands* («tierra de nadie» o «áreas de no-acceso») para el hábitat de la vida silvestre, y para reducir los ríos contaminados en el Mar Báltico. Ambos casos demuestran el gran potencial de la restauración voluntaria de ecosistemas degradados fuera de las áreas protegidas, en lugares donde la gente vive y trabaja.

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1 Translated by Sofia Calvo

## I. INTRODUCTION

Everywhere, life on Earth is under threat. Scientists think that the continuing loss of biodiversity is as serious as climate change. Ecosystems are being degraded, natural habitats and open spaces are disappearing, and many wild species are becoming more endangered.

Nature, however, can be conserved and used sustainably. Ecosystems can be restored, habitats and open spaces can be protected, species can be saved, and natural resources can be harvested sustainably. Everyone—individuals, local communities, private companies, non-profit organizations and public agencies—we can help to conserve nature. Hectare by hectare, we can conserve our planet.

Under the Strategic Plan for Biodiversity 2011-2020 and the Aichi Biodiversity Targets, adopted by the Conference of the Parties to the Convention on Biological Diversity, Governments have made a commitment to conserving 17% of terrestrial areas and 10% of marine areas, and to restore 15% of degraded ecosystems by 2020. There is broad agreement, however, that current conservation efforts are not enough to mitigate the ever-increasing ecological footprint of humanity. And even these targets are unlikely to halt the loss of biodiversity.

Reliance on legally protected areas is necessary, but insufficient. With the growing human population and its increasing levels of prosperity, the pressures on biodiversity are great. There is a need to expand our conservation efforts across the planet. In this context, the VCA approach, by encouraging effective, area based conservation by communities, companies and individuals, is opening up a new voluntary, inclusive platform for nature conservation. It is enabling innovative and entrepreneurial opportunities for all of us to become directly involved in caring for our planet, hectare by hectare.

## II. OVERVIEW OF THE VCA APPROACH

The Verified Conservation Area (VCA) approach aims to scale up conservation efforts by encouraging new stakeholders to conserve and restore areas and by providing support to their efforts. This includes recognizing ecosystem restoration and enhancing assurance that funding provided to these efforts

delivers biodiversity positive outcomes. The approach is backed by an international multi-stakeholder coalition that includes the Secretariat of the Convention on Biological Diversity and the IUCN Commission on Ecosystem Management.

### A. Core elements of the VCA approach

1. A **Verified Conservation Area (VCA)** is a geographically-defined area listed on the VCA Registry and managed to conserve nature and use living natural resources sustainably, taking into account human needs for the services nature provides.
2. The **VCA Registry** at [ConserveAreas.org/Registry](http://ConserveAreas.org/Registry) is a voluntary, public listing of area-based conservation management. It is a place where VCA managers can communicate their projects to the public and to supporters.
3. The VCA approach is inclusive. VCAs can be managed by public, private or community organisations. And they may be managed for profit or not-for-profit.
4. VCA registration requires submission of an audited conservation management plan. Alternatively, an area can be listed with a proposal and a commitment to submit an audited plan within two years.
5. To stay registered, VCAs must submit audited performance reports annually.
6. Audits of plans and reports are undertaken by Board-approved **VCA auditors**.
7. VCA management plans, reports and audits are published on the VCA Registry providing visibility, accountability and assurance.
8. The requirements for management plans, performance reports and audits are set out in the **VCA Standard** [1]. These are aligned with Performance Standard 6 of the International Finance Corporation (IFC), on biodiversity conservation and sustainable management of living natural resources [2].

9. The **VCA Toolkit** recommends best available practical guidance for conservation management planning and reporting.
10. The **VCA Team** at Earthmind at the IUCN Conservation Centre manages the VCA approach and offers conservation planning and fundraising services to VCAs and their supporters.

## B. Benefits of the VCA Approach

1. The VCA approach recognizes and encourages the efforts by committed individuals, communities, local governments, NGOs, and companies to conserve and restore our natural capital.
2. It provides a mechanism for innovative conservation initiatives beyond legally protected areas to be recognised, celebrated and supported.
3. VCAs enable companies, public agencies, NGOs, foundations, and individuals to invest directly in verified conservation by providing standardised, transparent, monitored, and effective conservation management.
4. The VCA approach enables conservation to be visible and gives assurance that money invested in conservation is well spent.
5. It provides transparency and public accountability in recognising management plans, which address the biodiversity mitigation hierarchy – avoid, minimize, restore and offset.
6. The VCA approach establishes a new, international platform for verified sustainable land management which connects to the demands of stakeholders including local communities and public authorities.
7. It encourages voluntary action and creates new and exciting opportunities to connect conservation area owners and managers with impact investors.
8. VCAs enable governments to reach their marine and terrestrial conservation targets in the support of the Sustainable Development Goals 14 and 15.

## III. VERIFIED CONSERVATION AREAS

By adopting a standards-based approach to recognizing area-based conservation and restoration, the VCA approach aims to establish a new, investable asset class of natural capital. VCAs may be used as an assurance mechanism for biodiversity mitigation and restoration. They may also be used as a way to verify the natural capital enhancement of restoring ecosystems for various landuse options, e.g., agriculture, fisheries, forestry, mining, ranching, recreation, or tourism. And they may be used to enhance the market valuation of the land itself. In all of these cases, as the VCA approach scales up, there is likely to be an increasing interest in valuing and investing in VCAs as natural capital assets.

### A. Area-based conservation

A VCA can be registered by any community, company, organization, government authority, or individual who is able to implement a conservation management plan for a geographically-defined area. This requires the right to manage the area, but it does not necessarily require actual ownership of the area.

An indigenous community, for example, could register a VCA for which they have recognised traditional rights, but for which they may not have a registered title deed. A company could register an area for which they have a concession, and an NGO could register an area for which they have a management agreement with its owners.

Local authorities, for example, may wish to attract residents and businesses to their towns by registering VCAs to make clear their commitment to conservation and sustainable development. Legally protected areas may want to register as VCAs to enhance their ability to secure additional financial support.

Intergovernmental organizations, such as the United Nations Development Programme (UNDP), may partner localcommunity organizations to develop VCAcompliant management plans for specific areas that have clear conservation and development outcomes. International conservation NGOs may want to partner with local stakeholders to register VCAs for key biodiversity areas. Companies may wish to register VCAs to provide ongoing assurance of their biodiversity mitigation actions.



## B. Conservation and Sustainable Development

The objective for a VCA is sustained area-based conservation. This objective is premised on the original definition of conservation set out in the World Conservation Strategy, which was launched in 1980 by IUCN in partnership with the Food and Agriculture Organization of the United Nations (FAO), the United Nations Environment Programme (UNEP), the United Nations Educational, Scientific and Cultural Organization (UNESCO) and WWF. Conservation is defined as follows:

“Conservation is... the management of human use of the biosphere so that it may yield the greatest sustainable benefit to present generations while maintaining its potential to meet the needs and aspirations of future generations. Thus conservation is positive, embracing preservation, maintenance, sustainable utilization, restoration, and enhancement of the natural environment.”

This definition sees sustainable use as an integral component of conservation management. In this respect, VCAs are aligned directly with the core objectives of the Convention on Biological Diversity, namely, “the conservation of biological diversity” and “the sustainable use of its components”. Importantly, VCAs address the recognition, reflected in the preamble to the Convention, that the “fundamental requirement for the conservation of biological diversity is the *in situ* conservation of ecosystems and natural habitats and the maintenance and recovery of viable populations of species in their natural surroundings”.

The VCA approach has been designed to support central tenets of the Convention’s Strategic Plan for Biodiversity 2011-2020. It supports several of its targets, most importantly its Aichi biodiversity targets 11 and 15 on the conservation of 17% of terrestrial and inland water areas and 10% of coastal and marine areas and on the restoration of at least 15% of degraded ecosystems, respectively.

Regarding Target 4, on sustainable production, the VCA Standard provides a CBD-compliant standard for biodiversity-responsible management of productive areas. This includes areas under agriculture, aquaculture and forestry, as well as the ecosystems that provide essential services, targets 7 and 14 respectively.

It also supports target 20 as a platform for the mobilizing financing for biodiversity conservation.

Likewise, the VCA approach is also aligned with the focus of the United Nations Convention to Combat Desertification (UNCCD) on “long-term integrated strategies that focus simultaneously... on improved productivity of land, and the rehabilitation, conservation and sustainable management of land and water resources, leading to improved living conditions, in particular at the community level” and with the United Nations Framework Convention on Climate Change (UNFCCC) on “stabilization of greenhouse gas concentrations in the atmosphere... within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.”

Thus the VCA approach is aligned with both the ecosystem approach under the Convention on Biological Diversity and the approaches to sustainable land management and zero land degradation under the Convention to Combat Desertification.

In terms of the Sustainable Development Goals, VCAs directly support goal 14 to “conserve and sustainably use the oceans, seas and marine resources for sustainable development” and goal 15 to “protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss.” Further, VCAs are a means for implementation of sustainable finance and trade as set out in goal 17.

## C. Verifying Conservation Performance

VCA registration, as set out in VCA Standard, aims to enable transparent and accountable verification of the conservation management of an area. It does so through: (1) best practice guidance; (2) transparency; and (3) independent audits.

### 1. BEST PRACTICE GUIDANCE

The core guidance for establishing and reporting on a conservation area management plan is based on best practice for biodiversity-responsible financing as set out in the IFC Performance Standards on Environmental and Social Sustainability, notably Performance Standard 1, on assessment and management of environmental and social risks and impacts [3], and Performance Standard 6 [2], on biodiversity

conservation and sustainable management of living natural resources. The IFC Performance Standards have been adopted by major investment banks worldwide, notably by the export credit agencies of OECD member countries and also by the Equator Principles financial institutions, which are responsible for more than 70% of the international project finance in developing countries.

IFC Performance Standard 1 sets out the overall framework for the assessment and management of environmental and social risks and impacts as follows:

- To identify and evaluate environmental and social risks and impacts;
- To adopt a mitigation hierarchy to anticipate and avoid, or where avoidance is not possible, minimize, and, where residual impacts remain, compensate/offset for risks and impacts to workers, affected communities and the environment; and
- To promote improved environmental and social performance through the effective use of management systems.

IFC Performance Standard 6 sets out the specific objectives for biodiversity conservation and the sustainable management of living natural resources, as follows:

- To protect and conserve biodiversity;
- To maintain the benefits from ecosystem services; and
- To promote the sustainable management of living natural resources through the adoption of practices that integrate conservation needs and development priorities.

The VCA Standard includes a toolkit of recommended tools for effective conservation area management.

## 2. TRANSPARENCY

Second, VCA registration promotes transparency by requiring that an area's conservation management plan is posted on the VCA website. For an area to remain on the VCA Registry, it must also post annual conservation performance reports. These requirements effectively facilitate visibility, public

accountability and assurance of the area's conservation outcomes.

## 3. INDEPENDENT AUDITS

Third, VCA management plans and annual performance reports must be audited by an independent auditor who has been approved by the VCA Board. The audit reports must also be published on the VCA website ([ConserveAreas.org](http://ConserveAreas.org)). This requirement provides further verification that the area is being managed to achieve positive conservation outcomes. By verifying area-based conservation, the VCA approach is establishing a platform for biodiversity management assurance and facilitating new opportunities for conservation impact investment.

## IV. CASE-STUDIES

### A. Cinco Grandes (Mozambique)

*Coordinates:* 20°54'06.2"S; 34°17'23.0"E

*Status:* Registered

*Ecoregion:* Tropical and subtropical grasslands, savannas and shrublands

*Size:* 250,000 hectares

*VCA Registry page:*

[ConserveAreas.org/areas/mz/cincograndes](http://ConserveAreas.org/areas/mz/cincograndes)

Cinco Grandes aims to restore a wilderness area by a major restocking of wildlife and establishing a sustainable wildlife management system that engages both private investors and local communities. It is part of the Coutada 5 hunting concession.

Located in eastern Mozambique, Coutada 5 is the largest and most diverse of Mozambique's hunting concessions (fig. 1). The 687,000 ha Coutada is home to around 50,000 people, mostly inhabiting the coastal towns. This leaves 85% of the Coutada sparsely populated and ready for conservation activities including establishing Cinco Grandes, a 250,000 restored wilderness conservancy.

Although many of the flora within the ecosystems within the Coutada are in excellent condition, and some species such as the hippotamus and crocodile have stable populations, the debilitating civil war



**FIGURE 1** A SHRUBLAND IN EASTERN MOZAMBIQUE

that took place in the 1980s and 1990s has deprived the area of much of its famous megafauna. Lost species include elephant, buffalo, Sable antelope, Lichtenstein's hartebeest, eland, plains zebra, blue wildebeest, reedbuck and waterbuck.

The overarching goal is to plan, develop and utilize the Cinco Grandes wilderness conservancy in a manner such that the seriously depleted biodiversity resources

are rehabilitated over time. This ambitious plan will take place with a zoning policy so that large-scale wildlife reintroductions can occur in harmony with continued economic development in this remote area, including agriculture and mixed livestock/wildlife ranching.





**FIGURE 2** ACTIVITIES FOR THE RESTORATION OF THE TULLSTORP STREAM

### B. Tullstorp Stream (Sweden)

*Coordinates:* 55°24'56.7"N; 13°24'46.9"E

*Status:* Proposed

*Ecoregion:* Temperate broadleaf and mixed forests

*Size:* 6,300 hectares

*VCA Registry page:* [ConserveAreas.org/areas/se/tullstorp](https://ConserveAreas.org/areas/se/tullstorp)

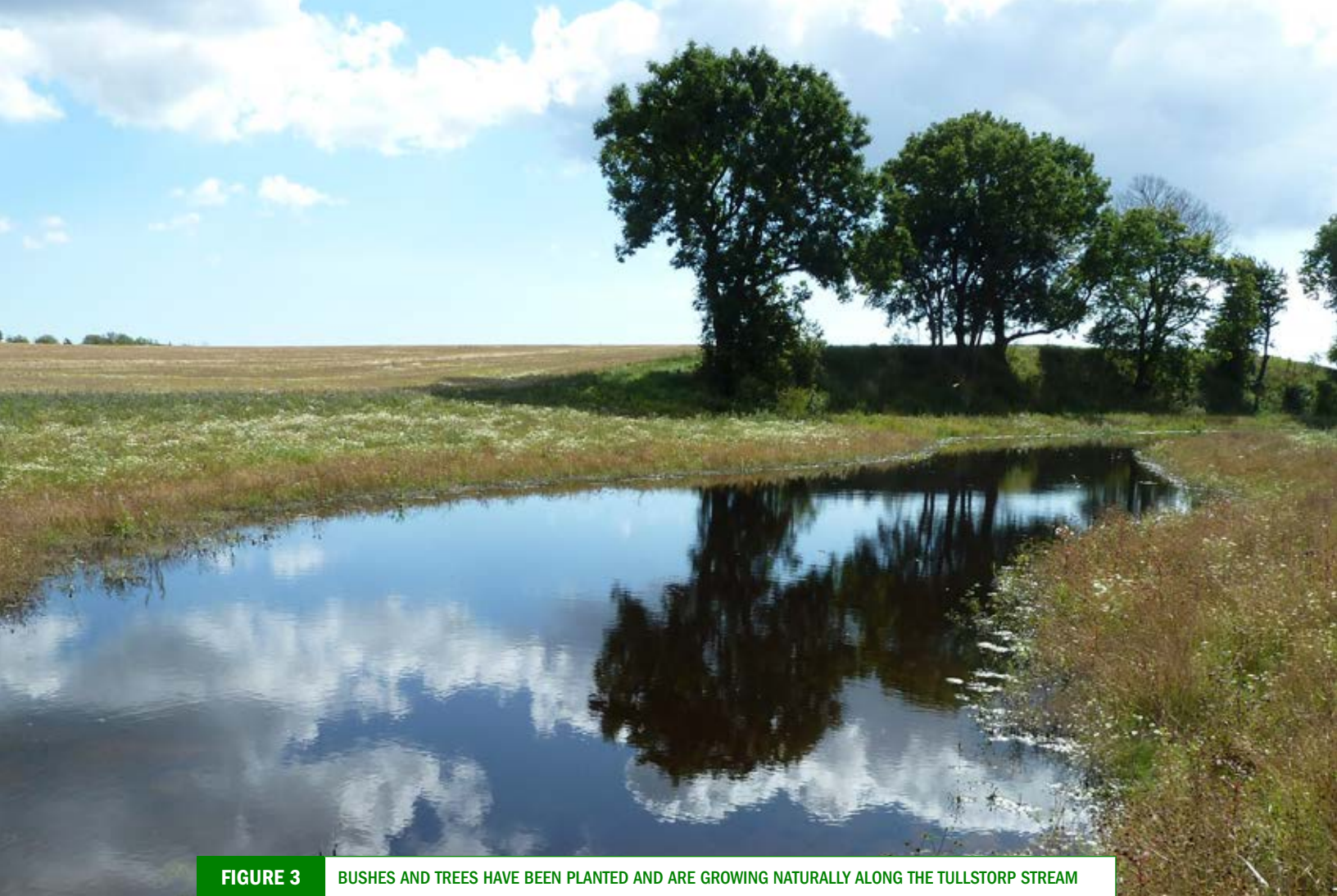
Tullstorp Stream has established a partnership of local farmers to restore a freshwater ecosystem, including establishing *ingetlands* (“no-man’s lands” or “no-go areas”) for wildlife habitat and reduce polluted run-offs into the Baltic Sea. It demonstrates the potential for recognizing voluntary restoration of degraded ecosystems beyond protected areas, in places where people live and work.

The Tullstorp Stream restoration project in southern Sweden (fig. 2 and fig.3) is a promising initiative to improve the living conditions for fauna and flora in intensively cultivated farmland at the same time as reducing the eutrophication of the Baltic Sea.

Already after the first 4-5 years, positive impacts have been registered for birds associated wetlands while the living conditions of fish and bottom fauna are more or less unchanged. The nutrient leakage to sea has significantly improved for phosphorus, but for nitrogen the improvement is evident only during the summer period due to the uptake in the 35 newly created wetlands.

With the promising results already achieved, the project has been awarded regionally, nationally and been nominated internationally, and it is interesting example of a landowner conservation initiative, which hopefully will multiply to other areas in the future, both nationally and internationally. This includes serving as a model conservation/restoration area for other agricultural lands neighbouring the Baltic Sea.





**FIGURE 3** BUSHES AND TREES HAVE BEEN PLANTED AND ARE GROWING NATURALLY ALONG THE TULLSTORP STREAM

## V. A VOLUNTARY ALLIANCE FOR RESTORING AND CONSERVING AREAS

The VCA approach is building an inclusive, voluntary alliance of stakeholders who are caring for our planet by restoring and conserving areas where they live and work. Co-hosted by Earthmind and the Global Footprint Network, the VCA approach includes core Partners, supporting organizations, conservation auditors, a technical advisory committee, a governing board, a management team, and a growing network of friends of voluntary, verified conservation areas.

The VCA alliance includes small non-governmental organizations seeking funds for their local conservation efforts, local and indigenous communities seeking recognition of their conservation actions, companies mitigating their biodiversity impacts, impact investors seeking growth in natural capital, and governments striving to reverse the loss of biodiversity.

## REFERENCES

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