

STANTEC PROMOTES LEADERSHIP IN NATURE-BASED SOLUTIONS, EXPANDING BEYOND ECOSYSTEMS, WETLANDS & COASTAL RESILIENCE INTO ESG & SDGs

Stantec is a global leader in sustainable architecture, engineering, and environmental consulting, delivering the expertise, technology, and innovation communities need to manage aging infrastructure, demographic and population changes, the energy transition, innovating at the intersection of community, creativity, and client relationships. Stantec's 2024-2026 Strategic Plan consists on three strategic growth initiatives: Climate Solutions; Communities and Infrastructure of the Future; and Future Technology. Combined with strategic and disciplined acquisitions Stantec looks to grow net revenues to \$7.5 billion by the end of 2026, entering 2024 with a backlog of \$6.3 billion. In mid-2023 Stantec acquired **Environmental Systems Design**, a 270-person leading engineering design, specializing in mission critical and data center buildings. In early 2024, Stantec completed the acquisition of **ZETCON**, a 645-person leading infrastructure firm in Germany, and closed the acquisition of **Morrison Hershfield**, a leading transportation, buildings, and environmental services firm with 1,150 people predominantly in Canada and the US. Dominic Kempson, is Sector Lead and Vice President of Stantec's Nature-based Solutions practice.

EBJ: The company has certainly performed the type of work under this umbrella for years, but why brand it as you have now? And does the term nature-based solution resonate with both the client communities as well as within your own company? Does NbS resonate with the various disciplines that you seek to involve in the service platform as well as future talent you plan to attract to the organization?

Kempson: There has been a significant shift in how the market and how our clients, and their investors, value the health of natural systems and the ecosystem services they provide. Much of the work we do, and the available funding to do so, has matured past ecosystem restoration, regulatory mitigation, and conservation, and is now viewed more broadly as nature-based solutions (NbS). NbS has become a global service for us. The concept of NbS and the value of ecosystem services is not new, but increased awareness related to the importance of biodiversity, financial value, reconnecting people with nature, and the additionality of natural systems functions, has accelerated the acceptance and preference to consider NbS as an alternative to, or significant element in, traditionally engineered approaches.

Successful design and implementation of NbS requires a broad and diverse set of technical expertise and experience. The opportunity to create these multidisciplinary teams provides our staff with tremendous opportunities to collaborate locally and globally, and the personal and professional satisfaction this creates when we deliver Nature Positive outcomes is significant. Engaging in a NbS approach really brings our folks together toward a common goal.

EBJ: Would you agree that water-related segments have been the most conducive to nature-based solutions historically across the environmental industry, with flood management, watershed management and asset protection, and more recently Coastal resilience? Is there significant potential in other areas of conventional media like air waste management and remediation?

Kempson: Yes. Management of water resources and leveraging NbS to address flood risk and sea level rise have been significant drivers in the growth, and popularity of NbS as a preferred option, or hybrid solution. We've been using bioremediation for many years for soil and groundwater remediation. There have been significant advances in this area. When we talk about air quality, natural systems can contribute

significantly to air quality and cooling, especially where we are seeing urban heat islands. When you think about natural systems in urban areas, you can also see benefits to people's health. Examples would be children having access to open spaces like parks, streams, and nature walking trails. There are studies that look at the mental health benefits of nature.

EBJ: Most nature-based solutions or green infrastructure have been seen for their value in restoration of ecosystem assets but less frequently for their treatment services. In watersheds, rivers, stream applications and elsewhere, are we increasingly able to demonstrate the value of and consistent services into terms that customers and policy makers can comprehend and advocate?

Kempson: Yes, but we still have work to do. It is one of the drivers for our partnership with the **Network for Engineering with Nature** (N-EWN). There is no doubt about the effectiveness of NbS; we can see in the results of many projects. When you start looking at the financial value of funding a flood risk project that involves an NbS approach, and another with a traditional engineering approach, there must be a cost-benefit analysis. We have a team at Stantec that are looking at this very issue. I think the key is looking at what the future conditions are and how NbS benefits a project over the long run.

EBJ: The view of green infrastructure versus gray infrastructure is brought up on occasion but, as you state in your practice announcement, you view nature-based Solutions as working in conjunction with traditional engineering methods. What are the best examples of this and how are you strategically integrating across disciplines within the company to further incorporate nature-based Solutions across your client spectrum?

Kempson: One example is Blue Green Corridors where traditional engineering and NbS are used to reduce flooding. Another example is using a dune system, like our project at Prime Hook National Wildlife Area, to protect against coastal storm surges. We can use wetlands for "polishing" wastewater before releasing it

into another system. We are incorporating pollinator habitat with solar farms. There is a lot of interest in “re-wilding” stream systems in urban areas where you still have the benefit of conveying water, but you also create open spaces.

EBJ: Nature-based solutions implies a less technical approach and allowing nature to do its job. One of the key differentiators is deployment of technology, although much of this is in information technology related to monitoring and measuring of water quality, emissions, etc.. Do you agree that their significant potential for technology deployment to measure and report on the performance of NbS and is that something you are investing in or can get your clients to invest in?

Kempson: Make no mistake: Effective and successful delivery of NbS requires significant technical expertise. Think of designing and building a coastal dune system to protect a community instead of a concrete seawall. The dune project requires ecologists, geotechnical experts, coast hydrodynamic modelling, engineers, and geomorphologists. But, yes, we are already using advancements in technology for NbS. We are using eDNA, satellites, Digital Twins and Artificial Intelligence. We deploy all these tools as standard to assess, design, and monitor our projects. We are using advanced hardware and software to advance NbS. Scientific rigor and defensibility are critical elements in all that we do. The combination of our experience and applied technology are the foundation of managing risk, and delivering a product that our clients can be confident in.

EBJ: How is the company involved in the Network for Engineering with Nature entity, how did it come about and what are the overall objectives of the Network?

Kempson: Stantec has had a long relationship with the U.S. Army Corps of Engineers and their Engineer Research and Development Center (ERDC). Same with the University of Georgia. Both are founding members of the Network for Engineering with Nature, which was initially largely made up of academics and government agencies. We were very inter-

ested in their work and asked if we could partner to provide technical assistance to them and learn from them. We signed a memorandum of agreement and became the first commercial consultant to join N-EWN. It’s a wonderful organization that is largely about sharing information and best practices. We’ve provided our insights into eDNA and other NbS design and implementation experience, including applied technology. Now there are other consulting companies engaged as partners to share their experiences as well.

EBJ: How has the market for nature-based solutions shifted in the past few decades and what have been the drivers?

Kempson: As more sectors adopt NbS, it’s important to discuss how we got to the present and what are the industry drivers. A few decades ago, it was driven by regulatory drivers such as Section 404 of the Clean Water Act and wetland/steam mitigation. That has evolved as we see organizations respond to investor, stakeholder, environmental, social, and governance (ESG) and United Nations Sustainable Development (SDG) goals, as well as anticipated local and international regulatory frameworks. For example, we have large corporate clients coming to us and asking us to figure out how they can fulfill commitments to biodiversity and local communities. There are many drivers now – the need to sequester carbon, improve water quality, protect against floods, or rising sea levels. NbS can do all that. And more and more industry sectors are seeking alternative or hybrid

NbS solutions. The US federal government and other international governments are also requiring that NbS are considered as a solution to develop on government-funded projects. The UK has regulations requiring mitigation for biodiversity impacts. The EU just passed the Nature Restoration Law, which aims to put measures in place to restore at least 20% of the EU’s land and sea areas by 2030, and all ecosystems in need of restoration by 2050. And the Office of the Assistant Secretary of the Army recently published a memorandum requiring the incorporation of NbS in civil works projects.

The desire to incorporate nature positive outcomes into traditional approaches is rapidly evolving. It’s also important to be aware that our clients are interested in solving a specific challenge but are also interested in identifying and quantifying all the benefits a NbS delivers. A wetland system primarily designed for flood control or water quality can also enhance biodiversity and habitat, has the potential to sequester carbon, and mitigates heat islands in an urban setting. Our clients are interested in recognizing all these benefits and often incorporate them into their alternatives benefit cost analysis. We are supporting drivers such as the recognition of the importance of the blue economy in marine environments. There is also a desire to protect cultural and archaeological resources with NbS. This is particularly important for indigenous communities where the connection to nature and the landscape is particularly strong. □

Stantec Promotes Dominic Kempson to Leader of its New Nature-Based Solutions Practice

In 2024, Dominic Kempson was promoted to lead Stantec’s Nature-based Solutions (NbS) practice in Environmental Services (ES), overseeing strategic direction, technical development, and global growth. Kempson has more than 30 years of experience in environmental consulting, with an emphasis on ecosystem assessment, restoration, and watershed management. He is a Fellow of the **Society of American Military Engineers**. Kempson was most recently ES’s coastal and marine solutions lead. He has expertise in ecosystem recovery, flood risk management, urban and watershed scale development, climate adaptation, and support for water supply, treatment, and conveyance. NbS uses the positive benefits of natural systems in conjunction with traditional engineering methods. NbS adds ecological resilience to infrastructure and generates multiple layers of environmental, social, climatic, and economic benefits.