



TERMS OF REFERENCE

Strategic Advisory Services for the Tres Culturas Corridor in the Tula River Basin, Mexico

Project code: PVW526XXXX

Date: XX-XX-2026

1. INTRODUCTION

This assignment is financed through the Partners for Water Programme 2022-2027 (PFW5), executed by the Netherlands Enterprise Agency (RVO, part of the Netherlands Ministry of Economic Affairs and Climate). The PFW5 is commissioned by the Ministry of Infrastructure and Water Management on behalf of the Interdepartmental Water Cluster. The ultimate aim of the Netherlands International Water Ambition is to increase water security in the world of humans, plants and animals, and optimize the Dutch contribution to this aim.

One of the components of PFW5 is the Thematic Approach, which gives specific attention to two themes: developing projects concerning Nature Based Solutions (NBS) and the Water-Biodiversity-Food nexus (WBF). The objective of the Nature Based Solutions (NBS) track is to position NBS as a viable intervention package in implementation and investment programs abroad. Broadly speaking, this track aims to develop the necessary knowledge and project preparation to move from the conceptual to the implementation stage, unlocking downstream project finance for NBS. For this purpose, Partners for Water works together with interventional partners working on water problems abroad, and takes a role in the project preparation stage. In this stage, the full cycle of NBS project preparation needs to be taken into account, as illustrated in the IUCN Global Standard for Nature-based Solutions¹, and the 'Enablers' developed by EcoShape².

This assignment seeks to support Mexico's Secretariat of Environment and Natural Resources (SEMARNAT) with technical and operational advice for the design of NbS for flood prevention in the Tula River basin, more specifically in the Tres Culturas Corridor.

Background

Mexico is seeking to transition toward a modern flood management model that integrates controlled flood zones, restored floodplains, and nature-based solutions, following recent events that have exposed the limitations of traditional grey infrastructure. In this context, the Tres Culturas corridor in the Tula River basin presents a unique opportunity to demonstrate this shift in practice: a

¹ [2020-020-En.pdf \(iucn.org\)](#)

² [Enablers - EcoShape](#)

designed floodplain that reduces urban flood risk while generating ecological, cultural, and social benefits. Aligned with the restoration of the Tula River, one of the President's 100 national commitments, the project has the potential to become a flagship success case and catalyze large-scale transformation in flood management across Mexico.

The Tres Culturas Corridor is a historic floodplain located less than 1 km downstream from downtown Tula and 3 km upstream of the Endhó dam. In 2017, the river embankments in this area were raised, effectively disconnecting the river from its historical floodplain and forcing flood flows through a series of sharp meanders. This configuration creates a hydraulic backwater effect that increases water levels and flood risk upstream in the city of Tula. **Restoring the floodplain by relocating or reconfiguring the embankments is therefore expected to improve flood conveyance toward the Endhó reservoir, reduce upstream backwater effects, and increase flood protection in Tula**, one of the key objectives of the Presidential Tula River Restoration Project.

Beyond flood protection, the Tres Culturas area offers an opportunity to create high-quality public and natural space for the historically marginalized population of Tula. Its location between the city, the archaeological site, natural areas, and the planned passenger railway also creates the potential for the site to become a highly visible demonstration of the Tula River restoration and a new recreational and tourism destination.

To realize this opportunity, **this assignment seeks to provide specialized technical and operational advice to guide the design and early stages of implementation of the Tres Culturas Floodplain Restoration Project**. The core of the assignment will be to transform hydraulic modelling results provided by the Inter American Development Bank (IDB) into a safe, implementable, and institutionally supported floodplain design, ensuring measurable reductions in flood risk while integrating long-term environmental and social co-benefits.

2. SPECIFICATIONS

Scope and objectives

The goal of this assignment is to provide SEMARNAT with the technical expertise for the design of the hydraulic solutions and long-term operation of NbS in the Tres Culturas Corridor in the Tula river, in order to maximize their functions for flood risk management, ecosystems services and agriculture and domestic uses in line with the learnings from Room for the River Project in the Netherlands. The advisor or consortium will work with SEMARNAT, Conagua, IDB (in charge of hydraulic modeling), and other relevant Mexican Authorities by providing sound technical and operational recommendations. The advisor or consortium will also play a crucial role in formulating follow-up activities under the implementation phase. Consistent with the available budget, the assignment is strategic and conceptual in nature, drawing on available data and information. To keep the assignment focused and practical, it is structured in four phases:

1. **Technical review and design framing.** Review available information and emerging IDB modelling results to identify the key hydraulic, spatial, ecological and operational questions that should guide the design of the

restored floodplain. Define together with SEMARNAT, CONAGUA and IDB, the main design alternatives and scenarios to be further assessed.

2. **Floodplain concept development.** Develop and refine a limited number of conceptual floodplain configurations, including potential embankment relocation or reconfiguration, floodplain geometry, hydraulic connections, inlet/outlet arrangements, and integration with ecological restoration and public space. Work iteratively with the IDB modelling team to assess and refine these alternatives.
3. **Targeted validation and collaborative design.** Conduct a field mission and technical workshops with SEMARNAT, CONAGUA, IDB and other relevant stakeholders to validate key site conditions, review alternatives, incorporate operational and institutional considerations, and support convergence toward a preferred concept.
4. **Final advice for SEMARNAT.** Provide technical recommendations to guide subsequent detailed engineering and implementation, including design principles, performance criteria, construction and phasing considerations, operation and maintenance requirements, institutional arrangements, and key risks requiring further assessment. This document should be framed Dutch-Mexican Floodplain Restoration Guidelines inspired by Room for the River in The Netherlands.
5. **Scalability proposal for other areas in Mexico.** Use this opportunity to advice on how to scale up and replicate the use of NbS for floodplain restoration and flood management in the specific Mexican context.

Technical and operational recommendations

- **Provide continuous technical advice throughout the development of the project,** participating in technical meetings, site visits and design discussions with SEMARNAT, CONAGUA, IDB consultants and other relevant Mexican authorities. The advisor or consortium will help identify key design questions, technical risks and information needs as the project evolves. Access to national and local stakeholders will be arranged and facilitated by SEMARNAT, who will provide necessary invitations and introductions.
- **Develop and refine conceptual alternatives for the restoration of the Tres Culturas floodplain,** considering hydraulic infrastructure (e.g. relocation or reconfiguration of existing embankments, floodplain geometry and elevations, hydraulic connections between the river and floodplain, inlet and outlet arrangements), management protocols (interaction with the Endhó reservoir), stakeholder involvement (e.g., farmers, DA, DENR, DPWH lining in or near the floodplain), and integration with ecological restoration and public space objectives. Outputs will include high-level design concepts and recommendations for SEMARNAT.
- **Work iteratively with the IDB modelling team to translate hydraulic modelling into design decisions.** Based on Dutch floodplain design experience, the advisor or consortium will recommend relevant configurations and scenarios to guide the modeling, interpret its results from a design perspective, and use these results to progressively refine the proposed intervention.
- **Assess key hydraulic, geomorphological and spatial conditions** relevant to the long-term performance of the restored floodplain, including flood conveyance, backwater effects, erosion and sedimentation risks, river

morphology, embankment stability considerations, and interactions between the river channel and restored floodplain.

- **Provide implementation-oriented recommendations** for the preferred floodplain concept, including identification of required interventions, construction and phasing considerations, operation and maintenance requirements, land-use and safeguard considerations, institutional responsibilities, and key issues that should be addressed during subsequent detailed engineering.
- **Support institutional capacity and confidence building** by facilitating technical discussions and collaborative design sessions with the Mexican institutions responsible for approving, implementing and operating the project, drawing on relevant lessons from the Dutch Room for the River Programme and other floodplain restoration experiences.
- **Identify transferable lessons for future floodplain restoration projects in Mexico**, particularly regarding design principles, institutional arrangements, operation and integration of nature-based flood management into conventional river engineering practice.

The consultant's role is advisory and complementary to the ongoing detailed engineering design or basin-scale hydrologic and hydraulic modelling activities. The assignment will focus on targeted NbS refinement, site-specific assessments, implementation-oriented recommendations and embedding these solutions.

The scope of the activities is defined in this Terms of Reference. The scope of the activities, including the additional activities, can change during the assignment and will always be decided in consultation with the advisor, RVO and SEMARNAT. Any changes should require mutual agreement when adjustment of budget, schedule and deliverables are requested.

Deliverables:

- Prepare a technical advisory report on NbS concepts for the Tres Culturas Corridor in the Tula River Basin. The report will include:
 - Detailed assessment and conceptualization of NbS interventions for the Tres Culturas Corridor, including: hydraulic interventions for flood prevention based on the Room for the River model, assessment of connectivity, assessment and prioritization of design alternatives, definition of stakeholder benefits, consultations with relevant authorities and development of operational concepts (including inlet/outlet arrangements interaction between the restored floodplain, the Tula River and the Endhó reservoir).
 - Assessment and preliminary concept designs (i.e., conceptual NbS layouts and recommendations for future development, without detailed calculations, modelling or design) for flood prevention measures and abandoned meanders, including layouts, embankment relocation or reconfiguration, inlet/outlet configurations, hydraulic connectivity, required works, high-level safeguard considerations, and institutional/operational aspects – leading to recommendations for DED.

- Prepare a field mission and consultation report, including a field survey report and accompanying presentation (PPT) summarizing key findings, stakeholder inputs, and site observations.
- Prepare a single and consolidated technical advisory note to advise the CTI detailed engineering design (DED) of NbS interventions, and provide and provide recommendations on related modelling based on the developed concepts and recommendations.
- Five meetings with RVO, Embassy and SEMARNAT at the start of the assignment, after submission of the draft results as well as the final report.
 - Minutes of the meetings will be the responsibility of the advisor.
 - RVO will organize the kick off meeting.
- Conduct monthly regular coordination meetings as required to discuss scope, progress, and emerging findings, with minutes prepared by the advisor.

Timeline:

Over the assignment period (November 2026 to October 2027), the international expert will provide targeted inputs at key stages (inception, field mission, concept development, present key findings and reporting) rather than full-time engagement. National experts will ensure continuous support, including field coordination, data collection, present key findings and stakeholder engagement.

3. KEY COUNTERPART ORGANISATIONS

A broader set of counterpart organisations is supporting and/or connected to this assignment:

Organisation	Type of involvement and responsibility
RVO – Partners for Water	Commissioner and contractor of this assignment.
Embassy of the Netherlands in Mexico	Liaison between RVO and SEMARNAT.
SEMARNAT	Project Proponent.
IDB	Provide data of the Tres Culturas Hydraulic modelling.

4. External communication about the project

- A one-page project summary (of this assignment) has to be delivered at the end of the project. This consists of a summary of activities, deliverables, project- and consortium partners (for Dutch partners: including KVK-number), impact on / connection with SDGs and a mention of the Partners for Water programme. The project summary should be delivered as a separate Word-file, in plain text, max. 1 page and written in English. RVO will publish this summary and (a selection of) the deliverables on the website of the IATI-initiative, <http://aiddata.rvo.nl>.

- Data/information generated during this project and deliverables that are part of the assignment, such as reports and other media, are (in principle, unless agreed otherwise) public information and will be made available through the IATI-website and/or the Partners for Water website. The organisation's own reporting formats (incl. logo's etc.) may be used but should include a colophon that indicates the introduction text as presented under item 1 of this ToR and a reference to the Partners for Water programme and/or the Government of the Netherlands.
- A set (minimum 10) of licence-free high-resolution images (photos and/or other visuals) related to the project, which are available for use in any project- and/or programme-related outreach, online and offline, including the IATI-website.
- Proactive delivery of at least two social media messages related to key activities or communication messages/outcomes, including media materials such as photos or videos. The contractor may use the organisation's own social media channels with **@Partners for Water** or propose messages to be spread through the Embassy's and/or RVO social media channels.
- Short article (suitable for external, standalone, non-professional communication) or interview, which can be used for Partners for Water related outreach through www.partnersvoorwater.nl, general RVO/Government outreach and embassy communication. This output (e.g. article) preferably includes quotes from local counterparts and the consortium member(s) about the process and local impact. The RVO communication department may be involved in preparation and review of the article.

Note: any other (=not defined above) project or project scope related communication initiated by the contractor or subcontractors needs to include a reference to the support by the Government of the Netherlands through the Partners for Water programme.

5. PLANNING AND PHASING

Activities defined in this ToR are to be carried out from November 2026 (or as soon as the tendering and contracting procedure has finished) until October 2027 taking into account alignment with the SEMARNAT reporting requirements. The assignment has two phases. In the first phase, the consultant carries out the main work — the desk review, initial field mission, concept development, and the technical report — delivered six months after contract award. In the second phase, the consultant provides occasional advice on the detailed engineering design (DED), coordination with authorities and other stakeholders, jointly with other potential field mission and online sessions aimed at providing more technical and specialized advice on NbS. This ends with a short note on the DED and modelling at around month 11.

Monitoring, Evaluation and Learning

For Monitoring, Evaluation and Learning (MEL) purposes, the Contracting Authority requests Ecoshape to submit an online form, asking to reflect on lessons learned and achievements attained during the project execution upon project finalization. The Contractor shall complete a form and return it to the Contracting Authority within one (1) month after completion of the project.