



Education and capacity building project



Photography: T. Morales Vera

Would you like to help build capacities for the restoration of ecosystems and environmental services in Latin America and the Caribbean?



The region of Latin America and the Caribbean (LAC) contains eight of the 34 biodiversity hotspots of the world and provides priority ecosystem services at local, regional and global scales. It is estimated that 20.3% of the marine and terrestrial area of the LAC is protected. However, the region has undergone profound changes over a short period of time, which has affected biodiversity and the capacity of the ecosystems and landscapes to continue providing ecosystem goods and services. For example, it has been estimated that the urban population has grown by more than 35 million people between 2010 and 2015 alone. Forests have decreased by 9.5% in the region since 1990; however, this figure is masked by the 43% increase in forest cover in the Caribbean. The opposite trend is presented by coral cover in the Caribbean, which decreased from 34.8 to 16.3% between 1970 and 2011. Latin America has undergone the most dramatic decline in vertebrates worldwide, with an 89% loss of 1040 populations of 689 species studied since 1970. Human-induced erosion covers 2.23 million Km², ultimately affecting coastal ecosystems and the oceans through fluvial networks that transport sediments and pollutants. It is estimated that almost 25 million rural people come into contact with polluted surface waters*. Faced with this difficult panorama, ecological restoration is a crucial activity and training of local capacities and stakeholders is a priority in the LAC region in order to design and implement restoration at the landscape level.

*Sources: UNEP 2016. GEO-6 Regional Assessment for Latin America and the Caribbean. United Nations Environment Programme, Nairobi, Kenya.
WWF. 2018. LIVING PLANET REPORT 2018: Aiming higher. Grooten, M. y Almond, R.E.A. (Eds). WWF, Gland, Suiza.

**Source: www.wri.org/sites/default/files/WRI16_Info_20x20_v7-full_0.png



**The 20x20 restoration initiative was launched in 2014 during the COP 20 in Lima, Peru. It currently groups more than 50 million hectares committed to restoration in the LAC region. Impact investors and companies have a financial ambition of investing a total of \$2.6 billion in multiple restoration approaches across the region.

You can help fund decision makers in Latin America and the Caribbean to take the sixth edition (2019) of the Diploma Restoration of Ecosystems and Environmental Services, offered by FIRE and INECOL.



About FIRE

The International Foundation for Ecosystem Restoration (FIRE) is a private, non-profit body composed of a network of more than 30 professors, researchers, students and professionals of different academic institutions, non-governmental organizations and businesses from different European and Latin American countries. Its objective is the restoration and conservation of ecosystems in different parts of the world, transferring academic knowledge and experience to operational projects with the maximum possible social yield. In order to achieve this objective, the Foundation (1) generates relevant scientific and technical information; (2) implements restoration projects at different scales; (3) trains students, professionals and operational personnel in the planning, execution and evaluation of ecosystem restoration practices; and (4) supports projects involving businesses that produce goods and services through the sustainable use of natural resources.



About INECOL

The Instituto de Ecología, A.C (INECOL) belongs to the network of Public Centers of Research of the SEP – CONACYT System of Mexico. As such, it has the mission of generating, transferring and socializing cutting-edge scientific and technological knowledge about ecology and biodiversity, and contributing to the innovative solution of problems of the environment, agriculture and forestry. As a center of education, it has the objective of training new, highly competent talents for science and technology. INECOL has a prominent academic staff of more than 100 researchers who present integral training and commitment to society. The Masters in Sciences program has the recognition of “International Competence” in the National Program of Quality Postgraduates (PNPC) of the National Council of Science and Technology (CONACYT), while the Doctorate Program is recognized as "Consolidated".

Our training method

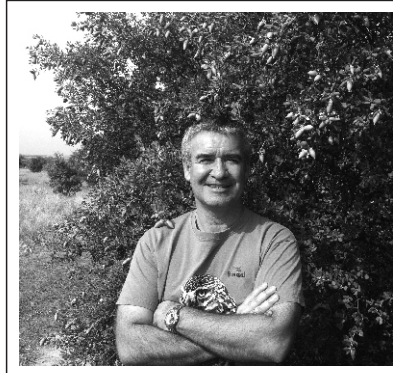


This Diploma explores the history, concept evolution and current strategies for ecological restoration from a broad and integral perspective. It is the result of a conjunction of the experience of different institutions and specialists dedicated to the ecology of restoration, who have put their knowledge into practice. With the support of case studies of restoration experiences, lectures and video resources, it is intended by the end of the Diploma that the students understand the fundamentals and challenges of current research and practice in ecological restoration. It is also intended that they be fully aware of the current techniques for restoration of specific ecosystems and develop the abilities necessary for effective planning, execution and evaluation of projects related to their interests and professional spheres.

The Diploma has been organized into five modules, distributed over a period of 17 weeks. Each module includes sufficient material for an estimated study time of 10-12 flexible hours per week. The platform used consists of lectures by the professors, evaluations, questions and case studies, as well as all of the additional study materials. Also included in the program are forums, videos and links to other internet sites, with which to more profoundly explore the themes addressed in each module.

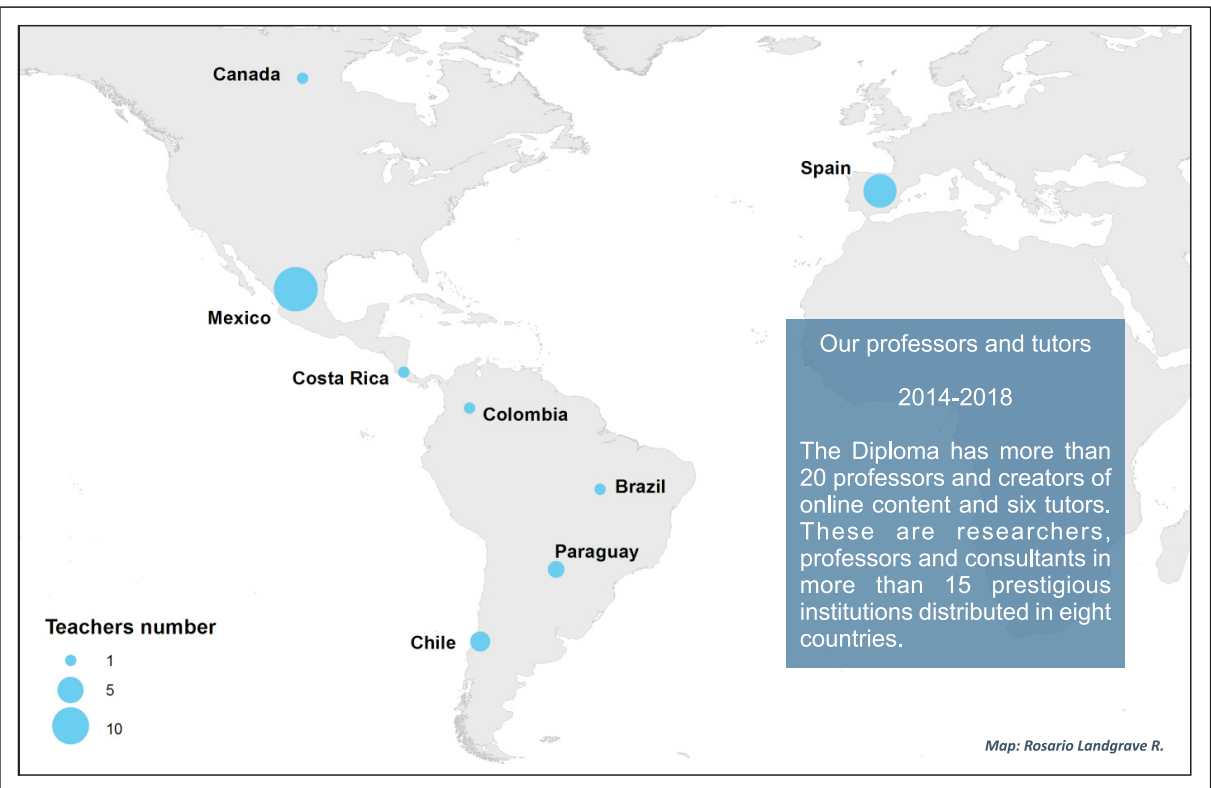
Each student will have the guidance of tutors with wide experience in restoration in Ibero-America and the Caribbean. The tutors will direct the students through mandatory lectures, addressing doubts related to the theme, lessons and evaluations. The evaluations will follow an order of sending, receiving and evaluation on the part of the tutor, with time limits clearly stipulated beforehand.

Our team



Dra. Fabiola López Barrera is a biologist (UNAM, Mexico). She completed her Doctorate at the University of Edinburgh, in Scotland. She has been a researcher at INECOL since 2007 and is a member of the National System of Researchers (Level II) in Mexico. In 2016, she undertook a sabbatical placement at the Universidad de Alcalá de Henares, in Madrid. She is coordinator of the Functional Ecology Network (INECOL), founder and coordinator of the Mexican Network for Environmental Restoration (REPARA) and founding member of the Ibero-American and Caribbean Society of Ecological Restoration (SIACRE). She has coordinated two editions of the online course “Fundamentals of ecological restoration” and five editions of the Diploma “Restoration of ecosystems and environmental services”. Dr. López Barrera actively participates in postgraduate studies and has personally given more than 50 classes of restoration for the Masters and Doctorate students of INECOL. She is currently the general coordinator of the Diploma and represents INECOL.

Dr. José María Rey Benayas earned his doctorate through the Universidad Autónoma de Madrid from 1990, for which his thesis received the Extraordinary Doctorate Prize. He completed his post-doctorate at the Northern Illinois University and in GeoEcoArc Research (United States of America) with a Fulbright scholarship. He has been an Associate professor in ecology at Universidad de Alcalá from 1994, and a Full Professor since 2007. His current research activity is focused on the biology of conservation and restoration of biodiversity and ecosystem services, particularly in agricultural landscapes. He currently directs a Masters Program in Ecosystem Restoration at the university. With other colleagues of different countries, he founded the International Foundation for Ecosystem Restoration in order to transfer academic knowledge to society, and is the current President of its board. He is a Professor in the Diploma program and the President of FIRE.



Diploma contents



FUNDAMENTALS OF ECOLOGICAL RESTORATION

RESTORATION OF WOODLAND AND TROPICAL FOREST

RESTORATION OF COASTAL, WETLAND AND REEF ECOSYSTEMS

RESTORATION OF ENVIRONMENTAL SERVICES

ECOLOGICAL RESTORATION AND SOCIETY

Human impact on
biodiversity and
environmental
services

What is ecological
restoration?

Passive restoration
and disturbance
regime

Schools of restoration

Scales of restoration

Success of restoration

Forestry landscapes
of Latin America

Forest restoration
techniques

Monitoring and
forest restoration
success

Restoration of:

Dunes

Mangroves

Wetlands

Coral reefs

Restoration of:

Environmental services
in agroecosystems

Hydric services and
integrated basin
management

Spaces affected by the
mining industry

Spaces affected by
highway infrastructure

Philosophy and ethics

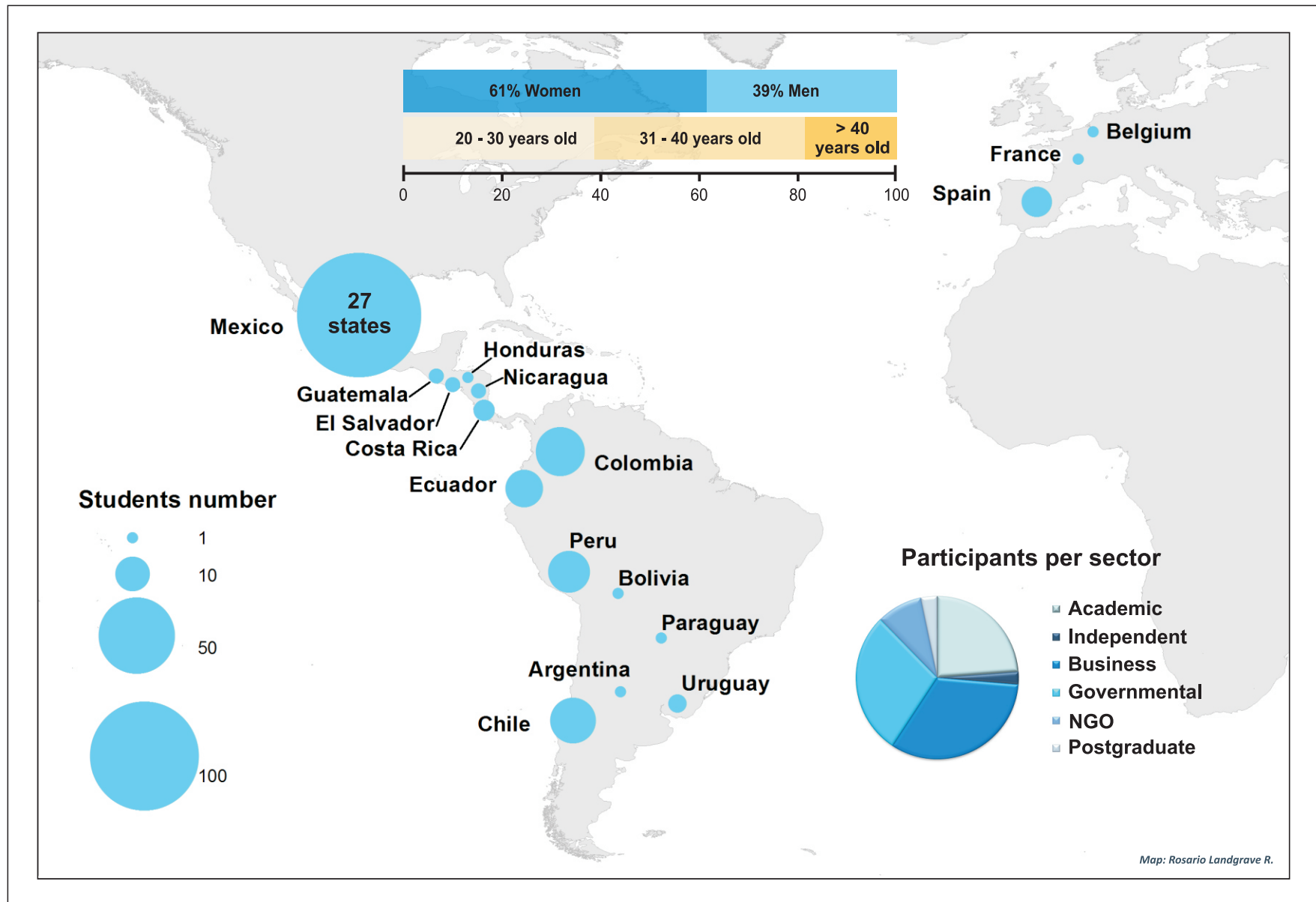
Social actors, capacities
and education

Policies and legislation

The Diploma in numbers



A total of 223 students from 17 countries have participated in the five previous editions of the Diploma (2014-2018)



Students



Students trained in the Diploma play professional roles in businesses and agencies related to ecological restoration, and many work in governmental, educational and research institutions. There has also been a notable participation of students undergoing professional development in non-governmental organizations and as consultants in producer organizations.

Surveys of the opinions of the students at the end of the program indicate that the Diploma was highly relevant to their training in 92.18 % of the cases, while the remaining 7.82% considered it of medium relevance. **In our most recent evaluation (2018), 100% of the participants in the survey considered the Diploma as highly relevant.**

Testimonials of some students



Student of the Diploma, edition 2014
Aura Elena Moreno Guzmán
Lecturer specializing in climate change and
sustainable initiatives
Tecnológico de Monterrey, Puebla, Mexico.

The Diploma lived up to my expectations with respect to the information, themes and resources available for interaction and participation with the other students. I thank and congratulate the organizers of the Diploma, which has served to reinforce the information and to open a space for interested people from across the world to participate and interact in themes of restoration that are new in many areas of application.



Student of the Diploma, edition 2014
Elizabeth Margot Panta Corzo
Head of Project, Area of Ecology and Restoration
Walsh Perú S.A Ingenieros & Científicos Asociados
Peru.

The high exigency of the Diploma provided me with the tools to effectively manage the different challenges of my professional development. The close support of the professors and interaction with my colleagues, each with different problems in their own countries, consolidated the knowledge imparted, giving me a more integral view of restoration. I congratulate the initiative and am grateful for the opportunity to participate in this Diploma.

Testimonials of some students



Student of the Diploma, edition 2015
Saraí Montes Recinas
Professor and researcher UNAM, Mexico.

The Diploma represented a great opportunity to fully explore the theme of ecological restoration and facilitated my planning of research projects. Part of its content includes examples of restoration and rehabilitation techniques in different parts of the world, which encourages us to work in our localities.



Student of the Diploma, edition 2016
Arturo José Ávila Osejo
Technical advisor in the intensive production of cocoa, management of technical advisory services
Cooperativa de Profesionales para el Desarrollo Integral, R. L.-COPRODI, Nicaragua.

The themes addressed throughout the present Diploma were very relevant and were new to me. I consider that I have acquired the basic knowledge necessary to initiate discussion and analysis of actions of restoration with a range of different actors in my country. The Diploma is very rich in terms of technical information and experiences developed in other countries.

Testimonials of some students



Student of the Diploma, edition 2017
Lissette Angélica Manríquez Rodríguez
Head of the Native Forest Section
Corporación Nacional Forestal, CONAF,
region of Los Lagos, Chile.

In general, it has been a marvelous experience. There were many themes I was not fully aware of before and it will be of great help to my work. I loved relating to people with similar interests from such a variety of countries, as well as participation in the forums in which the activities of restoration undertaken by each country were made clear, along with the importance given to this theme by each country. The quality of the presentations was good, with practical cases of current concern.



Student of the Diploma, edition 2018
Patricio Salinas Dillems
Analyst and Forestry Supervisor
Corporación Nacional Forestal, CONAF
Chile.

An excellent Diploma, entertaining and challenging. For me, a great help to my work and professional development.

Testimonials of some students



Student of the Diploma, edition 2018
Calina Zepeda Centeno
Specialist in Restoration
The Nature Conservancy (Program of
Mexico and Northern Central America)
Honduras.

It is a great satisfaction for me to complete this Diploma, which I have enjoyed immensely. I loved the course and dynamic, and consider that the material provided was very useful, illustrative and enriching. My deepest gratitude goes to the course tutors for all of the knowledge shared, for their valuable time and for being so attentive to our progress.



Student of the Diploma, 2018
Armelle Zaragüeta Vidal
Coordinator of the Quality Department,
management of regulation and control of
phytosanitary treatments
Fermonduc S A (Citrus fruits), Spain.

Many thanks for the knowledge imparted and time dedicated. On a personal level, I have learned a lot and I liked the general dynamic of the course. Congratulations for the Diploma.

Testimonials of some students



Student of the Diploma, 2018
José de Jesús Vázquez Chabolla
Advisor for development of strategic projects of
environmental-social and environmental justice
Procuraduría de Protección al Ambiente of the
state of Quintana Roo, Mexico.

Many congratulations to the team of professors and tutors, who have awakened this need to understand, analyze and practice high-level acquired knowledge. Personally, I am grateful for every second they dedicated to us with the passion they show for ecosystem conservation. They have inspired me to become one more participant in the struggle we must maintain in defense of the environment that surrounds us.



Student of the Diploma, 2018
Diego Jesús Macías Pinto
Professor Department of Biology,
Researcher of the study group on plant diversity
and coordinator of the research incubator in
ecological restoration
Universidad del Cauca, Colombia.

My decision to take this course was the correct one. I have acquired many tools that contribute to my doctoral training and to the processes underway in the region. Many thanks for the excellent dedication and availability to address our concerns, both to the tutors and all of the administrative team of the platform.

How can you help?

The 2019 edition of the Diploma will have a cost of \$700 USD. We seek to award scholarships to students of Mexico and the rest of Latin America and the Caribbean. You can help us with one or several of these scholarships (partial or total). The logos of all funding institutions will be incorporated into all of our dissemination and notification materials, as well as on the educational platform. Funders can establish additional student selection criteria for award of the scholarships. At the end of the Diploma, each funder will receive a detailed report of the students who received the scholarships and the impact of their training.



Our contact details

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FIRE website: **www.fundacionfire.org**

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