



30 YEARS OF ECOLOGICAL RESEARCH, ENVIRONMENTAL EDUCATION AND EXTENSION FOR THE CONSERVATION OF BIODIVERSITY IN WESTERN MEXICO

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Background

The interest in this region originally arose from the discovery of a primitive corn found in Sierra de Manantlán in the 1979, the scientifics called this specie "Zea diploperenis" the local people give the name of "Milpilla or Chapule"





LAS JOYAS RESEARCH STATION

In the heart of Sierra of Manantlán where exist the primitive corn, the University of Guadalajara established in 1985 Las Joyas Research Station, directed by Manantlán Institute of Ecology and Biodiversity Conservation, to protect this species and others ecosistems.





Since 1986 give oportunities to visit the Las Joyas Cientific Station with objetives education and environmental interpretation

We created the first interpretative trail of western of México with a auto guide interpretative. "Xilosuchitlán" Place where flowering the wild corn.



Listening, feeling, looking and descovering



Volunters working infraestructure for trails interpretative





The University of Guadalajara promoted with the federal government the creation of Manantlán Biosphere Reserve and in March 1987 the area was declared "protected", and a year later was added to the International Network of Biosphere Reserves of UNESCO.

Location of the Biosphere Reserve Sierra Manantlán

Fifty kilometers inland from the Pacific Ocean, in central western Mexíco, lies the Biosphere Reserve Sierra de Manantlán, which occupies an area of 139, 577 hectares of the southern tip of the Sierra Madre Occidental. It has an greater range in the southeast part of state Jalisco in the municipalities of Toliman, Tuxcacuesco, Autlán, Casimiro Castillo, and Cuautitlan, and the mountain range of Comala and Minatitlan in Colima state





110 species of mammals, 3,000 species of plants and 2 statates, 7 municipalities and 32 communities











A privileged place the confluence of two biogeographic regions

344 species of birds (residents and migratory)









3000 species of plants and traditional Knowledge

The scientists found in the Sierra of Manantlán more than 3,000 species, of this, the local people give use more than 700 species of plants (food, medicine, wood, material for building, plants of ornate) The scientists found that the modernism have a negative impact in the lost of the traditional knowledge in this way the environmental educators develop two programs of radio for increase the awareness about the importance of promote the knowledge and good practices of sustainability relative to use of the biodiversity to mainten the health, nutrition and the responsability to preserve the natural and cultural hereritage.



Manantlán place of streams or where the water born

Manantlán not only has high biodiversity, it has 32 communities that depend on the natural resources like the water for all the activities.

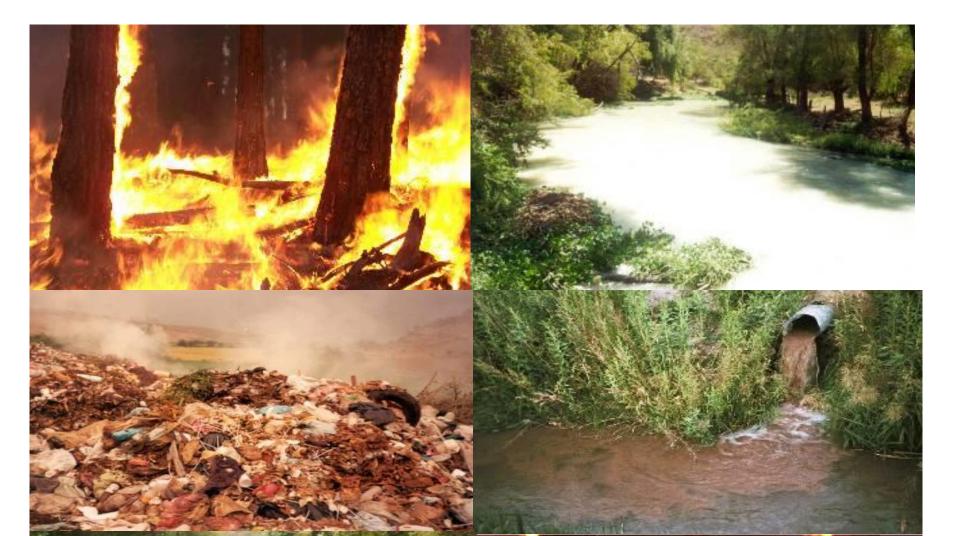




More than 500 thousand of people recived water of the Manantlan Biosphere Reserve but in low part the polution is present for inadecuade practices of use of this resource



Recognizing our social-environmental problems



Environmental Education Program 1986-2016

Examples of specific capacity-building interventions through EE in (all levels) formal, non-formal and informal education in the region of RCE.

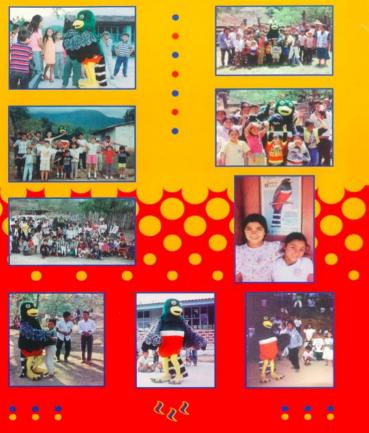
- ✓ Popular Education and Scientific Divulgation
- **✓** Community Environmental Education
- ✓ Children's Environmental Education
- √ Environmental Interpretation in ECLJ
- **√1987 Radio Program**
- ✓ Dissemination of natural and social values of the Manantlán Biosphere Reserve
- √ Course Environmental Education for the seminarist and prist
- ✓ Pride campaings for conservation
- ✓ Program of recycling in 10 municipalities
- √ Training of teachers in environmental education
- √ Broadcasting in mass media
- √ Community organization for the rehabilitation of the river Ayuquila
- ✓ 2007 Recognition for UNU-IAS RCE Western Jalisco ESD
- √ 2008 Radio programs; Echos of Nature and 2009 Agenda 21
- ✓ 2013 Prize vinculation university society
- √ 2014 Orgánic garden, Interpretative trails in the university

Cooloring book with songs to prevent fires forest and use of carismatic specie like environmental messengers











Estaba Don Casimiro prendiendo su cigarrillo y como era hombre descuidado, tiró encendido el cerillo, el pasto lo recibió con temor y antes del atardecer, todo el bosque empezó a arder.



Intinerant exbitions about the services of ecosistems and values of the biodiversity



Puppet Shows and environmental parades



Song of the Coa- Author: Salvador García Ruvalcaba

Estaba la coa cantando en la punta de una rama de pronto sintió que el fuego las plumitas le quemaba, saltan los venados delante del fuego, corren jabalínes pa´ salvar el cuero (2)

Ay mamita mía, mira que me quemo, se tatema el monte, ahora pa' onde vuelo Y tuerce el tejón la cola y la vuelve a retorcer pues la lumbre le ha llegado y el rabo le empieza arder.

Truena la arbolada con el fuerte incendio se acaba la vida, esto es un infierno ay mamita mía, mira que me quemO se tatema el monte, ahora pa' onde vuelo

La ardilla se ha intoxicado y la llevan a enterrar, pero cinco zopilotes se la quieren almorzar. y hay gente que por costumb habla nomás por hablar, hay gente que prende lumbre y no la sabe apagar.

Virgencita mía, dame tu consuelo y nunca permitas que se queme el cerro. Búyele mi hermano, apaga ese fuego hazlo con cuidado, no es cosa de juego.

Virgencita mía, dame tu consuelo y nunca permitas, que se queme el cerro.

The coa was singing from the top part of a branch and suddenly it felt that fire its feathers began to burn.

The deer began jumping away from the blaze and javelinas ran to save their hide.

Oh my little mother, look that I am burning the mountain is roasting, now which way do I fly? The coati twists its tail and it twists it once again for the blaze has caught up with it And his tail begins to burn

The trees thunder with the strong fire
Life comes to an end, this is an inferno.
Oh my little mother, look that I am burning
the mountain in roasting, now which way do I fly?

The squirrel was intoxicatted they are taking her to burial But five vultures are wanting her for lunch There are people who make it habit Of talking without making sense There are people who start fires And do not prevent a burn.

Oh my little virgin, give me consolation And never permit that the mountain burns. Move fast my brother, put out that fire Do it very carefully, 'cause this is not a game.

Oh my little virgin, give me consolation
And never permit that the mountain burns.



Video clips





Poster distribution in all the municipalities and communities







Prevention of forest fires in media (radio, press and Tv)









Environmental Festivals in schools











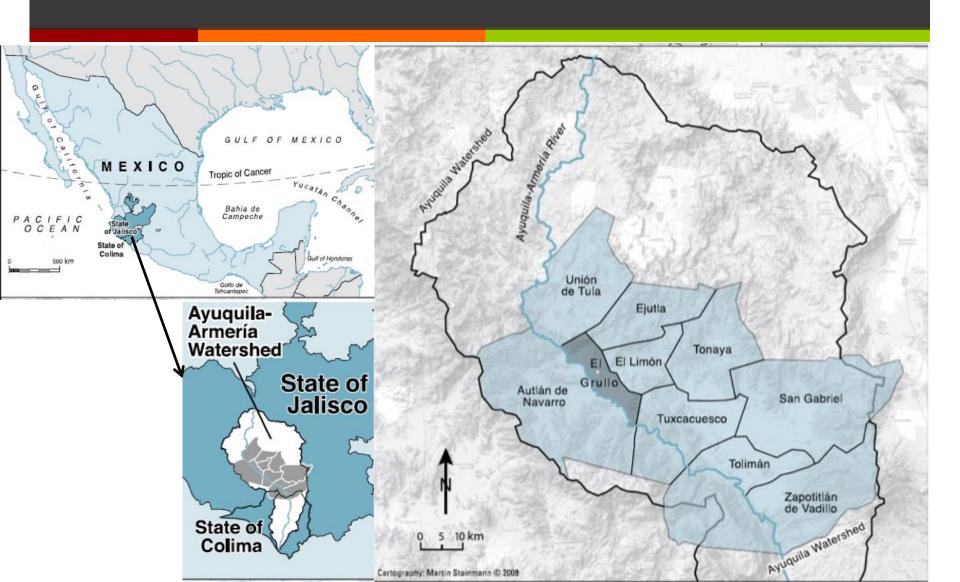


Saving the Ayuquila River

The degradation of river basins has become one of the most important environmental, social and economic problems across the globe. Mexico is no exception. Similar to many watersheds throughout the country, the Ayuquila river basin presents a complex range of environmental problems, arising from land use change, forest fires, soil erosion, water pollution, groundwater depletion, diminishing stream and river flows, and the inefficient use of water for urban water supply and irrigation.



Location of the Ayuquila-Armería river basin in Mexico



Nationally, the water resources within the Ayuquila-Armería river basin are given high priority, because the basin contains five protected natural areas, a high diversity of native and threatened species and three large dams that provide water to irrigate 54,000 hectares of farmland in Jalisco and Colima. For a stretch of 71 kilometres, the Ayuquila River forms the northeastern boundary of the Sierra de Manantlán Biosphere Reserve and also constitutes its most important aquatic ecosystem.

Second campaing using kingfisher



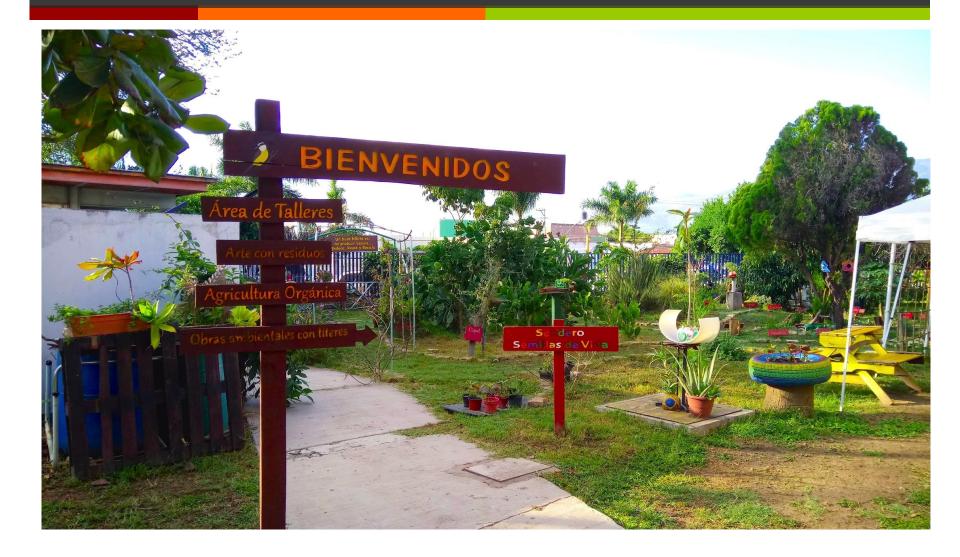


Interpretative box of RCE Western Jalisco









Interpretative trail in the university recived more than 5, 400 vistors of 9 municipalities of the RCE (2014-2016)



Our biodiversity in the trees in the university, we offer services of environmental interpretation using trails and organic garden.



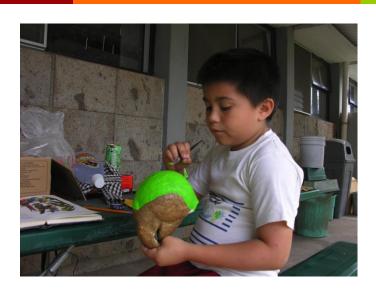




Art with waste workshop





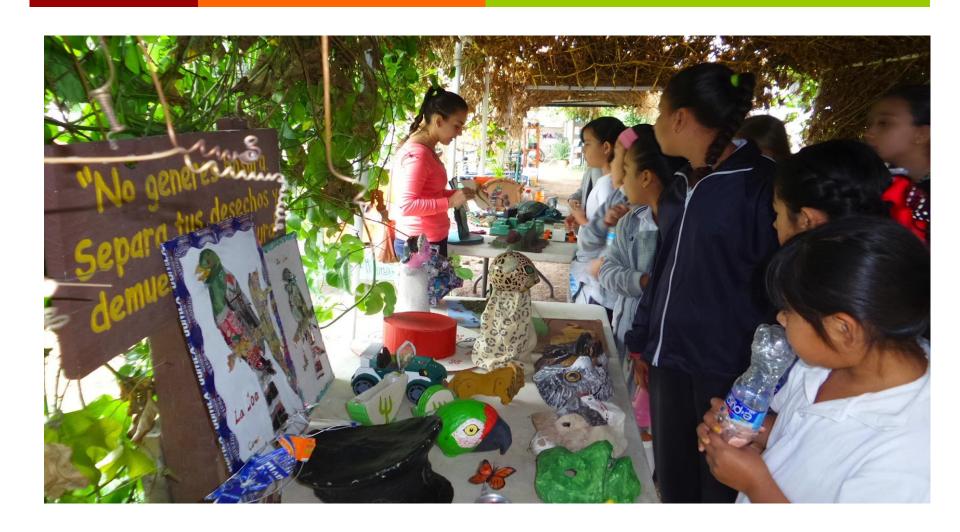




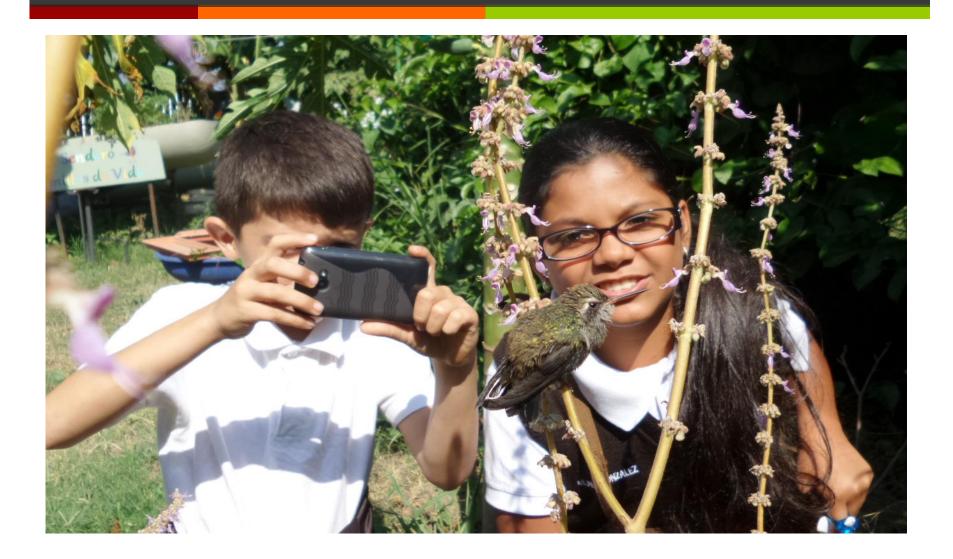




Exhibition of art with waste in the organic garden



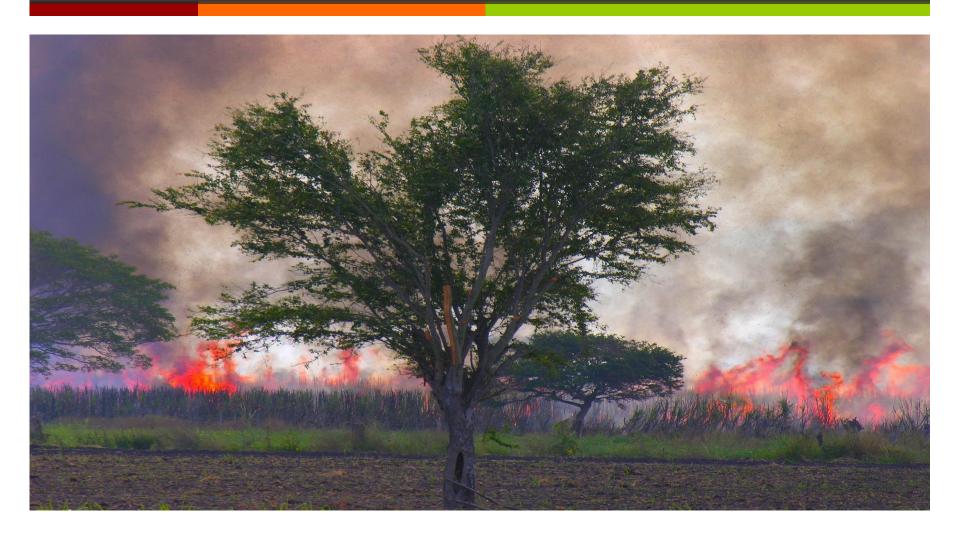
Plants that attract birds and butterflies



Mobility of youth for restoration áreas.

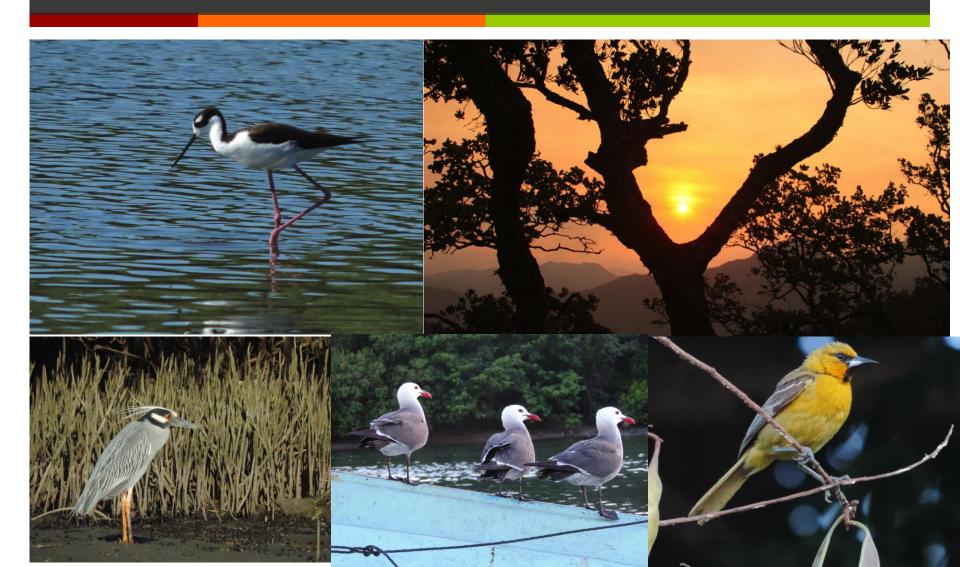


The new challenges focus change the practices of the farmer to stop te burned od sugar cane the valley Autlán-El Grullo



Need more work to promote the interpretative services and the ecoturistic we have diverses pleaces with this potential





Opportunities¹

The region of RCE is more large and we need worked in all the municipalities of the coast the strategy is training people of educative institutions and local government.

We start to work on a common regional socio-environmental agenda within the framework of the RCE

In diciembre 2016 we recived the prize vinculation universty -society for develop the knowledge about the biodiversity regional using exhitions and zoological colection.

Private schools (all levels) are interesed in be part of the RCE agenda

New universities are integrated, companies, medias and NGOs and municipalities.

In 2017 we offer de Diploma on values for ESD and the care of our common home, this is for teachers and supervisors of the delegation of education of the region sierra of Amula, in this participate experts of differents RCE of America.