EMERALD NECKLACE NATURAL INFRASTRUCTURE BENEFITS

Claire Robinson, Managing Director
Amigos de los Rios
Non-profit organization committed to natural infrastructure: enhancing open space & protecting natural resources in our urban environments by creating an ‘Emerald Necklace’ Green Infrastructure network of sustainable parks, trails and schools throughout the Los Angeles Basin from the San Gabriel ‘Mountains to the Sea.’
Making Metro Areas Livable & Sustainable

Metropolitan Greenspace Alliance

- Portland Intertwine
- Milwaukee Sweetwater
- Bay Area Open Space Council
- Denver Front Range
- Chicago Wilderness
- Cleveland LEAP
- NYC Metro
- Wash DC
- Baltimore Wilderness
- Heartland
- Atlanta
- Nashville
- Orlando
- Miami
- San Diego Basin
- Houston Wilderness
- New Orleans
- Metropolitan Greenspace Alliance
Drought

WMO Statement on the Status of the Global Climate in 2016

- 2016 was the warmest on record at about 1.1 °C above the preindustrial period
- Carbon dioxide reached new highs at 400.0±0.1 parts per million in the atmosphere
- Global sea ice extent dropped more than 4 million square kilometres below average
- Global sea levels rose strongly during the 2015/2016 El Niño, with early 2016 values reaching new record highs
- Severe droughts and floods displaced hundreds of thousands of people
- Find out more at public.wmo.int

Harvey May Be Costliest U.S. Disaster
Hurricane Harvey’s price tag could run as high as $190 billion, according to an estimate from weather firm AccuWeather.

- $190 Billion
  Hurricane Harvey
  Aug. 2017
- $125 Billion
  Hurricane Katrina
  Aug. 2005
- $65 Billion
  Superstorm Sandy
- $40 Billion
  Northridge (Calif.) earthquake
  Jan. 1994
- $30 Billion
  Hurricane Ike
  Sept. 2008
- $27 Billion
  Hurricane Andrew
  Aug. 1992
Efficiency of Collective Impact Model

- **Common Agenda**
  - Keeps all parties moving towards the same goal

- **Common Progress Measures**
  - Measures that get to the TRUE outcome

- **Mutually Reinforcing Activities**
  - Each expertise is leveraged as part of the overall

- **Communications**
  - This allows a culture of collaboration

- **Backbone Organization**
  - Takes on the role of managing collaboration

Urban Large Landscape Scale Conservation Collaborative
Metropolitan Greenspace Alliance

National Movement Efficient Natural ‘State of Art’ Infrastructure for Cities
Los Angeles Basin – “Tree Vision”

30% of our Water
70% of our Open Space

RIM OF THE VALLEY
SANTA MONICA MOUNTAINS
SAN GABRIEL MOUNTAINS
LOS ANGELES RIVER & TRIBUTARIES
SAN GABRIEL RIVER

Pacific Ocean

Convergent Efficient Natural Infrastructure
Children Need Time Outdoors
American Children spend 9 minutes on average outdoors
Disparity of Access to Natural Areas & to Recreation

- 2011 report from The City Project

Los Angeles County
<table>
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<th>Taxonomy Conditions - Urban River Transect</th>
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<td>Billboard Site</td>
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<td>Wash, Creek &amp; Stream</td>
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<td>Residual Spaces</td>
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EMERALD NECKLACE FOREST TO OCEAN
EXPANDED VISION PLAN:

Towards a Common Vision

Winner of
American Planning
Association
International
Open Space
Network Design
Award for 2016

The Emerald Necklace Forest to Ocean Expanded Vision Plan: Towards a Common Vision
Funded by: The Salt Drinking Villages, Water Quality and Supply Flood Control, Fire and Coastal Protection Bond Act of 2006 Proposition 89 and the State of California Strategic Growth Council

© 2014 Amigos de los Ríos
“For thousands of years, rivers of LA Basin held a perennial flow of clean water....

Restoration of rivers and their environs is central to deeper need: creation of a livable city in which all people can sustain families and pursue their dreams.”

Paul Hawken, Founder of the Natural Capital Institute, author ‘The Ecology of Commerce’
Provide a Human Face to Infrastructure

**Necessity of Natural Infrastructure:**

Majority of US Population is Urban

**PUBLIC HEALTH**
- Social Equity/Environmental Justice
- Access to Recreation
  - Nature Deficit Disorder
  - Climate Resilient Communities
  - Heat Island Mitigation
  - Vector Control

**ENVIRONMENTAL HEALTH**
- Air & Water Quality
- Greenhouse Gas Uptake
- Biodiversity Protection

**COMPLIANCE FEDERAL & STATE MANDATES**
- Clean Water & Air Acts
- Ms4 Permits, Carbon Drawdown

**BEAUTY...CULTURE**
- EDUCATION/JOB TRAINING
Our State Engagements:

Funding from California Agencies

- State Parks
- Fire & Forestry
- Natural Resources/Strategic Growth Council/EEM
- Water Resources
- EPA
- Transportation
- SGR & Lower LA Rivers & Mountains Conservancy

*Cal Fed
Los Angeles Basin’s Biodiversity – Endangered species

SAN JOAQUIN KIT FOX (Vulpes macrotis mutica)
NORTHERN SPOTTED OWL (Strix occidentalis caurina)
PALOS VERDES BLUE BUTTERFLY (Glauce psyche iycidanus palosverdenseis)
ARROYO CHUB (Gila orcuttii)
BIGHORN SHEEP (Ovis canadensis)
MOUNTAIN LION (Puma concolor)
SANTA ANA SUCKER (Catostomus santanae)

Natural & Cultural Heritage & Diversity are linked!
Our Diverse Cultural Heritage
= Los Angeles Basin’s Strength
SUSTAINABLE RECREATION OPPORTUNITIES – Upper Watershed
First Peoples’ Knowledge

The Tongva/Gabrielino lived for thousands of years in the area that is now covered by Los Angeles County and parts of Orange County. They started each day with a prayer to bring out the sun and bathe in the waters of the river. Food was abundant and men hunted while fishing and hunting women sang while they gathered plants, seeds, and shellfish, and children laughed while playing in the river. The sound of Shamans chanting in their sacred house was ever present. If you listen closely, you can still hear the Shamans’ chants in the wind and their whispers in the water.

Tongva/Gabrielinos hunted and fished the sea in great red wood and pine black canoes called Te-ott and fished along the shore using large sile canoes. They also crossed to the island areas to trade with their fellow Tongva who chose to inhabit the island areas.

They spent the months from spring to fall gathering food and preparing it for the rest of the year. They also gathered reeds and grass to make different items they needed for daily life. Their houses were dome-shaped, and were made by bending and tying willow branches into the shape needed and river reeds and grasses were then attached to the house. The domes had wide entrances and a “smoking hole” in the ceiling to let out the smoke from the small fire that was used for light and for keeping warm.

Plants and animals could not be collected or hunted unless prayers were made to ask the permission of the plants and animal people. Songs were sung and melodies were hummed to ensure the goodness of the food and to maintain the balance and connection in nature.

Tongva/Gabrielinos, through their culture and rituals, have marked an important era in the history of this area and their significance will forever be present.
Ngangi, Daly River, NT

the timing of key events in the landscape and social, cultural, and economic life – Woodward et al. 2012 Ecological Management and Restoration.
The small and large streams that flow into one another and form one River

Te Awa Tupua is a singular entity comprised of many elements and communities, working collaboratively for the common purpose of the health and wellbeing of Te Awa Tupua.

Te Mana o te Awa
Te Mana o te Iwi

Te Pou Tupua
The human face and voice of Te Awa Tupua
Native Plants at LASHBROOK PARK

Coastal Sagebrush

Elderberry

Western Redbud

Black Sage

White Sage

Our Lord's Candle

CA. Bay Laurel

Coast Live Oak

Lemonadeberry

Sugar Bush

Bush Monkeyflower

Deer Grass

Valley Oak

Engelmann Oak

CA. Buckwheat

Cherry

Toyon

Mulefat

CA. Fuschia

CA. Coffeeberry

Mugwort

CA. Poppy

CA. Sycamore

Yar

AMIGOS DE LOS RIOS
BEACHES & COASTAL TRAIL
EXISTING PARKS
SCHOOLS OVER 5 ACRES
PROPOSED GREENWAYS – URBAN RIVER CORRIDORS

ANGELES NATIONAL FOREST

OLMSTED BARTHOLOMEW VISION - 1930

Comprehensive Mountains to Sea Greenway Network for LA Basin

ANGELES NATIONAL FOREST

The Olmsted Vision

EXISTING PARKS
PROPOSED GREENWAYS – URBAN RIVER CORRIDORS
BEACHES & COASTAL TRAIL
ANGELES NATIONAL FOREST

SCHOOLS OVER 5 ACRES
AMIGOS DE LOS RIOS MISSION - ‘Mountains to Sea’

Multi – Objective Greenways – KEYED OFF Urban River Corridors, Creeks Washes Streams

1930 OLMSTED BARTHOLOMEW PLAN FOR LA BASIN
Emerald Necklace
Overview: Green Infrastructure

38 Agencies Emerald Necklace Coalition – East County

Coalition Members

Coalition Member Agencies
- Azusa
- Baldwin Park
- Duarte
- El Monte
- Irwindale
- Montebello
- South El Monte
- Whittier
- Monrovia
- La Puente
- Bell
- South Gate
- San Gabriel
- Downey

Gateway Authority
- Bell Gardens
- Commerce
- Compton
- Cudahy
- Huntington Park
- Long Beach
- Lynwood
- Maywood
- Paramount
- Signal Hill
- Pico Rivera

Unincorporated Areas
- Hacienda Heights Homeowners Assoc.
- Workman Mills Road Homeowners Assoc.
- Park El Monte Improvement Assoc.

Environmental Organizations
- Charro Equestrian Joint Council
- Sierra Club

School Districts
- Garvey School District
- El Rancho Unified School District
- Mountain View Unified School District
- El Monte Union School District
- El Monte City School District
- West Covina Unified School District

County Agencies
- Los Angeles County Board of Supervisors

State Agencies
- State Rivers and Mountains Conservancy

PACIFIC OCEAN

ANGELES NATIONAL FOREST
A strategically planned and managed network of natural lands, working landscapes, and other open spaces that conserves ecosystem values and functions and provides associated benefits to human populations.

(Benedict & McMahon, 2006)
Cores:
- Contain fully functional natural ecosystems
- Provide high-quality habitat for native plants and animals

Hubs:
- Slightly fragmented aggregations of core areas, plus contiguous natural cover

Corridors:
- Link core areas together
- Allow animal movement and seed and pollen transfer between core areas

Sites:
- Important microhabitats not captured by network thresholds and criteria
Evolution of our Metropolitan Regions

Morphogenesis
biological process that
Causes organism to
develop its shape.

communitas
environmental health = public health
NATURAL INFRASTRUCTURE
## Regional Goals

### Regional Goal

<table>
<thead>
<tr>
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<th>Goal</th>
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<tbody>
<tr>
<td>1</td>
<td>Promote Active Transportation - Walking, Biking, and Alternative Commute Options</td>
</tr>
<tr>
<td>2</td>
<td>Create Functional and Multi-Purpose Natural (Green) and Built (Grey) Environment Networks</td>
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<tr>
<td>3</td>
<td>Improve Public Health by Expanding Access to Nature and Outdoor Recreation</td>
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<td>4</td>
<td>Treat Water as a Multi-Benefit Amenity</td>
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<td>5</td>
<td>Design and Build Communities Resilient to the Current and Projected Impacts of Climate Change</td>
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<td>6</td>
<td>Enhance Regional Anchors for People and Wildlife</td>
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<td>7</td>
<td>Support Environmental Awareness and Civil Engagement through Education, Outreach, and Cultural Heritage</td>
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<td>8</td>
<td>Foster a Green Economy that Creates Jobs and Encourages Investment in Local Multi-Benefit Projects</td>
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### Common Vision

<table>
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<tr>
<th>#</th>
<th>Vision</th>
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<tbody>
<tr>
<td>1</td>
<td>An interconnected network of walking and biking trails, from forest to ocean</td>
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<tr>
<td>2</td>
<td>Interconnected and complementary green and grey infrastructure networks</td>
</tr>
<tr>
<td>3</td>
<td>A nature-based network of recreation facilities that promotes public health, social justice and equity</td>
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<tr>
<td>4</td>
<td>A water network that infiltrates groundwater, manages wet weather events and provides human enjoyment</td>
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<tr>
<td>5</td>
<td>Communities resilient to changing water supplies, climate extremes and sea level rise</td>
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<tr>
<td>6</td>
<td>A linked network of open space treasures from the Mountains to the Sea</td>
</tr>
<tr>
<td>7</td>
<td>A network of culturally aware and civically involved communities that support conservation, restoration and recreation</td>
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<tr>
<td>8</td>
<td>A robust and sustainable local economy that produces new economic opportunities around a growing green infrastructure</td>
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**Towards a Common Vision**
ENHANCE REGIONAL ANCHORS MAP

This map depicts the existing natural areas within the Expanded Emerald Necklace. These valuable spaces are connected through the river network, which links these open spaces together and allows wildlife habitat connectivity, making these resources invaluable to Los Angeles County.

LEGEND

- Emerald Necklace
- Greenway along Rivers/Washes/Creeks
- Proposed San Gabriel Watershed & Mountains Permanent Protections
- Proposed Rim of the Valley Corridor
- Santa Monica Mountains National Recreation Area
- Major Regional Anchors
- Beach Trails
- Pacific Crest Trail

AMIGOS DE LOS RIOS

EMERALD NECKLACE
Connecting Public Lands to Urban Residents

1 in 20 Americans live within 1 hour of the San Gabriel Mountains National Monument
Rivers and streams in our forest are an important source of water for wildlife, aquatic life, and people. 30 percent of our regional water supply comes from mountain springs and streams fed by snowmelt. The Angeles National Forest filters and regulates this water from upper watersheds, providing clean water to communities and habitats within the Los Angeles River, San Gabriel River, Santa Ana River, Santa Clara River, and Antelope Valley watersheds, among others.

Our mountain ranges and the Angeles National Forest contain some of the greatest biodiversity in the country, including five wilderness areas that provide critical habitat for threatened and endangered species. Forest habitats are not only key to ecological function but also vital to human health. Without these resources provided by the forest, the Greater Los Angeles Metro Area and high desert communities would not be able to support the more than 18 million residents who live here.

Os ríos y arroyos de nuestro bosque constituyen un importante recurso de agua para animales, plantas y personas. Tienen un porcentaje de nuestro suministro regional de agua proveniente de los manantiales montañosos y arroyos alimentados por el drenaje. El Bosque Nacional de Ángeles Nítrio regula esta agua de las cuencas superiores, suministrando así agua limpia a las comunidades y hábitats del área de vertientes de los ríos Los Angeles, San Gabriel, Santa Ana, y Santa Clara del Valle del Antílope, entre otros.

Nuestras cadenas montañosas y el Bosque Nacional de Ángeles contienen parte de la mayor biodiversidad del país, las cuales incluyen cinco áreas naturales que proporcionan un hábitat muy importante para las especies amenazadas y en peligro. Los hábitats de los bosques no sólo son claves para la función ecológica, sino que también son vitales para la salud humana. Sin estos recursos que nos da el bosque, el Área Mayor Metropolitana de Los Ángeles y la comunidad de alta densidad no podría soportar a los más de 18 millones de residentes que vivan aquí.
Upper Watershed

Improved CONNECTIONS to Forest
The West Fork Trail is a National Scenic Bikeway that runs more than 8 miles along the lower West Fork of the San Gabriel River to Cogswell Dam. Shaded by Sycamore, White Alder, and Willow trees, the river is home to rare native fish like the Santa Ana Sucker. The West Fork is also one of the few catch and release Wild Trout Streams in the Angeles National Forest.

The streams in this part of the forest help form the San Gabriel River Watershed, which stretches from the San Gabriel Mountains to Seal Beach. Water draining from these mountains is held back by a series of dams and reservoirs on its way to the ocean. As it travels south, the water is also infiltrated into spreading basins, entering our ground water supply. This water infrastructure provides much of the drinking water for residents of the San Gabriel Valley.

El Sendero de West Fork es una Ciclovía Turística Nacional que recorre más de 8 millas a lo largo del West Fork inferior del Río San Gabriel hasta la Represa de Cogswell. Sombreado por sicomoros, álamos blancos y sauce, el río es hogar del raro pescado nativo de Santa Ana. El West Fork también es una de las pocas corrientes de ríos silvestres donde se practica el deporte de pesca y caza, situada en el Bosque Nacional de Angeles.

Las corrientes en esta parte del bosque se derivan de la Cuenca del Río San Gabriel, el cual se extiende desde las Montañas San Gabriel hasta Seal Beach. El agua que fluye de estas montañas se retira en una serie de represas y embalses en su camino hacia el océano. A medida que viaja hacia el sur, el agua también se infiltra en cuencas que se difunden y entran a nuestro suministro de agua subterránea. Esta infraestructura acuática suministra gran parte del agua potable a los residentes del Valle de San Gabriel.
Flora and Fauna

San Gabriel River - West Fork
Los incendios son parte de los problemas más graves en los bosques nacionales del sur de California. Aunque el ciclo de incendios y la inundación es parte de un ecosistema sano, el crecimiento y desarrollo poblacional, la sequía y el cambio climático han contribuido a que haya incendios de mayor intensidad y con más frecuencia. Esto causa la pérdida del hábitat de la fauna silvestre y la expansión de especies invasoras vegetales y animales.

1. Antes de un Incendio
   La vegetación evita el desgaste del suelo, detiene el escorrentamiento y ayuda a la absorción del agua.

2. Incendios
   Con el calor e intensidad del fuego, la vegetación y el suelo quemado forman una capa repelente que evita la absorción del agua. Esta capa se conoce como suelo hidrófobo.

3. Recuperación
   El Cañón afectado por los incendios se recupera con el tiempo y las condiciones adecuadas. Los esfuerzos de recuperación pueden ayudar a iniciar el crecimiento de plantas nativas y evitar las especies invasoras.

4. Ciclo de Fuego e Inundación en el Cañón
   El fuego y la inundación son un ciclo inevitable en el ecosistema natural. Sin embargo, cada vez son más intensos y frecuentes debido al cambio ambiental.

5. Carga de Sedimentos
   Cuando llueve, las condiciones creadas por el suelo hidrófobo y la falta de vegetación causan el arrastre de sedimentos, erosionando las paredes del Cañón. El exceso de sedimentos en las corrientes de agua generan condiciones insostenibles para la vida acuática.

6. Inundaciones y Flujo de Detritos
   Las fuertes lluvias pueden causar inundaciones y arrastre de piedras, lodo, hojas caídas y otros materiales sueltos que obstaculizan las corrientes y danzan la infraestructura.
Vocabulary “DNA” of Projects
Youth Job Training

"Green Collar"

Environmental Certification Program

WORKING IN THE WATERSHED,
be part of the

Apply through:
Pelicia Vann
Recruitment and Training
Los Angeles Conservation Corps
3655 South Grand Avenue, Suite 200
Los Angeles, CA 90007
Tel: 213.747.1672

Or
Fill out an application and mail to:
Amigos de los Rios
2354 Santa Anita Ave
Alhambra, CA 91801

Applications are available online at:
www.amigosdelosrios.org

Term Dates:
1st Term 11.1.2006 - 1.30.2007

* LIMITED AVAILABILITY

Information will be provided on continuing education and job opportunity in the environmental sector

Supported by
Southern California Edison
Los Angeles Water Department
City of Pasadena
Upper San Gabriel Valley Water District
Examples of Bioswales and Native & Drought-Tolerant Plantings by Amigos de los Rios
PARTNERSHIP WITH THE CONSERVATION FUND

GREEN AND GREY INFRASTRUCTURE MAP

This map depicts existing grey infrastructure that we propose be greened and utilized. We propose to use the residual spaces underneath the utility lines to create greenways and natural areas. We can also improve the greening surrounding the freeways and public transit lines.

LEGEND
Emerald Necklace
Greenway along Rivers/Washes/Creeks
Greenways under utility lines
Improved greening within and adjacent to freeways
Improved greening along public transit
Spreading Basins
Dams

LOWER LA RIVER
Examples of Interpretive Signage by Amigos de los Rios

Native Plants of Altadena Triangle Park

The use of native plants is vital to the preservation of ecological balance. These drought-tolerant plants are vital for waterways. By using these plants in our parks, we help to maintain biodiversity and the well-being of our region.

Plant Communities

- Native
- cottontail
- coastal sage
- deerweed
- volunteer

Gabrielino Use of Native Plants

The Gabrielino people, native to the Los Angeles Basin, valued the land and its resources. They used native plants for food, medicine, and spiritual practices. These plants are still used today, and they are an important part of our heritage.

Usage Legend

- Spiritual
- Construction
- Dietary
- Medicinal
LASHBROOK PARK
-A RIVER TRAIL ENHANCEMENT, EL MONTE

ACRES: 1.8
FUNDER: San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, Proposition A Supervisor Gloria Molina
DATE/COST: 2006 / $370K
PROJECT TEAM: Amigos, Bob Perry, The City of El Monte and the SGVCC, LACC and CCC

>greenway
Native Plants

The use of native plants in public landscapes helps us conserve water. These drought-tolerant plants are suited to our climate. By using these plants in the Emerald Neighborhood, we also protect biodiversity and the natural heritage of the new community.

Native Plants
Conserve Water

Tongvan Use of Native Plants

The native plants featured at the Jeff Seymour Family Center are culturally significant to the original inhabitants of the Los Angeles Basin, the Tongva-Gabrielino. Their knowledge and use of native plants extended from the medicinal and spiritual to constructional and dietary. Spiritual plants are used for religious procedures and rites of passage. Constructional plants are used for building houses, making tools, burials, and clothing. Dietary plants are key elements of the Tongva-Gabrielino diet. Medicinal plants are used for all types of healing— from colds to wounds.
Rio Hondo Flood Control Channel
RIO VISTA PARK & TRAIL
-A PARK RETROFIT, EL MONTE

ACRES: 4.2
FUNDER: San Gabriel and Lower Los Angeles Rivers and Mountains Conservancy, Proposition A Supervisor Gloria Molina, Land and Water Conservation Funds Recreation Trail Grant and City of El Monte
DATE/COST: 2008 / $2.3 million
PROJECT TEAM: Amigos with VCA Engineering, Bob Perry, Bret Goldstone and Terra Form Constuction, SGVCC, LACC and CCC

>multi-benefit park
Rio Vista Park

Water Resources: Conservation, Infiltration
"We didn’t care for playgrounds...the RIVER was better!"

1. "Our recreation was in the evenings, when all the children played games like hide and seek."

2. "Our playground was the riverbed and all open space around Hicks Camp."

3. "We were all there, family, friends, and I wish those times were still here."

4. "We didn’t have much, the crafts were dirt, some homes were made of cardboard, but we were all one family."

5. "Every celebration, every funeral, every event, we all knew that it was for everyone."

7. "Residents of the barrios were sons and daughters of the Rio Hondo. They played in it and depended on it."

Author's Quote:

2. Dr. Ben Carson - former residents of Hicks Camp.
3. Mrs. Laura Carson - former resident of Hicks Camp.
4. Sgt. Poole - Prisoner and president of Hicks Camp residents.
Rio Vista Park

ACRES: 4.2
FUNDER: RMC, Prop A Gloria Molina, Land and Water Conservation Funds, Recreation Trails Grant, City of El Monte
DATE COMPLETE: 2008
COST: $2.3 Million
PROJECT TEAM: City of El Monte, Amigos de los Rios, VCA Engineering, Bob Perry, Bret Goldstone, Terra Form Construction, SGVCC, LACC, CCC.
The Rio Hondo is a seasonal river and is especially powerful during periods of excessive rain. It is important to know that the Rio Hondo is also quite dangerous even when there is not much water in the channel. The smooth, trapezoidal shape of the channel forces the water to move with great force. As the sides and bottom of the channel are slippery, it is very difficult to escape the strong current of the river. Be cautious - the river has an awesome power at all water levels.

The Rio Hondo did not always look as it does today. Until the river was concreted in the 1950s, the Rio Hondo offered extensive areas to farm, walk, ride horses, play, and swim. The braided streams of the river meandered through the area, enriching the soil with rich sediment from the San Gabriel Mountains. Channeling the river did prevent the area from flooding, but it also took away the valuable recreational space along the river banks. Rio Vista Park gives a piece of the Rio Hondo’s original green space back to the communities and people of El Monte.

The human body is made out of approximately 55% to 60% water, so make sure you drink plenty of water while on the trail.
Gibson Mariposa Park
Respect for Children’s Vision

ACRES: 4.3
FUNDER: RMC, Prop A Gloria Molina, State Urban Parks Grant, City of El Monte, Roberti-ZIBerg
‘Multi Benefit’ Project Components

Amigos de Los Rios needs your help!

We have volunteer opportunities at various parks and sites along the Emerald Necklace. Be a part of making the Emerald Greenway a reality. This would be a great opportunity for families to get outside to do some good for the environment and their communities. If you have questions, we'd like to hear from you.

El Collar Esmeralda
El Collar Esmeralda es una visión de una 17 milla cadena de interconectados senderos, parques y caminos verdes tocando a 17 ciudades y casi la mitad de un millón de residentes a lo largo de los Río Hondo y San Gabriel Ríos. La cadena de senderos va conectar 1,500 acres de parques, terrenos abiertos y corredores de hábitat; al mismo tiempo históricamente conectando los ríos de Río Hondo y San Gabriel. El multi-beneficial sistema de parques y senderos va ofrecer crítica oportunidades recreacionales y fomentar la salud del público.

Proyecto Detalles: (A un vistazo)
Herencia de Naturaleza y Cultura: Con restauración de hábitat, el carácter original de la tierra y las comunidades del pasado regresan a vida. Las historias de los Latinos, los barrios y los Americanos Nativos están presentes. Esto ofrece a generaciones del pasado y futuro una visilibre del pasado.

Oportunidades de Recreación y la Salud Publica: El collar Esmeralda ofrece muy importante y necesario oportunidades de recreación para residentes sufriendo de enfermedades crónicas como hipertensión, asma, diabetes y obesidad. También crea alternativas corredores de transporte con oportunidades para caminar y andar en bicicleta para trabajo o la escuela.

La Salud y Restauración del Medio Ambiente: La restauración del medio ambiente y la salud del medio ambiente van mano y mano. Limpiando áreas afectados con quemadura y haciendo restauración de hábitat ayuda a mejorar la salud de los ecosistemas biológicos interconectados.

Biodiversidad Urbana y Hábitat Restauración: Restauración de hábitat ofrece una plataforma para el desarrollo de Biodiversidad Urbana, reforzando el nativo flora y fauna.

Acceso a Naturaleza/Multi Modal Aprendiendo para Jóvenes Margi-nados: Escenas naturales forman lugares muy dinámicos donde podemos aprender y esto se ha conectado muy fuerte con mejor funcionamiento en la escuela. Salones de la escuela aluera crean una conexión dentro de los jóvenes de la a cuidado y la naturaliza.

Instrucción de Trabajo Para Jóvenes: El Amigos de los Ríos ‘Green Jobs Corp’ programa no solamente es para crear trabajos en una economía que lo necesita, pero también da a los jóvenes las habilidades y experiencia para entrar a los trabajos del nuevo y creciendo verde economía. Gestión de Recursos de Agua: El plantando de árboles a lo largo de la Collar Esmeralda ofrece un visible sistema de la gestión de tempestad agua—un árbol intercepta 3,000 galones de lluvia cada año. Además, los proyectos a lo largo de la Collar Esmeralda mejoran la calidad de agua, y también animan conservación por utilizando practicas sostenibles de panorama.
PECK RD.
WATER CONSERVATION PARK
-QUARRY REDEVELOPED

www.amigosdelosrios.org  |  908 E Altadena Dr | Altadena, CA 91001  |  t:[626] 791.1611 | f:[626] 791.1771

- Created 540 linear foot bioswale
- Created 350 linear foot decomposed granite trail
- Removed subterranean concrete from former quarry
- Total trees planted to date 240
- Total shrubs planted to date 1,611
- Total trees planted to date 8,712

> phase I completed
EMERALD NECKLACE FOREST TO OCEAN
EXPANDED VISION PLAN:

Towards a Common Vision
Connecting Students to Greater Watershed – San Gabriel Mountains / Urban Rivers to Ocean
Physical Fitness
Greater Variety of Opportunities

Mental Health
Anxiety Reduction
Mindfulness & Focus

Immersive Lessons
Campus as Living lab
Outdoor Learning
Opportunities
School Districts we work with:
- El Monte City
- El Monte Union
- Mountain View
- Azusa
- Monrovia
- Bassett
- West Covina
- Pasadena
EMERALD NECKLACE GREEN SCHOOLS

Emerald Necklace Green Infrastructure | Los Angeles County

> Outdoor Classroom
> Therapy Area
> Educational Signage
> Nature Trail

> Amenities

> Exercise & Nature Trail

Emerald Necklace Green Infrastructure | Los Angeles County

DURFEE-THOMPSON SCHOOL

Joint Use Project, El Monte

MADRID EXERCISE & NATURE TRAIL

Joint Use Project, El Monte

www.amigosdelosrios.org | 908 E Altadena Dr | Altadena, CA 91001 | t: (626) 791.1611 | f: (626) 791.1771
Children Need Time Outdoors
American Children spend 9 minutes on average outdoors

CONNECTING URBAN STUDENTS TO NATURE
Children & Nature Network

[Diagram showing various benefits of green schoolyards to children, schools, and communities]

- Family Engagement
- Physical Activity
- Academic Performance
- Community Place-Making
- Environmental Literacy
- Wildlife Habitat
- Shade Canopy
- Water Management
- Nutrition Education
- Social-Emotional Skills
- Benevolent Play
- Mental Health
The Jeff Seymour Family Center (JSFC) is a community hub for families providing comprehensive programs to promote overall family wellness. Administered by the El Monte City School District, the JSFC unites the county and community to strengthen individual, family, and neighborhood protective factors and increase social connectedness, community mobilization, and access to needed support and services.

The Jeff Seymour Family Center Green Infrastructure was designed and developed by Amigos de los Ríos (3), in partnership with the El Monte City School District and community stakeholders. Amigos de los Ríos expertise in sustainable and community-based projects includes youth training programs, environmental education, and community outreach.

Funding for this project is provided by the Climate Change and Clean Energy Program (CA, CAPE), the California Air Resources Board (CARB), and the U.S. Environmental Protection Agency (EPA). Additional funding provided by the California Department of Conservation’s Natural and California Department of Resources, and from REI.
Jeff Seymour Family Center
Green Infrastructure Campus
NATURAL INFRASTRUCTURE
Jeff Seymour Family Center

Green Infrastructure Elements

A. Urban Community Forestry
   - Habitat
   - Heat island reduction
   - Stormwater capture - Carbon sequestration

B. Rain Garden
   - Stormwater capture - Habitat

C. Bioswale
   - Stormwater capture - Habitat

D. Rain Modules
   - Stormwater capture

E. Stormwater Basin
   - Stormwater capture - Rain modules

F. Bike Safety Track
   - Cool pavement / Heat island reduction
   - Bike training / active transportation
   - Stormwater capture - Habitat

G. Community Garden
   - Food production - Education

H. Bike Park / Skills Track
   - Bike training / active transportation
   - Nature-based play

I. Walking Paths
   - Physical fitness - Habitat

J. Interpretive Elements
   - Education - Community Science

Campus green infrastructure plan implemented through a community-based process by AMIGOS DE LOS RIOS, a 501(C)3
We hope you enjoy! - www.amigosdelosrios.org

Funding for this project has been provided by the California Greenhouse Gas Reduction Fund through the California Department of Forestry and Fire Protection (CAL FIRE), Urban and Community Forestry Program.

© Amigos de los Rios
The Emerald Necklace

The Jeff Seymour Family Center is part of the Emerald Necklace, an interconnected loop of parks and greenways along our urban waterways, nestled in the heart of the San Gabriel Valley and extending from the San Gabriel Mountains of the Angeles National Forest to the Pacific Ocean. The necklace provides desperately needed recreational areas for communities suffering from health challenges and social issues associated with a lack of open space and recreation opportunities. Since 2009, Amigos de los Rios, a non-profit 501(c)3, has worked as aItalic fever pitch, plugging into the collaborative vision known as the Emerald Necklace.

Amigos de los Rios and the Emerald Necklace

The mission of Amigos de los Rios is to create an Emerald Necklace green infrastructure network of parks and trails throughout Los Angeles Basin to connect the Mountains to the Sea, and in doing so, improve access to recreation and link Southern Californian communities to nature and each other, expand access to safe non-vehicular transportation, create culturally meaningful public spaces within blighted communities, and protect urban communities from the harmful effects posed by climate change. The Amigos design team has extensive experience in regional sustainable planning, architecture, landscape architecture, habitat restoration, environmental education, and cultural history.
STORM DRAIN SYSTEM
Some Parents refuse to let their children be outdoors on campus

Some Parents come to treat mosquito bites during lunch
LEGEND/NATURAL INFRASTRUCTURE:

- Pervious Concrete/Infiltration Area
- Bioswale/Rain Capture
- Bio Retention/Native Plant Area
- LID Planters
- Urban Forest/Interpretive Elements
- Trail Resource/Classroom
Connecting School to Forest

West Fork Wildlife

- Great Blue Heron
- Swainson's Hawk
- Bald Eagle
- Green Heron
- Say's Phoebe
- Painted Bunting
- Least Tern
- California Newt
- Santa Ana Sucker
- Rainbow Trout
- San Bernardino Mountain Ringnecked Squirrel
- Southwestern Pond Turtle
- American Dipper

Incendios en el Cañón

1. Antes de un Incendio
   - La vegetación evita el desgaste del suelo, detiene el escorrimiento y ayuda a la absorción del agua.

2. Recuperación
   - El cañón dañado por los incendios se recupera con el tiempo y las condiciones adecuadas. Los esfuerzos de recuperación pueden ayudar a iniciar el crecimiento de plantas nativas y evitar la especies invasoras.

3. Carga de Sedimentos
   - Cuando llueve, las condiciones creadas por el suelo húmedo y la falta de vegetación causan el arrastre de sedimentos, erosionando las laderas del cañón. El exceso de sedimentos en las corrientes de agua generan condiciones insalubres para la vida acuática.

4. Inundaciones y Flujo de Detritos
   - Las fuertes lluvias pueden causar inundaciones y arrastre de pedazos, lodo, árboles caídos y otros materiales sueltos que obstruyen las corrientes de agua.
Our Greater Watershed
Nuestra Cuenca Regional

Rivers and streams in our forest are an important source of water for wildlife, plants, and people. 30 percent of our regional water supply comes from mountain springs and streams fed by snowmelt. The Angeles National Forest filters and regulates this water from upper watersheds, providing clean water to communities and habitats within the Los Angeles River, San Gabriel River, Santa Ana River, Santa Clara River, and Antelope Valley watersheds, among others.

Our mountain ranges and the Angeles National Forest contain some of the greatest biodiversity in the country, including five wilderness areas that provide critical habitat for threatened and endangered species. Forest habitats are not only key to ecological function but also vital to human health. Without these resources provided by the forest, the Greater Los Angeles Metropolitan Area and high desert communities would not be able to support the more than 18 million residents who live here.

Los ríos y arroyos de nuestro bosque constituyen un importante recurso de agua para animales, plantas y personas. Treinta por ciento de nuestro suministro regional de agua proviene de los manantiales montañosos y arroyos alimentados por el deshielo. El Bosque Nacional de Angeles filtra y regula esta agua de las cuencas superiores, suministrando así agua limpia a las comunidades y habitats del área de vertientes de los ríos Los Ángeles, San Gabriel, Santa Ana, y Santa Clara del Valle del Antílope, entre otros.

Nuestras cadenas montañosas y el Bosque Nacional de Angeles contienen parte de la mayor biodiversidad del país, las cuales incluyen cinco áreas naturales que proporcionan un hábitat muy importante para las especies amenazadas y en peligro. Los habitats de los bosques no solo son claves para la función ecológica, sino que también son vitales para la salud humana. Sin estos recursos que nos da el bosque, el Área Mayor Metropolitana de Los Ángeles y la comunidad del alto desierto no podría soportar a los más de 18 millones de residentes que viven aquí.
**EMERALD NECKLACE STEWARDSHIP**

**2015 VOLUNTEER EVENTS**

**NATIVE PLANT CARE EVENTS AT SCHOOLS & PARKS!**

**SPEND SOME TIME OUTDOORS!**

We will be caring for native plant & habitat restoration areas and for park amenities & interpretive signage. We will supply the materials, work gloves & tools.

**ALL YOU NEED TO BRING IS ELBOW GREASE!**

**SUPPORT THE EMERALD NECKLACE!**

<table>
<thead>
<tr>
<th>Date</th>
<th>Location</th>
<th>Event Name</th>
<th>Address</th>
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<tbody>
<tr>
<td>April 4</td>
<td>Rio Hondo River</td>
<td>Peck Water Conservation Park</td>
<td>5401 N. Peck Rd. Arcadia, CA 91006</td>
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<td>April 11</td>
<td>Los Angeles River</td>
<td>Hollydale Park</td>
<td>5400 Monroe Ave, South Gate, CA 90280</td>
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<td>3300 Gilman Rd. El Monte, CA 91732</td>
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<td>May 2</td>
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<td>May 9</td>
<td>San Gabriel River</td>
<td>La Primavera Elementary</td>
<td>4220 Gilman Rd. El Monte, CA 91732</td>
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<td>May 16</td>
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<td>June 13</td>
<td>Salazar Park - Ribbon Cutting/Work Day</td>
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<td>June 20</td>
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<td>June 27</td>
<td>Madrid Middle School</td>
<td></td>
<td>3300 Gilman Rd. El Monte, CA 91732</td>
</tr>
</tbody>
</table>

![Tree Planting](tree.png) = Tree Planting  ![Shrub Planting](shrub.png) = Shrub Planting  ![Mulching](mulching.png) = Mulching

**UPCOMING EVENTS**

9:00 AM - 12:00 PM

Together we can make a difference. We look forward to seeing you there! Please spread the word!

**SIGN UP to RSVP, receive updates and additional volunteer days by e-mailing:**
volunteer@amigosdelosrios.org or visit us at www.amigosdelosrios.org

Like us on Facebook www.facebook.com/emeraldnecklace  Follow us on Twitter @amigosrios
I Naturalist Project for Each Site

Emerald Necklace Group - Amigos De Los Rios
Posted by Brenda Kiko
February 9, 2014
A California Conservation Corps member helps us pull bullfrogs out of the water at Peck Water Conservation Park. Bullfrogs are an invasive species in Southern California and cause ecological harm. For more info click here: http://bit.ly/1zD8EVM

Emerald Necklace Group - Amigos De Los Rios
Posted by Claire Robinson
February 9, 2014
Bell's Vireo (Endangered species) - at Peck Road Water Conservation Park.

Emerald Necklace Group - Amigos De Los Rios
Posted by Claire Robinson
May 5, 2014
Many thanks to Boy Scouts of America for inviting us to their expo - at Rosebowl.

Emerald Necklace Group - Amigos De Los Rios
Posted by Marlin Carragnon
October 6, 2014
Dragonflies eat mosquitoes. Show them some love - at Peck Road Water Conservation Park.

Emerald Necklace Group - Amigos De Los Rios
Posted by Claire Robinson
August 21, 2014
#natureisforeveryone - at Peck Road Water Conservation Park.
Collaborative Approach to achieve “Convergent Infrastructure” Benefits
Policy, Funding Measures & State of the Art Implementation Work