Pathway #9 - Promoting Complementary Conservation Measures (Tribal Focus)

Estrategia #9 - Promoviendo las medidas de conservación complementarias (Enfoque tribal)

Matthew Teutimez

Gabrieleño Band of Mission Indians – Kizh Nation and Laboratory for Indigenous Knowledge Systems

Complementary Conservation Measures through Indigenous Knowledge

Medidas de conservación complementarias a través del conocimiento indígena

Chief & Spiritual Leader Ernie P. Teutimez – Salas
Jefe y líder espiritual Ernie P. Teutimez - Salas

Pathway 9
Estrategia 9

Advance and Promote Complementary Conservation Measures

30x30 Conservation Areas exist within a matrix of other land and coastal water uses. 30x30 Conservation Areas' value and effectiveness improve when adjacent and nearby areas are managed in ways that provide additional habitat benefits, protect species, increase connectivity, or enhance ecosystem function. Such management may include using environmentally beneficial practices on farms and ranches, planting trees in cities, and growing native plants in residential gardens. Such complementary conservation measures offer unique opportunities for partnership and innovation to meet our environmental goals.

More work is needed to better understand and measure how complementary conservation measures support and contribute to 30x30 Conservation Areas support. More nuanced conservation measures that are too small to map or only provide temporary conservation benefits are important toward state goals but not currently accounted for within 30x30 measurements. These complementary conservation measures should be evaluated and tracked over time to better understand how they can most effectively support our conservation goals and whether they can directly contribute toward 30x30 targets.

The California Natural Resources Agency, Wildlife Conservation Board, Ocean Protection Council, Department of Fish and Wildlife, and State Conservancies will work together with other state agencies, including the Department of Food and Agriculture to ensure the state's 30x30 strategy supports complementary conservation measures and the benefits they provide California.

Healthy Soils Program Cover Crops

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Se necesita más trabajo para comprender mejor y medir cómo las medidas de conservación complementarias apoyan y contribuyen al apoyo de las Áreas de Conservación de 30x30.

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30x30 CALIFORNIA

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The California Natural Resources Agency, Wildlife Conservation Board, Ocean Protection Council, Department of Fish and Wildlife, and State Conservancies will work together with other state agencies, including the Department of Food and Agriculture to ensure the state's 30x30 strategy supports complementary conservation measures and the benefits they provide California.

La Agencia de Recursos Naturales de California, Junta de Conservación de la Vida Silvestre, Concejo de Protección del Océano, Departamento de Pesca y Vida Silvestre, y las Conservaciones Estatales trabajarán junto con otras agencias estatales, incluido el Departamento de Alimentación y Agricultura para garantizar que la estrategia 30x30 apoya medidas de conservación complementarias y los beneficios que le brindan a California.

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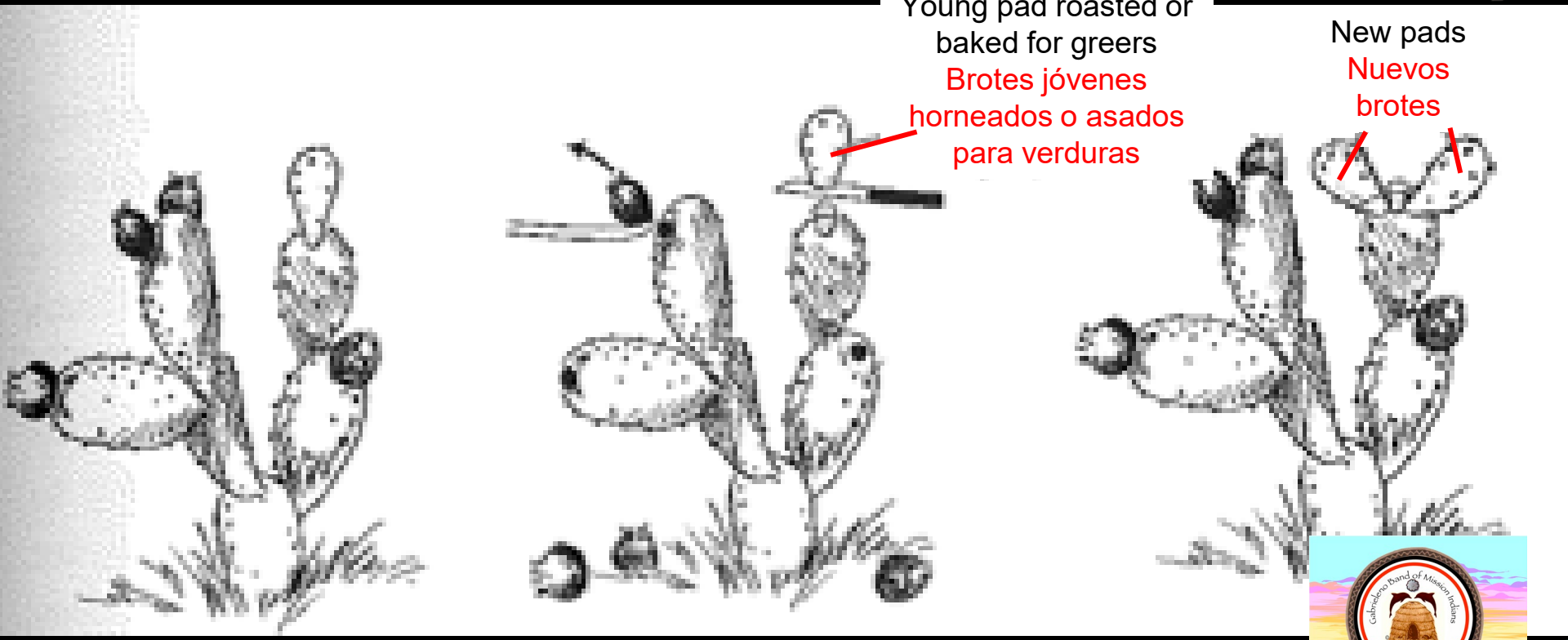
The California Natural Resources Agency, Wildlife Conservation Board, Ocean Protection Council,

Nature Based Solutions
Actions that work with and enhance nature to help address societal challenges. This term is an umbrella concept being used across the world to describe a range of ecosystem-related approaches that protect and restore nature to deliver multiple outcomes, including addressing climate change, protecting public health, increasing equity, and protecting biodiversity.

Soluciones basadas en la naturaleza
Acciones que trabajan y mejoran la naturaleza para ayudar a abordar los desafíos sociales. Este término es un concepto amplio que se utiliza en todo el mundo para describir una gama de enfoques relacionados con los ecosistemas que protegen y restauran la naturaleza para ofrecer múltiples resultados, incluyendo abordar el cambio climático, proteger la salud pública, aumentar la equidad y proteger la biodiversidad.

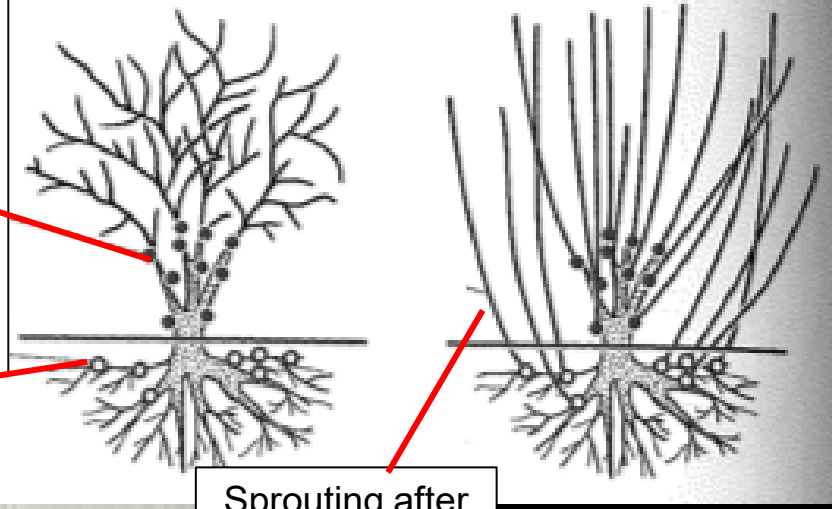
Tending the Garden
Cultivando el huerto

Regeneration
Regeneración



Pruning
Podar

Epicormic buds:
Suppressed buds buried in the petriderm of branches or trunks
Brotes epicórmicos:
Brotes suprimidos enterrados en el petriderm de ramas o troncos



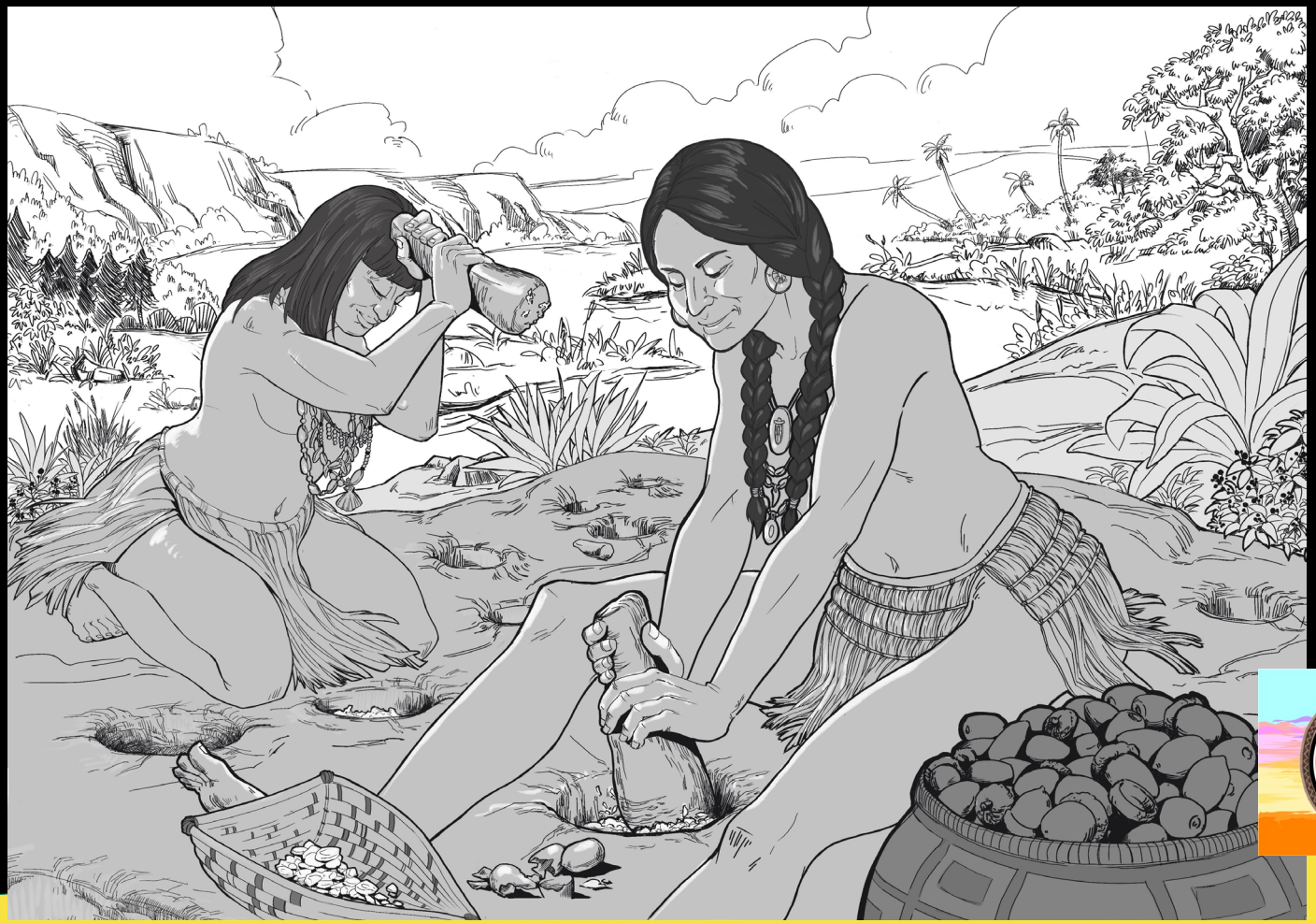
Adventitious buds:
Exist on lateral roots
Brotes adventicios:
Existen en las raíces laterales.

Sprouting after disturbance
Brotes luego de un disturbio

Coppicing
Rebrote

Therapeutic Medicines & Nutritional Foods

Medicamentos terapéuticos y alimentos nutritivos



Elderberry
Saúco

Elder (*Sambucus glauca*):	Hoo-kaht The flower, Hook-tah-swim The leaf, Hook-tah-nan-nah^{ch} The berry, Hook-tah-ah^{ch}-an A tea made from the pitch is used as a cathartic and is called Hook-tah-ah-shoon.
Manzanita (*Arctostaphylos*):	Soo-boó-che^{ch}
Blackberry (*Rubus vitifolius*):	Pe-kwahŕ
Wild rose (*Rosa* sp.):	O-chooŕ (make arrows of the straight stems)
Gooseberry (*Ribes* sp.):	Ko-chaŕ
Yerba Santa (*Eriodiction glutinosum*):	Hŭ-hĕf-hetch-ō't (medicine)
Sour berry; Aromatic sumac (*Rhus trilobata*):	So-raŕ ? Tsaŕ-mē^{ch} ?
Poison oak (*Rhus diversiloba*):	O-ar˜
Sage herb (*Artemisia ludoviciana*):	Soś-maht (used for medicine)
Tree yucca (*Hesperoyucca arborescens*):	Ah-wé-win
Foothills yucca (*Yucca whipplei*):	Ah-kó
The tree or wood the fire drill is made of:	Wahn-ne-kit

Medicinal Power

Poder medicinal

Combats ALL strains of the Flu Virus (H1N1)

Combate TODAS las cepas del virus de la gripe. (H1N1)

**Sambucus syrup has been shown to inhibit H1N1 infection in vitro by binding to H1N1 virions, blocking th host cell entry and/or recognition.

**Se ha demostrado que el jarabe de Sambucus inhibe la infección por H1N1 in vitro al unirse a los viriones H1N1, bloqueando la entrada y/o el reconocimiento de la célula huésped.

Norway Study (2000)

**Symptoms were relieved on average 4 days earlier and use of rescue medication was significantly less in those receiving elderberry extract compared with placebo

Panama Influenza Outbreak Study (1995)

**In the Sambucus Group, in 2 days, a significant improvement in symptoms (e.g. fever) was seen in 93.3% of the cases. A complete cure was achieved within 2 to 3 days in nearly 90% of the cases.

**In the Control Group 97% of the patients showed an improvement within 6 days. A complete cure was achieved within at least 6 days in the placebo group.

Estudio de Noruega (2000)

**Los síntomas se aliviaron un promedio de 4 días antes y el uso de medicación de rescate fue significativamente menor en aquellos que recibieron extracto de saúco en comparación con el placebo.

Estudio de brotes de influenza en Panamá (1995)

**En el grupo Sambucus, en 2 días, se observó una mejoría significativa de los síntomas (por ejemplo, fiebre) en el 93,3% de los casos. En casi el 90% de los casos se logró una curación completa en 2 o 3 días.

**En el grupo de control, el 97 % de los pacientes mostraron una mejoría en 6 días. En el grupo placebo se logró una curación completa en al menos 6 días.


Chia (*Salvia columbariae*)
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Chia (*Salvia columbariae*)
Chía (*Salvia columbariae*)

The seeds are rich in omega 3 fatty acids, since the seeds yield 25-30% extractable oil, including α-linolenic acid (ALA). In a one ounce (28 g) sample, dried chia seeds contain 9% of the Daily Value for protein (4g), 13% fat (9g) (57% of which is ALA) and 42% dietary fiber (11g), based on a daily intake of 2000 calories. The seeds also contain the essential minerals phosphorus, manganese, calcium, potassium and sodium in amounts comparable to other edible seeds, such as flax or sesame.

USDA SR-21 Nutrient Data (2010). "Nutrition Facts for Seeds, chia seeds, dried."

Las semillas son ricas en ácidos grasos omega 3, ya que producen entre un 25 y un 30 % de aceite extraíble, incluido el ácido α-linolénico (ALA). En una muestra de una onza (28 g), las semillas de chía secas contienen 9 % del valor diario de proteínas (4 g), 13 % de grasa (9 g) (57 % de la cual es ALA) y 42 % de fibra dietética (11 g), basado en una ingesta diaria de 2000 calorías. Las semillas también contienen minerales esenciales como fósforo, manganeso, calcio, potasio y sodio en cantidades comparables a las de otras semillas comestibles, como las de lino o sésamo.

USDA SR-21 Nutrient Data (2010). "Nutrition Facts for Seeds, chia seeds, dried."

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In vitro anti-cancer activity of two ethno-pharmacological healing plants from Guatemala *Pluchea odorata* and *Phlebodium decumanum*

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The initiating death trigger was likely the stabilization of microtubules monitored by the rapid acetylation of α-tubulin, which was even more pronounced than that triggered by taxol.

El desencadenante inicial de la muerte fue probablemente la estabilización d microtúbulos monitoreados por la rápida acetilación de α-tubulina, que fue incluso más pronunciado que el provocado por el taxol.

efore not further analysed, particularly xtract of *P. odorata* inhibited the cell h correlated with the activation of and down-regulation of Cdc25A and inactivation of Erk1/2. In HL-60 and

been cross-tested in disc
applications. Herein we
potential of two healing
Guatemala/Belize area
conditions such as neuriti
bruises and tumours. *Phlebodium decumanum* and *Pluchea odorata* were collected, dried and freeze dried, and extracted with five solvents of increasing polarity. We tested HL-60 and MCF-7 cells, the inhibition of proliferation and the induction of cell death were investigated as hallmark endpoints to measure the efficiency of anti-cancer drugs. Western blot and FACS analyses elucidated the underlying mechanisms. While extracts of *P. decumanum* showed only moderate anti-cancer

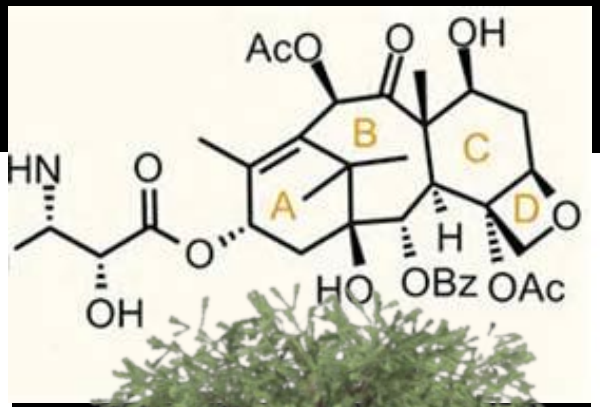
odorata contains apolar constituents which inhibit inflammatory responses and exhibit anti-cancer activity. The strong proapoptotic potential warrants further bioassay-guided fractionation to discover and test the active principle(s).

Introduction

Over 60% of all drugs used in Western medicine are derived from natural compounds which served as leads (1), where of the majority has been discovered in terrestrial plants and microbes (2). For instance *Catharanthus roseus* (source of the

Taxol- Paclitaxel

Taxol- Paclitaxel



Yerba Santa (*Eriodictyon sp.*)

Yerba Santa (*Eriodictyon sp.*)

E. Crassifolium
E. crassifolium

E. crassifolium contains several flavonoids. Some are antibiotic. Others relax bronchial tissue. Prior to 1960, plant medicines made from plants in the *Eriodictyon* genus were the standard of care for tuberculosis in the US. In 1960, a law was passed requiring clinical trials to prove efficacy of medicines. No clinical trials were performed with any *Eriodictyon* plant.

E. crassifolium contiene varios flavonoides. Algunos son antibióticos. Otros relajan el tejido bronquial. Antes de 1960, las plantas medicinales elaboradas a partir de plantas del género Eriodictyon eran el tratamiento estándar para la tuberculosis en Estados Unidos. En 1960, se aprobó una ley que exigía pruebas clínicas para demostrar la eficacia de los medicamentos. No se realizaron pruebas clínicas con ninguna planta de Eriodictyon.

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Traditional Foods
Platos tradicionales

Junipero Serra in his diary stated:

For food they cared but little, “because,” declared Junipero, “they are stout and accordingly are fat; and the Senior Governor Portola would like most of them for grenadiers, on account of their lofty stature.”

Junípero Serra en su diario afirmó:
De la comida les importaba poco, “porque”, declaró Junípero, “son fuertes y, por consiguiente, gordos; y al gobernador Portolá le gustaría que la mayoría de ellos fueran granaderos, debido a su elevada estatura.

Cum Principe Reg. Israel exaudit

Health Benefits of Wild Foods

Beneficios para la salud de los alimentos silvestres

Wild foods offer more variety of fiber, minerals, and vitamins than domesticated crops. They lack the additives and high sugar, sodium, and fat of today's processed foods.

Reasons: Wild foods grow in nutrient rich environments. Domesticated crops depend on supplemental aid such as fertilizer, pesticides and even genetics.

Los alimentos silvestres ofrecen más variedad de fibra, minerales y vitaminas que los cultivos domesticados. Carecen de los aditivos y del alto contenido de azúcar, sodio y grasa de los alimentos procesados de hoy.

Motivos: Los alimentos silvestres crecen en ambientes ricos en nutrientes. Los cultivos domesticados dependen de ayuda suplementaria como fertilizantes, pesticidas e incluso genética.

Today's Replacements for Wild Foods

Los sustitutos actuales de los alimentos silvestres

- Wheat Flour replaced seed or grain pinole.
- Potatoes replaced tubers, corms, bulbs, and taproots.
- Head lettuce replaced leafy greens high in calcium, iron, phosphorous, and potassium.
- Frying replaced baking, boiling and roasting.

- La harina de trigo sustituyó al pinole de semilla o grano.
- Las papas sustituyeron a los tubérculos, cormos, bulbos y raíces pivotantes.
- La lechuga arrepollada reemplazó a las verduras de hojas verdes con alto contenido de calcio, hierro, fósforo y potasio.
- Freír reemplazó a hornear, hervir y asar

Complementary Conservation Measures
Medidas de conservación complementarias

- Future Conservation lands can be used to create Food Forests and Shrub Gardens.
- Las tierras de conservación futuras se pueden utilizar para crear bosques alimentarios y jardines de arbustos.
- Current conservation lands can be managed to steward a balance of the ecological integrity of the land while reducing the excess biomass and fuel loads for fire.
- Las tierras de conservación actuales se pueden gestionar para mantener el equilibrio de la integridad ecológica de la tierra y al mismo tiempo reducir el exceso de biomasa y las cargas de combustible para los incendios.
- Excess biomass can be used for biofuel, therapeutic medicines, nutritious foods, renewable products, etc.
- El exceso de biomasa se puede utilizar para biocombustibles, medicamentos terapéuticos, alimentos nutritivos, productos renovables, etc.


Thank You
Gracias