The Native Northern California Black Walnut (*Juglans hindsii*): A True Contra Costa Original

Natural groves of native trees,
could you help us find them please?
Are they hidden in our midst?
Or do they no longer even exist?
Only DNA testing can tell us for sure
if walnuts are hybridized
or genetically pure.
Walnuts, walnuts everywhere,
Juglans hindsii, are they there?
Is there a native nut to spare?
Support our research if you care!

Friends of the Creeks is seeking your immediate help to raise $10,000 by June 25, 2015 to leverage $100,000 worth of DNA testing provided by our research partners at UC Davis. The money will be used to prepare samples from rare heritage Northern California Black Walnut trees (*Juglans hindsii*) throughout their historic native range in Contra Costa County. This is a one-time opportunity because the UC Davis walnut study concludes this summer.

Identification of heritage trees will benefit native species conservation efforts and provide local native seed sources to support creek restoration projects for the benefit of fish and wildlife throughout Contra Costa.

Support the Native Northern California Black Walnut Conservation Partnership Project:

Funding Goal:	**$10,000**
Funding Deadline:	**June 25, 2015**
Sampling Goal:	**60 walnut trees throughout Contra Costa**
Sampling Deadline:	**July 1, 2015**

Tax Deductible Contributions of any Denomination Welcomed, either personal or organizational. Donate online or send checks to:

The Native Northern California Black Walnut (NCBW) Conservation Partnership
c/o Friends of the Creeks
ATTN: Lesley Hunt
236 Warwick Drive
Walnut Creek, CA 94598
A registered 501(c)(3) Nonprofit Organization

With appreciation for your consideration and support:

Heath Bartosh, California Native and Rare Plant Expert, Nomad Ecology: hbartosh@nomadecology.com
Gretchen Hayes, NCBW Conservation Team Stakeholder Coordinator: Gretchen@TesseraSciences.com
Lesley Hunt, Fiscal Sponsor, Friends of the Creeks: contact@friendsofthecreeks.org

MORE DETAILS:

Finding our Roots to Revive our Ecological Heritage:
Search for the Native Black Walnuts of Northern California in Contra Costa County

PROBLEM IN A NUT SHELL

Before 1840, only one species of walnut tree grew in northern California. Pioneers discovered native Northern California Black Walnut (NCBW) (Juglans *hindsii*) groves in just three separate places: Contra Costa (Walnut Creek), the lower Sacramento River (Walnut Grove), and Napa. These native NCBW trees became the literal roots of the entire California walnut industry. Best adapted to the climate and soils of California, NCBW trees were propagated for grafting stock for imported walnut species. NCBW easily hybridized by wind with the imported orchard species, and walnuts of every variety spread quickly throughout the creeks and rivers of California.

Today it is almost impossible to find a genetically pure California black walnut: the naturally recruited native NCBW trees cannot be distinguished from hybrids because they look very similar. Rare native heritage NCBW trees can only be protected – or their nuts harvested to restore natural populations -- if they can be identified. Unless there is proof that a heritage walnut tree germinated prior to 1840, then genetic testing is the only way to definitively determine whether it is a native NCBW or a hybridized orchard species.

The cost of genetic DNA testing, however, is cost prohibitive for individual tree conservation efforts and habitat restoration projects. Today, only three verified rare stands of heritage NCBW exist in the CNDDB (California Natural Diversity Database). Our research may identify more, and has implications for the conservation status of the species throughout the state.

But there is hope. Recently a stand of genetically pure black walnuts in Napa County was identified with DNA testing and seedlings were successfully propagated from their nuts and planted to restore habitat along the Napa River. Candidate trees have been identified here in Contra Costa County, and genetic testing is required to ascertain whether they are also genetically pure. We have a chance to receive $100,000 worth of genetic testing for up to 60 samples, if we can raise the funds to sample and deliver the tree specimens to UC Davis by the end of June 2015.

OPPORTUNITY

As someone who values preserving the ecological heritage and sustaining the resiliency of the biota of the East Bay, we are requesting your support to leverage an unprecedented opportunity to further the conservation of rare native Northern California Black Walnut (NCBW) trees in Contra Costa County. The NCBW Conservation Partnership has been presented with a limited opportunity to secure free genetic testing of up to 30 - 60 samples in Contra Costa County, valued at approximately $100,000, by participating in an adjunct UC Davis study, provided that the partnership raises $10,000 to fund the collection of the tree samples by the end of June 2015.

Each $1,000 raised will support the expert collection, documentation, sample delivery, storage and reporting of approximately 5 heritage walnut trees in the East Bay by professional biologist and California rare plant expert Heath Bartosh of Nomad Ecology. The more we raise, the more trees we can get tested, and the better chance we have of finding a good variety of genetically pure trees. Further conservation and restoration efforts for the NCBW are largely predicated upon the results of this study with our partners at UC Davis, so we urge your support of this endeavor to preserve the ecological heritage of Contra Costa.

ADDED VALUE

We intend to double your investment in conservation science by combining your donation with the $50,000 funding the partnership has raised to date to complete the NCBW Pilot Project in Napa, by applying for a matching conservation grant to further the regional project. The grant could then be used to harvest seeds from the identified native trees to propagate for restoration projects with interested partners, as well at to

conduct education and outreach efforts.

BENEFITS

Native NCBW trees provide important river habitat, providing food and shelter for birds, squirrels, and other wildlife; creating cover and cooling shade for fish and other aquatic animals; and protecting river banks from erosion and collapse. As the only walnut species native to the East Bay, the NCBW is best adapted to the climate of California, and is required for habitat restoration planting projects in Contra Costa County. Numerous project supporters and future beneficiaries are looking forward to utilizing the outcome of this research to further their conservation and riparian restoration efforts throughout Contra Costa County and the greater East Bay.

Local residents and creek organizations are planting native vegetation to enhance wildlife habitat and restore creeks throughout Contra Costa County. In addition, the County has just embarked on the large scale Lower Walnut Creek Restoration Project where it meets Pacheco Marsh. Read about this important Flood Control 2.0 Project in the recent release of Bay Nature magazine: https://baynature.org/articles/flood-control-2-0/. Project details and partners are available online at: http://bairwmp.org/projects/lower-walnut-creek-restoration-project

There is a need to identify local sources of native plants for propagating and planting in riparian restoration projects. Only native plants are permitted because they, and the wildlife that depends upon them, are best adapted to thrive in the local climate and soils. It is preferable to collect seeds from several specimens of each tree species to provide diversity, a greater chance of survival, and adaptations to different conditions.

BROAD SUPPORT

The California Department of Fish and Wildlife (CDFW) has expressed support for this regional project, which will assist in the determination of the conservation status of the species.

In addition to the endorsement at the state level, the research for the NCBW project has also been supported by numerous local community organizations working diligently to improve environmental habitat throughout Contra Costa, including the Resource Conservation District; the Walnut Creek Watershed Council, which includes four watershed groups, including the Friends of the Creeks; and the Contra Costa Flood Control District, which is embarking on a large scale habitat project in Lower Walnut Creek in partnership with the John Muir Land Trust and the San Francisco Estuary Institute.

The research findings will benefit existing programs that seek to propagate NCBW seedlings from locally sourced native trees, such as the Walnut Creek Open Space Foundation native plant nursery, which was built with support from the Contra Costa Fish and Wildlife Committee, and the Mountain View Sanitary District, which is embarking on a marsh restoration project in Martinez.

We hope you will consider helping us to raise funds to support this near term funding need to seize an unprecedented opportunity to help restore and protect the native Northern California Black Walnut population for the benefit of fish and wildlife in Contra Costa.

Northern California Black Walnut Conservation Partnership

Research Institutions

- UC Davis Department of Plant Sciences
- USDA Agricultural Resource Center

State of California

- Department of Fish and Wildlife

Contra Costa County

- Walnut Creek Watershed Council
- Contra Costa County Flood Control and Water Conservation District
- Contra Costa County Public Works
- Napa County Resource Conservation District
- California Department of Fish and Wildlife, Greg Martinelli

Napa County

The NCBW Conservation Project was initiated by a private – public partnership that funded a Pilot Project study in Napa County, one of the three historic core habitats for the native species. Partners in Napa include:

- Swanson Vineyards
- The Round Pond Estate
- Constellation Brands, Inc.
- Franciscan Vineyards
- Wappo Vineyards
- Friends of the Napa River
- Napa County Flood Control and Water Conservation District
- Napa County Resource Conservation District