

*Introducing*

# The Wild Living Skills Database & Smartphone App

on [www.WildLivingSkills.org](http://www.WildLivingSkills.org)

## New Technology Will Soon Help You:

- **Identify Biological Organisms.**
- **Learn Step-By-Step *How To Process Them* For Their Traditional *Edible, Medicinal, & Utility* (toothpaste, mouthwash, soap, cordage & rope, glue, dyes, wax, etc.) **Uses.****
- **Learn Both Modern & Native American Wildfire Prevention Techniques.**
- **Learn *Positive-Impact Harvesting Techniques* for Every Species.**
- **Coordinate with Forest Officials to Perform Legal *Wildharvests* (Acorn & Buckeye nut flours, Sycamore Syrup, & much more!).**
- **Receive *Discounts & Special Offers* from any of our **Bright Green Sponsors.****

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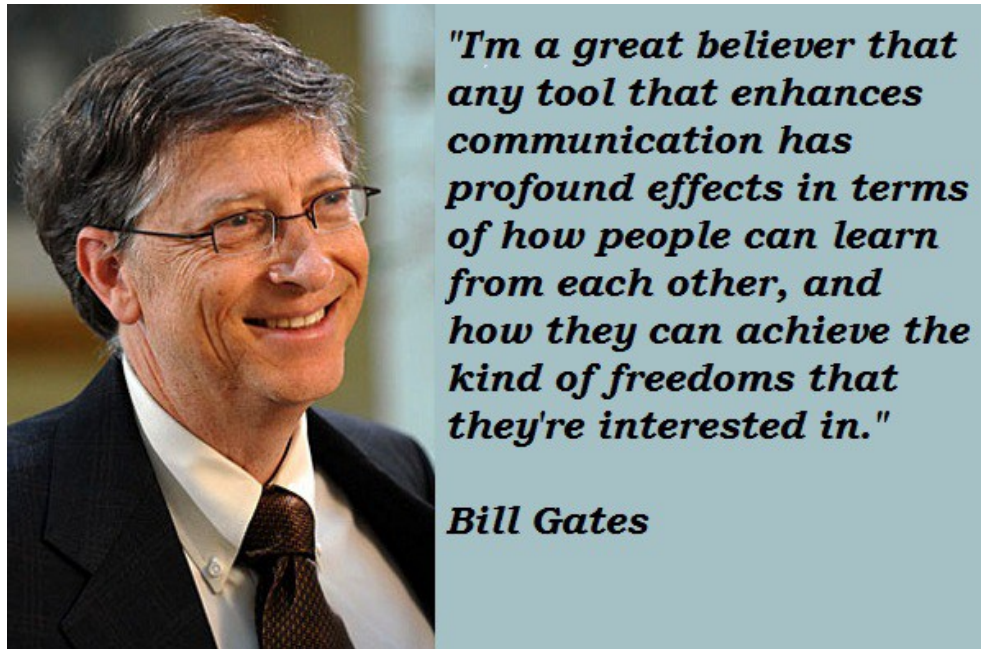
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1 **Distance Everheart:** <http://www.wildwillpower.org/about-wild-willpower/our-civil-pac/distance-evehearts-bio>

2 **Download GIMP *graphic design editor*:** [www.gimp.org/downloads/](http://www.gimp.org/downloads/)

# Contents:

1. <b>Part 1: How The <i>Database &amp; Smartphone App</i> Currently.....</b> <b>Operates.....</b>	<b>6-7</b>
2. <b><i>Step-By-Step: How We Plan To Build The Wild Living Skills Database &amp; Smartphone App'.....</i></b>	<b>9-43</b>
<b>a. Step 1: <i>Now Accepting “Database Entries”!!.....</i></b>	<b>10-13</b>
<b>b. Step 2: Hire An Programmer to Develop a “Botanical Regions”     <i>Map Mode That Can Be Toggled Using GPS-Responsive Maps</i>     .....</b>	<b>14-23</b>
<b>c. Step 3: Develop The App to Prepare for Step 4.....</b>	<b>24-33</b>
<b>d. Step 4: Pay Biological Society Members, <i>Students</i>, for <u>Hundreds</u>     of Database Entries to Enter into The Database.....</b>	<b>34-35</b>
<b>e. Step 5: Document With Native American Teachers, then <i>Embed</i>     Documentation Into Database &amp; App.....</b>	<b>36-37</b>
<b>f. Step 6: <i>Additional Information To Be Added.....</i></b>	<b>28-39</b>
<b>g. Step 7: Photographers: We'll Pay <i>You</i> To Help Build The     Database.....</b>	<b>41</b>
<b>h. Step 8: Time To Find Bright Green Sponsors.....</b>	<b>42-43</b>
3. <b>Please Help Us To Make This Happen.....</b>	<b>44</b>



Graphic Source: <http://humoropedia.com/bill-gates-quotes/>

**Bill Gates III (born October 28, 1955) is an American business magnate, entrepreneur, philanthropist, investor, & programmer.<sup>3</sup> In 1975, he & Paul Allen co-founded Microsoft, which became the world's largest PC software company. Gates has authored & co-authored several books, & keeps a regular online blog.<sup>4</sup> He & his wife Melinda help individuals lift themselves out of hunger & extreme poverty through The Bill & Melinda Gates Foundation.<sup>5</sup>**

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<sup>3</sup> **Encyclopedia Britannica, *Bill Gates*:** <https://www.britannica.com/biography/Bill-Gates>

<sup>4</sup> <https://www.gatesnotes.com/>

<sup>5</sup> **The Bill & Melinda Gates Foundation:** <http://www.gatesfoundation.org/>



# We are building The Wild Living Skills Database & Smartphone App so *you* can

- identify plants, trees, mushrooms, & other biological organisms<sup>6</sup> within less than 5 simple questions— the website is being designed to co-process the user’s GPS location, elevation, & the time of year in order to narrow down search results at the beginning of the search. Also to include “touch-&-view glossary terms with photos— rollover-&-view for desktop computers.
- learn step-by-step how to process each species for its traditional edible, medicinal, & utility (*soap, rope, wax, toothpaste,, mouthwash, etc. etc. etc.*) uses.
- watch videos of Native American teachers<sup>7</sup>, mycologists<sup>8</sup>, lichen specialists, & other ethnobiological experts share otherwise “lost knowledge” *with the world.*
- arrange with Forest Officials to *legally harvest wild foods & herbs* from National Forests & Parks, State Parks, *etc.* via indicating on a “Special Forest Product Permit”<sup>9</sup> that you will “will always use positive impact harvesting techniques & wildfire-prevention techniques *as described on WildLivingSkills.org*“.

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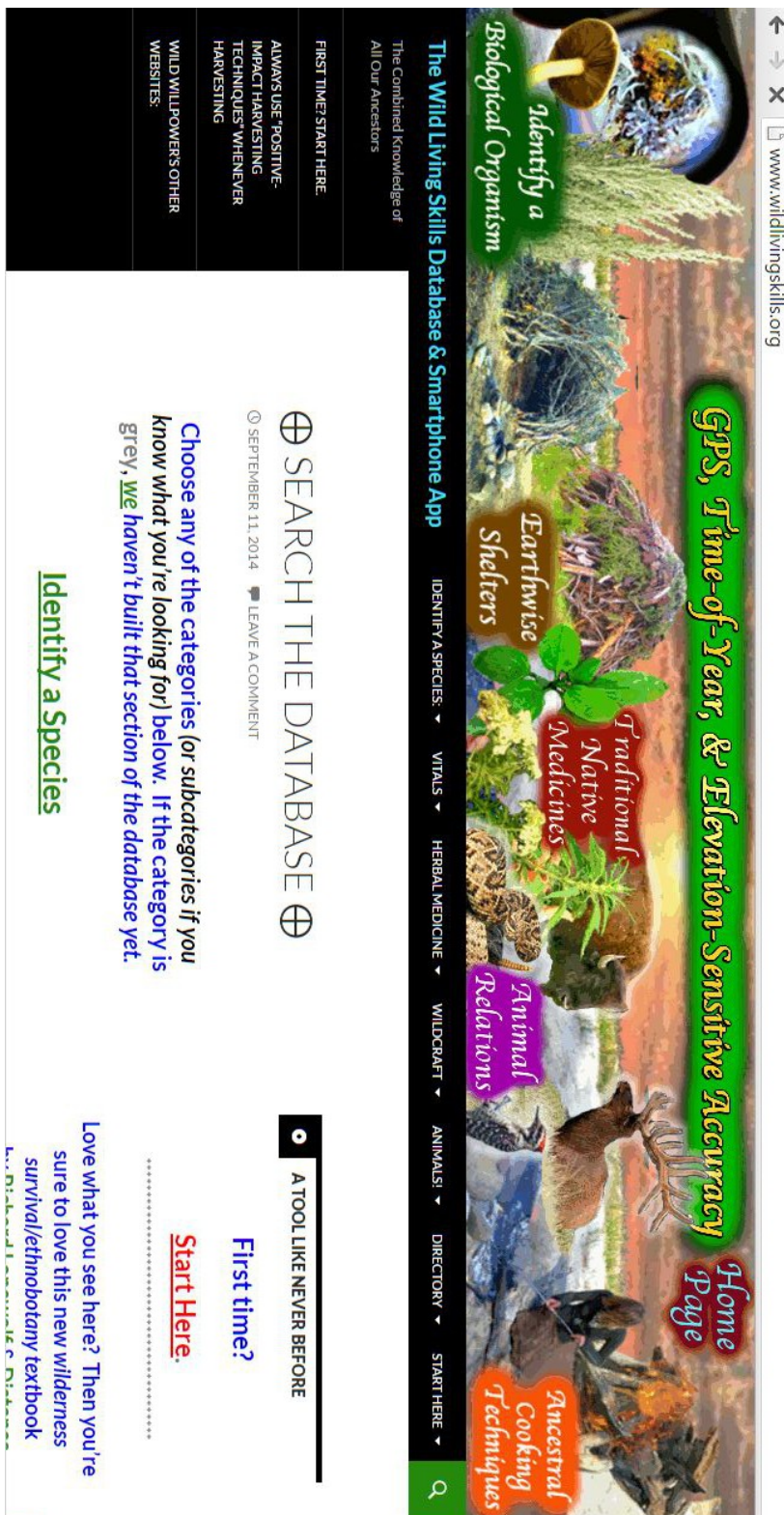
6 “Identify a Biological Organism” on The Wild Living Skills Database & Smartphone App:  
<http://www.wildlivingskills.org/identify-a-species/>

7 “Watch Videos of Richard Lonewolf *teaching*”: <http://www.richardlonewolf.com/about-lonewolf/>

8 “Fungi Perfecti”, *About Paul Stamets*: <http://www.fungi.com/>

9 U.S. Forest Service, “*Special Forest Product Permits*”:  
<http://www.fs.usda.gov/detail/giffordpinchot/passes-permits/forestproducts/?cid=stelprdb5137136>

## Part 1. How The Website *Currently Operates*



The screenshots of the website “as it currently stands” have been turned sideways to make them larger & so you can turn the book to view them better (in case these pages look strange at first).

What is *in place now* is the **framework** from which the finished product will be built, *an outline of what is in the process of being created*.

*One way the site can be navigated currently is via clicking on any of the major categories shown in the artistic banner at the top of the site: “Identify a Biological Organism”, “Earthwise Shelters”, Traditional Native Medicines”, Animal Relations, & “Ancestral Cooking Techniques”. As you can see (at right), there is also a section that always returns you to the “Home Page”. Note: This section of the website is not currently working, but we'll fix that asap.*

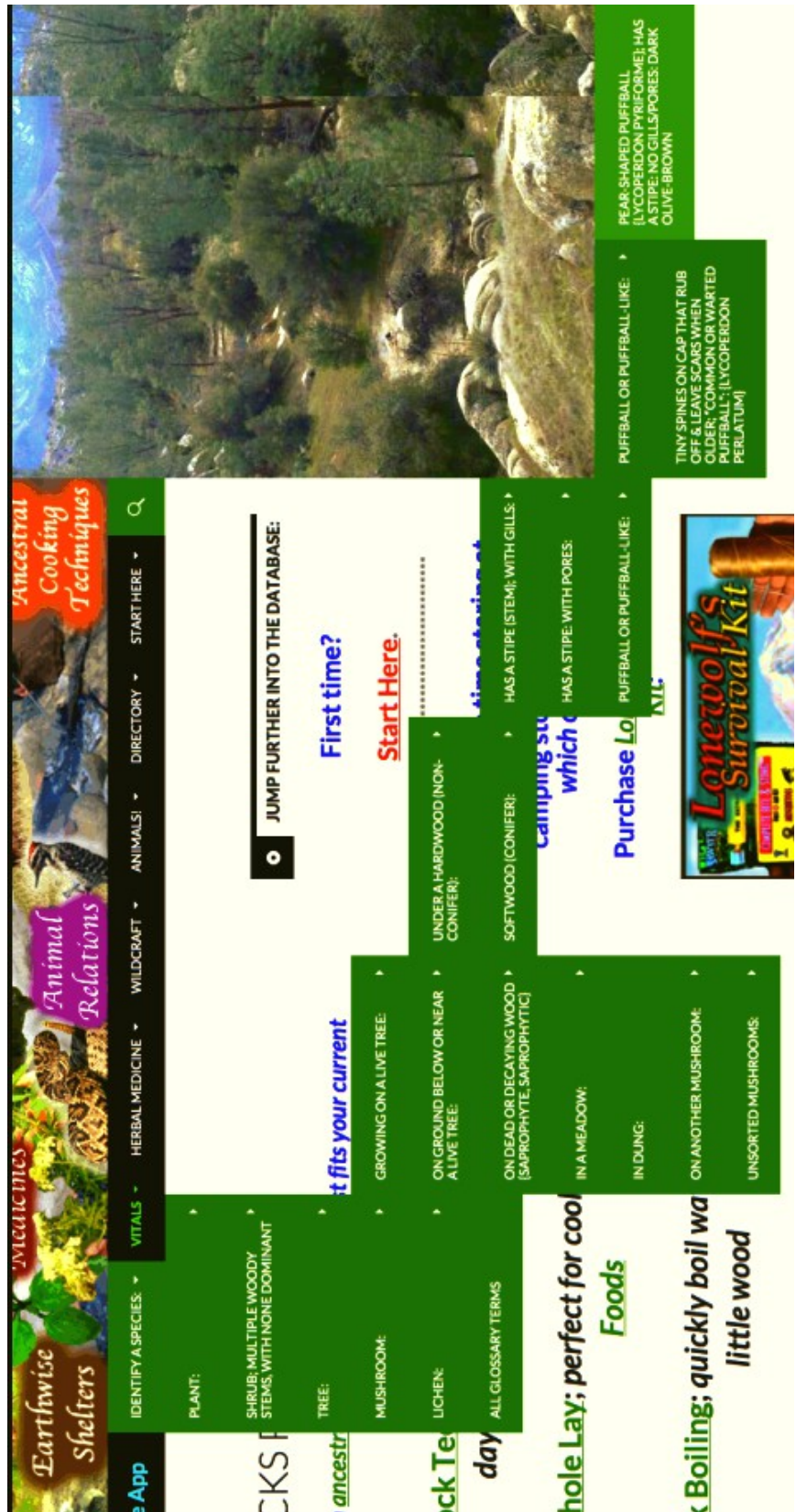
*Another way the site can currently be navigated is via scrolling down the front page of WildLivingSkills.org. There are larger main categories, & also sub-categories beneath those. Click to jump through the site.*



A third way to navigate the site is to *hover the cursor over the menus* (again desktop computers only); *without clicking*, you will see several menu options *spill off to the right*. You can hover over those & *more menus will drop off to the right*. You may continue to do this until you find the species you're seeking to identify, & *if you get stuck* simply *click* on whichever option you're *stuck on*, & that will take you to the *main navigation part of the site*; it should be simple from there.

**Shown At Right:** The cursor is hovering over the “Identify A Mushroom” section of the website. .

The website has a *long way to go* from operating as its being designed, *however* on the following pages we have a *plan to swiftly* develop it into an amazing tool that will *greatly* aid humanity.



## An Issue Soon Remedied



**“Thousands of tired, nerve-shaken, over-civilized people are beginning to find out that going to the mountains is going *home*— that *wildness* is a *necessity*.”**

**— John Muir, *Our National Parks*<sup>10</sup>**

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<sup>10</sup> ISBN: 1931839212: [https://www.goodreads.com/book/show/1734517.Our\\_National\\_Parks](https://www.goodreads.com/book/show/1734517.Our_National_Parks)

## Part 2.

*Step-By-Step:*

# How We Plan To Build The Wild Living Skills Database & Smartphone App

**Calling All Ethnobiology Nerds!!**

**Now Mapping California.**

## Step 1:

# We Are Now Accepting

## 5

### *Model Database Entries*

for each of the following categories:

- \* Plant \* Shrub \* Tree \* Grass \* Vine \* Cactus
- \* Fern \* Succulent \* Mushroom \* Lichen \*
- \* Moss \* Mold \* Algae \*

### Directions:

Please ***only*** include species which can be found in California (see pages 13 & 14). Also it is important to include ***all the information*** from ***at least four books*** into the following Categories ***and*** sub-categories, ***as shown*** (or as best possible):

1. Location Summary:

- a. Elevation:
- b. Botanical Region(s):
- c. Habitat: (include the term “Riparian” or “Non-Riparian”, if applicable)
- d. Time-of-Year (“Season”), if applicable.
- e. For mushrooms (or other such cases), include its substrate— “grows on deadwood”, “grows under conifers”, “in meadows”, etc.
- f. Any additional information, organized by category.

2. Identification Characteristics:

- a. Description— there needs to be 4 descriptions of the organism. One for each category: “Description Spring”, “Description



**Summer”, Description Autumn”, & Description Winter”.**  
*This will enable the computer to associate the appropriate description & photograph with whichever species are currently surrounding the user, & so the computer may ask appropriate identification questions.*

**b. Size**

**c. Shape**

**d. For plants, etc.:** “Type” (for this category specify “Cactus”, “Succulent”, “Vine” “Dryland Grain-Producer”, “Wetland Plant”, or similar such category), “Leaf Shape”, “Leaf Arrangement”, “Flower Shape”, “Flower Color”, “Fruit Shape”, “Fruit Color”, & any other identification characteristics, categorized as best able.

**For shrubs & trees, include:** “Type” (as in “Deciduous”, “Evergreen”, “Conifer”, “Palm”, etc.), “Bark Texture”, “Bark Color(s)”, & so on.

**For mushrooms:** “Type” (use this list:

<http://www.mykoweb.com/CAF/skey.html>), “Spore Color”, “Spore Shape”, “Gills or Pores”, “Ascus Present”, & so on.

**For lichens:** “Type” (“Foliose”, “Fruticose”, “Crustose”, “Leprose”, “Squamulose”), “Soridia or Sorelia” (yes or no), “Picnidia”, “Apothecia”, & so on.

3. **Traditional “Edible”, “Medicinal”, & “Utility”** (soap, cordage & rope, glue, wax, dyes, etc.) **Uses:** *include step-by-step instructions for each category.* For “Edible” include *nutritional value, if able.* *Accredit tribes, peoples for “discovery” of uses.*
4. **Taxonomy:** “Phylum”, “Family”, “Genus”, “Species”, etc.
5. **List of books sources—** include the author's name & the ISBN number for each book.
6. **“Other”** (Interesting Facts— anything that didn't “fit” into the previous categories. *Doesn't have to be perfect; we'll fix 'em.*)

### **Database Entry Submission**

**Please email finished database entries to [Distance@WildWillpower.org](mailto:Distance@WildWillpower.org) with “ATTN: Database Entries” written in the subject line.**

## These Website Links Include Species We Are Currently Seeking Database Entries for

*Again— we're **beginning** this very large project by mapping California. If you'd like your state's biological organisms to be mapped & integrated into The Wild Living Skills Database & Smartphone App, please examine the following links, & find similar resources for your state/region, compile them into a list similar to this one, & send it to [Distance@WildWillpower.org](mailto:Distance@WildWillpower.org); in the subject line write “ATTN: Map My State”. Thank you.*

### Plants, Shrubs, Trees, Grasses, etc.

The Consortium of California Herbaria is an essential research platform for this project. The database includes over 2 million specimen records from 35 institutions, & specimens can be searched according to “botanical region” *and* County; this engine will enable *more precise* plant (*shrub, vine, etc.*) identification *besides* “elevation & botanical region”, & should be integrated accordingly. This can be done by “searching by County” on the bioregions map, & then “mapping the botanical region intersections” which *occur within* each County where such merges occur.

**Note:** Please cite data retrieved from this page: *Data provided by the participants of the Consortium of California Herbaria:*

[ucjeps.berkeley.edu/consortium/](http://ucjeps.berkeley.edu/consortium/)

“Native Plant Lists by Region”, *California Native Plant Society:*

<http://www.cnps.org/cnps/grownative/lists.php>

In-Depth searchable database:

<http://www.calflora.org/>

Southern Californian Plants by bioregion:

<http://www.calflora.net/botanicalnames/plantcommunities.html>

“List of California Native Plants” on Wikipedia— *great pre-sorted species list by type including list of riparian-zone species:*

[https://en.wikipedia.org/wiki/List\\_of\\_California\\_native\\_plants](https://en.wikipedia.org/wiki/List_of_California_native_plants)

**Trees & whatnot can *also* be *regionally mapped* with resources such as “Trees of Yosemite National Park”:**

**[http://www.yosemite.ca.us/library/handbook\\_of\\_yosemite\\_national\\_park/trees.html](http://www.yosemite.ca.us/library/handbook_of_yosemite_national_park/trees.html)**

**Common Shrubs of Chaparral Forest Service Pacific Southwest & Associated Ecosystems:**

**[http://www.fs.fed.us/psw/publications/documents/psw\\_gtr099/psw\\_gtr099.pdf](http://www.fs.fed.us/psw/publications/documents/psw_gtr099/psw_gtr099.pdf)**

### **Mushrooms**

The following link from *The Fungi of California*<sup>11</sup> contains a list of 687 mushrooms that can be found in California that are: (1.) Large enough to be considered for the table. (2.) Generally considered edible for most people. (3.) Fairly commonly eaten in California or elsewhere:

**<http://www.mykoweb.com/CAF/edible.html>**

***Simple Pictorial Identification Key:***

**<http://www.mykoweb.com/CAF/skey.html>**

### **Lichens**

A state-by-state *complete species list* database on “The Consortium of North American Lichen Herbaria's Integrated Digitized Biocollections” website; a map-integrated database.

**<https://www.idigbio.org/portal/search>**

### **Algae**

**Marine algae of Northern California:**

**<http://www.sonoma.edu/users/c/cannon/marinealgae.html>**

**Please send other *great & relevant links* to  
[Distance@WildWillpower.org](mailto:Distance@WildWillpower.org).**

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<sup>11</sup> “The Fungi of California”: <http://www.mykoweb.com/CAF/>

## Step 2: We Must Build A “Botanical Regions” Toggle Mode or GPS-Responsive Maps

*(for Smartphones, Google Maps, etc.)*

### And Then Embed The Map With Database Entries

*Botanical regions maps such as this one from Tilden Botanic Garden's (East Bay Regional Parks) website<sup>12</sup> need to be integrated with standard GPS maps so that a “botanical regions mode” may be toggled on or off just like the “satellite mode”, etc.*

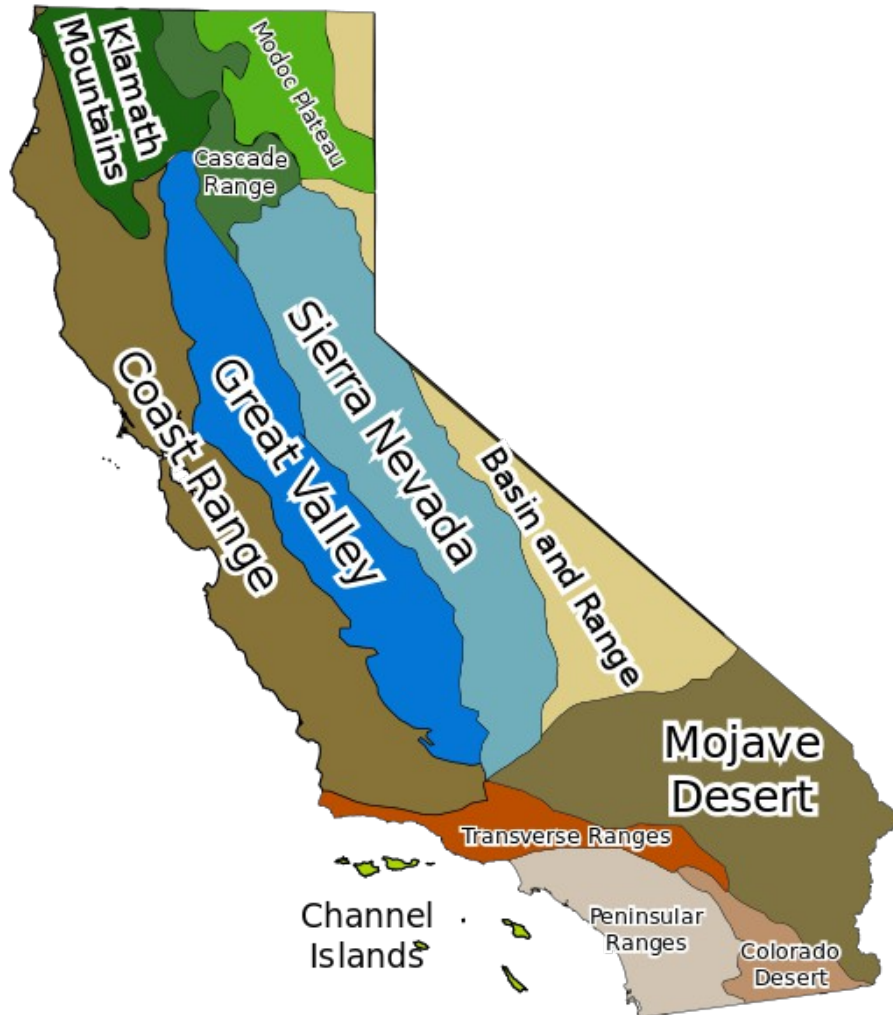


*"Botanical Regions Map" from Tilden Botanic Garden's (East Bay Regional Parks) website: <http://www.ebparks.org/page156.aspx>*

<sup>12</sup> Tilden Botanic Garden website: <http://www.ebparks.org/page156.aspx>

## “Common Names” of Botanical Regions:

You can see how the previous *Botanical Regions map* corresponds with this *Geographic Provinces map*, which includes more *common names* for each botanical region:



Uploaded by Ssalonen onto Wikimedia Commons:  
[https://commons.wikimedia.org/wiki/File:California\\_Geomorphic\\_Provinces.svg](https://commons.wikimedia.org/wiki/File:California_Geomorphic_Provinces.svg)

**An unabridged list of species that can be found within each botanical region (see page 13) needs to be embedded into each transparent overlaid botanical region on the botanical regions map mode, thus enabling the computer to co-process information from within the “Location Summary” & “Identification Characteristics” sections of those entries so that search results can be narrowed accordingly.**

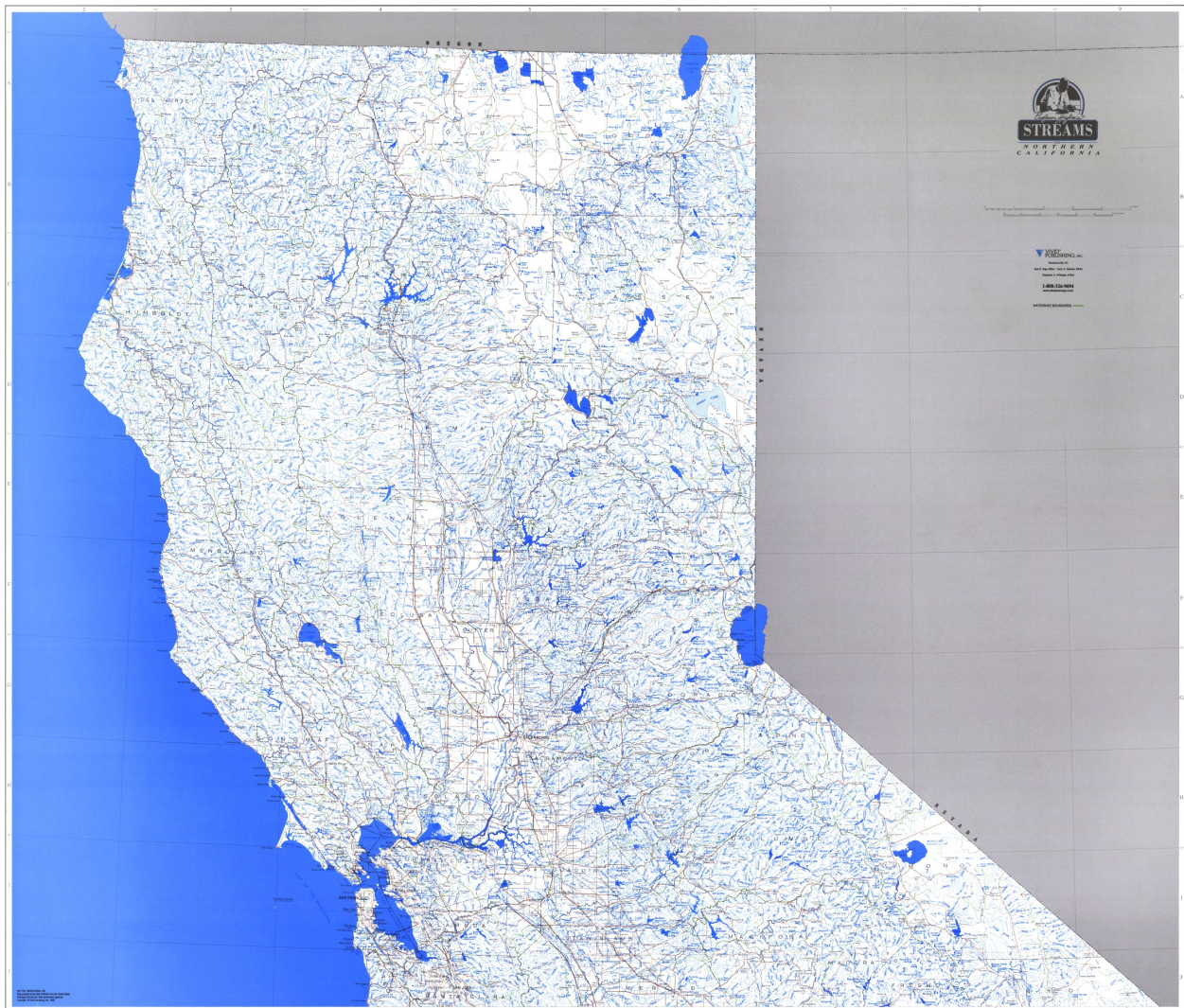


## “Professor Higbee's Stream & Lakes Map” Should Also Be Integrated

An *in-depth* “all rivers & streams” map that can be *zoomed in on & explored via the site* &/or ordered as *large posters (by region)* at:

<http://www.streammaps.com/showmap.php?id=SMNCA#>

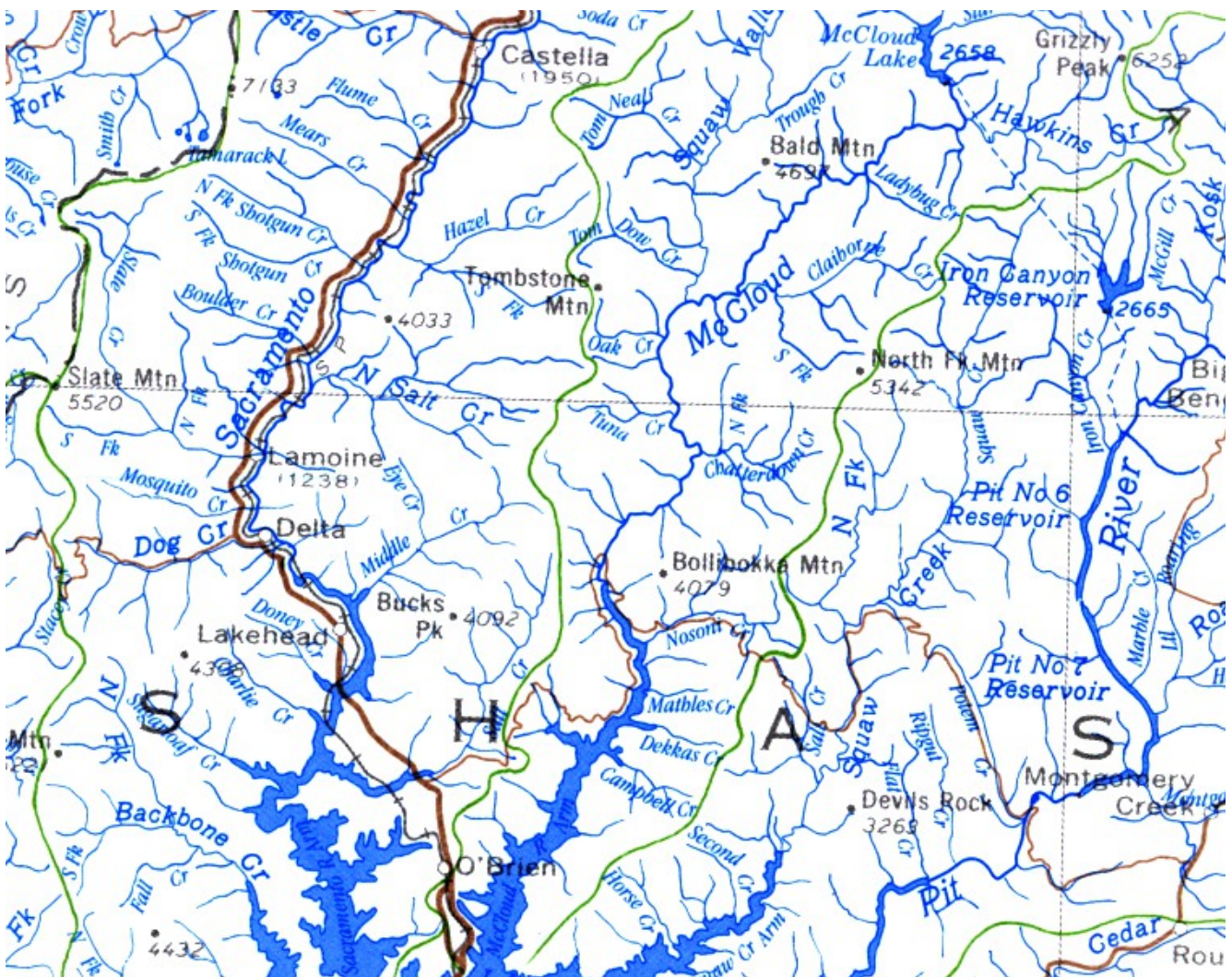
Professor Higbee's maps should be integrated with the “botanical regions” *map mode*, & the names & database entries of *riparian zone species (pages 21-23)* should be *embedded* into the *botanical regions map mode* accordingly. In summer months, smaller waterways will be *completely dry*— *which should be accounted for within the “time of year” function.*





## A Closeup of Professor Higbee's Map

*This map (see website) will need to be integrated with the botanical regions map mode so that species which grow in riparian zones will be integrated into any search done within a short distance of any of these waterways. I contacted Professor Higbee on 8-24-2016 regarding “obtaining access to the raw file” of his map for use in creating the botanical regions map mode for use in developing the Database & App. Here's a closeup of Shasta County, California:*



## Each Body of Water's Respective *Riparian Zone* Needs To Be Integrated Into The *Map Mode*

A riparian zone is the interface between land & a river or stream. Riparian is also the proper nomenclature for one of the fifteen terrestrial biomes of the earth. Plant habitats along the river margins & banks are called riparian vegetation, characterized by hydrophilic plants.<sup>13</sup>

Certain plants & trees grow *specifically* throughout riparian zones, & should be *mapped* accordingly, just as each species should be mapped according to *elevation*. Professor Higbee's Rivers & Streams Map will be invaluable in mapping this part of the equation. Because rivers & streams are constantly changing, it may be wise to have “Riparian” able to be toggled on & off. A list of *riparian trees of California* is on the *next page*.

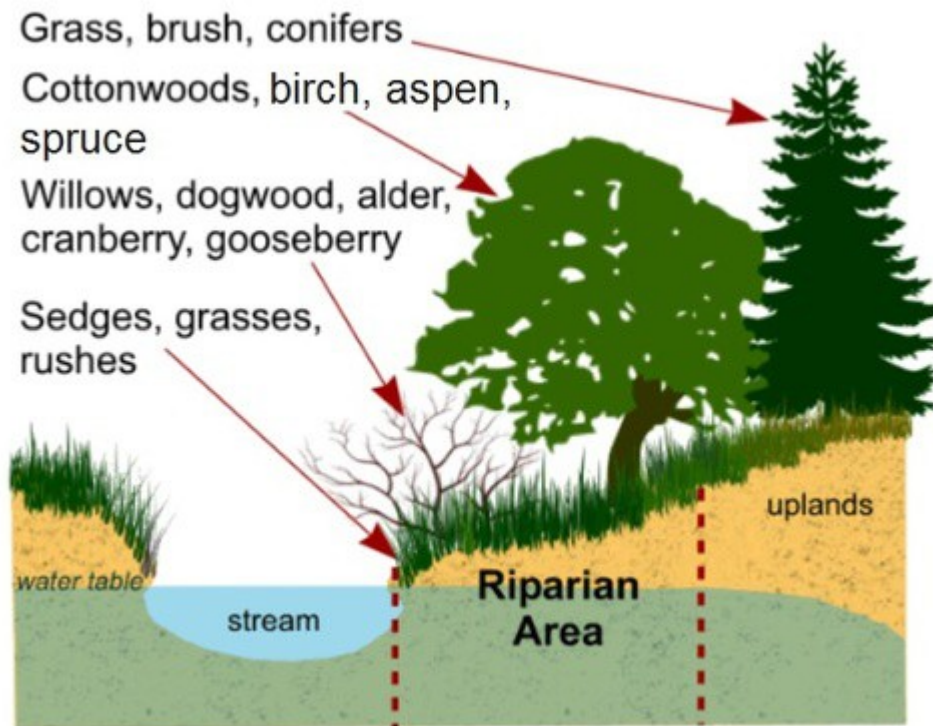


Diagram of a Riparian Zone from: <http://www.tvwatershed.org/riparian-zone-information/>

13 USDA Silvics":

<https://web.archive.org/20110718190816/http://charmeck.org/mecklenburg/county/SolidWaste/MasterComposers/NativePlants/Documents/treeslist.xls>



## Riparian Zones of *Major Waterways Won't Dry Up in Summer*

Here's a basic map of *major waterways which won't dry up in summer*; smaller waterways will not host many riparian & aquatic plants during certain months; the program should be made to detect accordingly based upon the time of year.



Derived from DEMIS map sections copied and assembled together, by "Shannon1":  
[https://upload.wikimedia.org/wikipedia/commons/1/14/California\\_rivers.jpg](https://upload.wikimedia.org/wikipedia/commons/1/14/California_rivers.jpg)

## List of California Riparian Trees

- **California sycamore**— *shown at right* {*Platanus racemosa*}
- **White alder** {*Alnus rhombifolia*}
- **Quaking aspen** {*Populus tremuloides*}
- **Fremont cottonwood** {*Populus fremontii*}
- **Black cottonwood** {*Populus trichocarpa*}
- **Arroyo willow** {*Salix lasiolepis*}
- **Tanoak** {*Lithocarpus densiflorus*}
- **California bay laurel** {*Umbellularia californica*}
- **Madrone** {*Arbutus menziesii*}
- **Toyon** {*Heteromeles arbutifolia*}
- **Bigleaf maple** {*Acer macrophyllum*}
- **Western blue elderberry** {*Sambucus mexicana*}
- **California Buckeye** {*Aesculus californica*}
- **Western redbud** {*Cercis occidentalis*}
- **California black walnut** {*Juglans californica*}
- **California hazelnut** {*Corylus cornuta*}

A valuable tool for creating *this section of the Database & App* includes this “Guide to Native & Invasive Streamside Plants”, by The County of Ventura Planning Division:

[http://www.cramwetlands.org/sites/default/files/VCPD2006\\_RipPlntGde.pdf](http://www.cramwetlands.org/sites/default/files/VCPD2006_RipPlntGde.pdf)

## Did You Know *Sycamore Trees* Makes Syrup Just Like Maples, Except It Tastes More Like *Butterscotch*?

An example of *why we're mapping this important knowledge*— page 34 of *More Valuable Than Gold*<sup>14</sup>, on *edible uses of Sycamore Trees*:

California Sycamore Deciduous Tree {*Platanus racemosa*}

**Edible:** Sycamore *leaves* have been used for many years to wrap & bake food in. The bark may be boiled into a red-colored decoction & drank like a tea. Sycamore *syrup* is light brown — *almost yellow in color*— & is produced *the same way that both Maple AND Birch syrup are produced*. Early in spring— *when the snow is melting but still gathered at the base of the tree* — is the best time to collect— *when the nights are still freezing & the days are above freezing*. For *Sycamores*, early-season sap tastes kind of like honey, & *later in the year its more like butterscotch*. To tap a tree using an ancient native technique, first you'll need to craft a spile (*spigot*) using an Elderberry branch. (*A metal tube works just fine.*)

The diameter of the inside of the spile is only going to measure *about 1/2 inch* across, so it is best to look for a branch that is about *1 1/2 to 2" in diameter, at least 6 inches long*— & *very straight*. The *pith (center core)* of Elderberry branches are spongy & soft— which makes hollowing them out very simple. To get sap from the tree, *the xylem layer must be tapped*. So, carve a 2-inch hole at a slightly upward angle into the Sycamore. Tap the spile in gently

using a rock or wooden mallet for a good, snug fit. Since the spile *should be slightly oversized in diameter*, simply *shave it down if need be* to make the final fit. Some eastern tribes collected Maple sap using Birch bark baskets.

Sycamore sap flows on warm winter days— days during the January thaw that would be too warm for Maple sap to flow (*when daytime temperatures are greater than 50— even 60 degrees Fahrenheit*). Before metal pots were introduced to cook sap into syrup, *ice was removed each morning* to remove the water content. After a period of time, *raw syrup is left behind— saves a lot of fuel & excess work*.

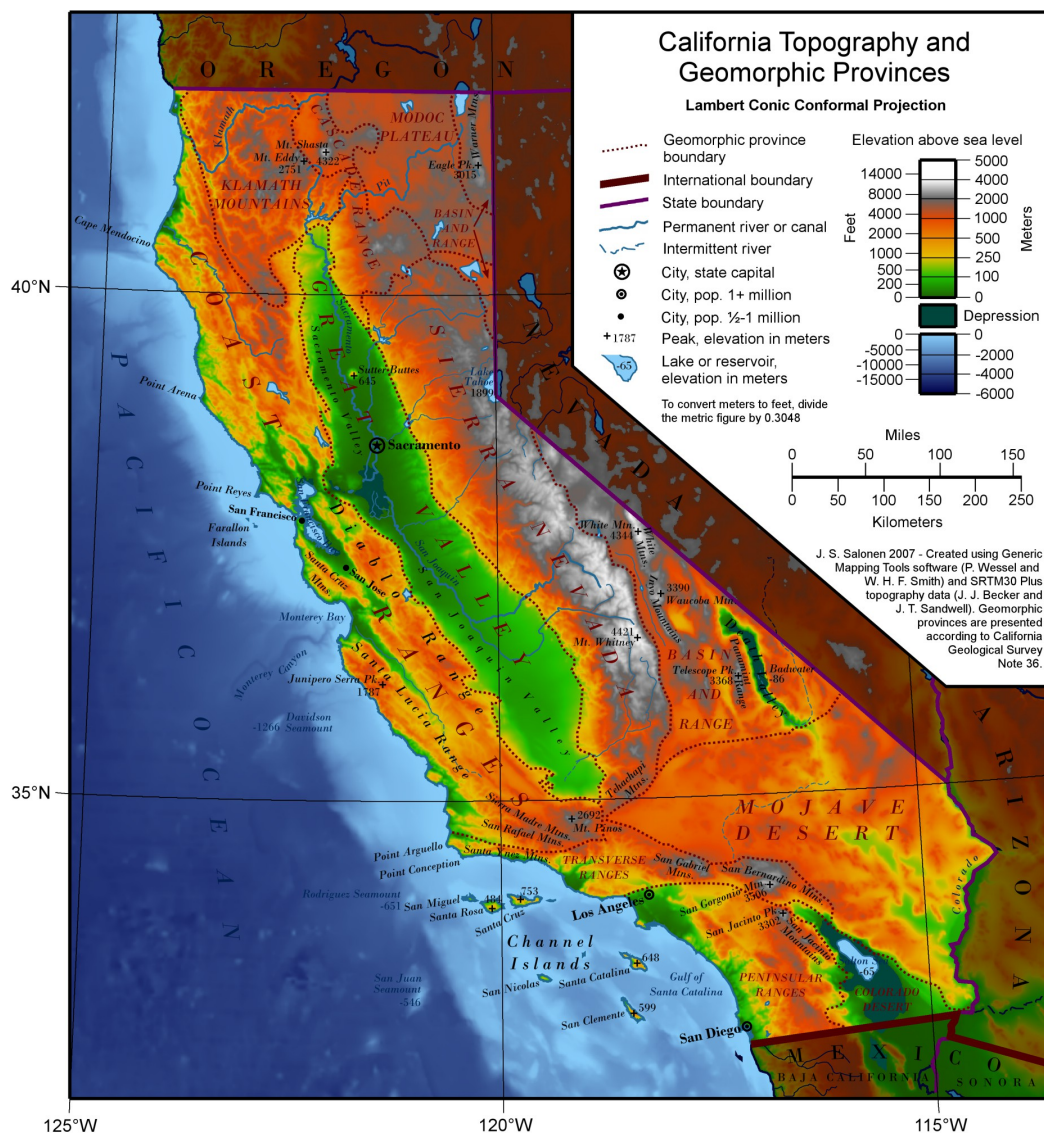


“Mottled” California Sycamore bark.



## **Important!** The *Botanical Regions Map Mode* Needs To Detect The User's Elevation

So that *only biological organisms which are found at the user's elevation can be “discovered” by the phone.* **Note:** This is why the “Database Entries” we accept (*pages 11-14*) include the category “Elevation” under the “Location Summary” section. User should be able to *widen, narrow, or make location-specific searches.* This will of course affect things like *which* riparian species might be growing, or *which species in general* depending on the bioregion. With all these factors accounted for, *identification will be greatly expedited.*



Uploaded to *WikiMedia Commons* by “Salonen”:  
[https://commons.wikimedia.org/wiki/File:California\\_Topography-MEDIUM.png](https://commons.wikimedia.org/wiki/File:California_Topography-MEDIUM.png)



## ***Different Elevations, Different Trees & Habitat***

There are many *sub-categorical* “botanical regions” as well which may be taken into account so that appropriate species may be included or excluded from certain regions within the mapping process. factors to take into account in order to make this program operate as needed. Here are some other factors:

### **Sub-Bioregional Maps Such As “*The 5 Oak-Dominated Habitats*” Should Be Embedded Into The *Botanical Regions* Map Mode**

The University of California page on “Oak Woodland Management” is a great example of pre-mapped “lists” of botanical sub-regions. Similar such lists probably can be easily researched & *integrated into the map mode* as well. Here's the link:

**[http://ucanr.edu/sites/oak\\_range/Californias\\_Rangeland\\_Oak\\_Species/Habitats\\_Descriptions/Should Be](http://ucanr.edu/sites/oak_range/Californias_Rangeland_Oak_Species/Habitats_Descriptions/Should%20Be)**

Although there are numerous ways to classify California's oak-dominated woodlands, the five vegetation types used in the California Wildlife Habitat Relationships System (CWHR) are the most commonly used & are described below— each based on the dominant tree species:

- Valley Oak Woodland
- Blue Oak Woodland
- Blue Oak-Foothill Pine Woodland
- Coastal Oak Woodland
- Montane Hardwood Forest

List of Trees from U.S. Forest Service, *good elevations list*:

**[http://www.fs.usda.gov/Internet/FSE\\_DOCUMENTS/stelprdb5351544.pdf](http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5351544.pdf)**

“The Distribution of Forest Trees in California” by James R. Griffin & William B. Critchfield, on U.S. Forest Service website, *an indispensable resource for this project*:

**[http://www.fs.fed.us/psw/publications/documents/psw\\_rp082/psw\\_rp082.pdf](http://www.fs.fed.us/psw/publications/documents/psw_rp082/psw_rp082.pdf)**

### **Step 3: *Develop The App To Prepare for Step 4***

**The first question the program asks after the user selects “Identify a Species > Identify a Tree” is:**

**Which type of tree are you going to identify?**

**Hardwood aka “Broad-Leafed Tree” {*Angiosperm*}**

**Note:** The program let's you “quickjump” by offering secondary choices (below) after each main categorical question.

- **Deciduous; leaves fall off in winter**
- **Evergreen; leaves stay on year round- *i.e.: Eucalyptus, Bay Laurel, Palm***



*Photo source: <http://www.livebinders.com/play/play?id=846133>*

## Conifers {Gymnosperm}; needle-like or scaly leaves, cone-producers

- **Pine** {*Pinus sp.*}; cylindrical needles growing in clusters
- **Cypress**; scaled leaves
- **Spruce** {*Picea sp.*}; triangular OR square-shaped needles growing individually from branches
- **Flat-Needled Conifer**



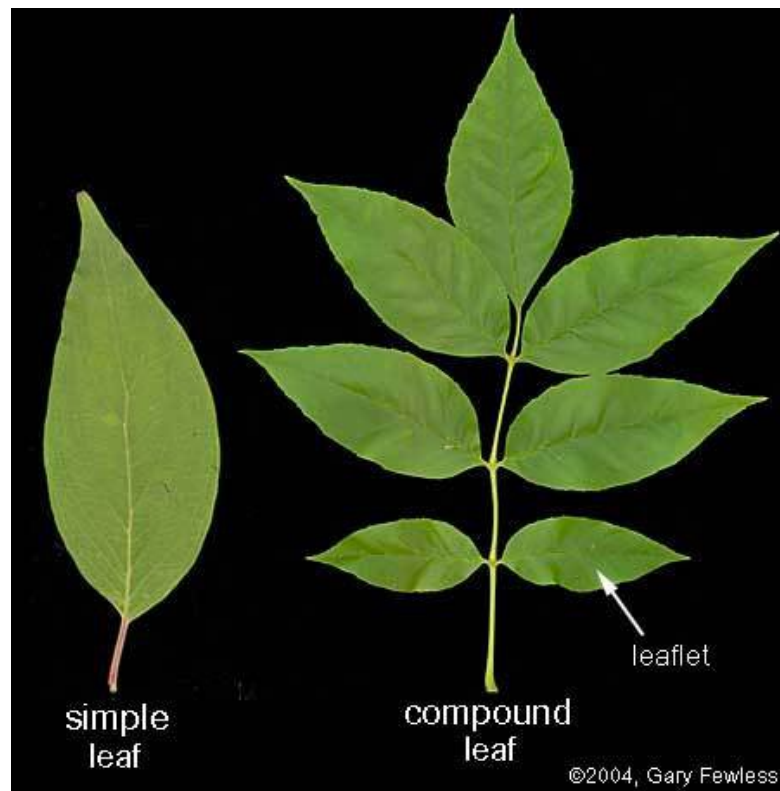
Posted on Pinterest:  
<https://www.pinterest.com/elisabethro0528/my-birth-tree-pine-tree/>

**Note:** Due to the botanical region, County, elevation, & riparian zone considerations in place, once *this section* were answered, you would already be only one or two questions away from identifying the species.

If you selected *Broad-Leafed Tree*, The Next Question Would Be:

Does the tree have *simple* or *compound* leaves?

**Note:** A different question would be asked in winter.



From "Trees of Wisconsin Herbarium, Cofrin Center for Biodiversity" by Gary Fewless:  
[https://www.uwgb.edu/biodiversity/herbarium/trees/simple\\_compound\\_leaves01.htm](https://www.uwgb.edu/biodiversity/herbarium/trees/simple_compound_leaves01.htm)



## If you selected *Coniferous Tree*, The Next Question Would Be:

**Note:** There are many *exceptions in biology*. For instance, there *are* Juniper species whose leaves look *just like Cedar*. For the purpose of identification, *that* species of Juniper (*etc. etc. etc.*) will be included within the *Cedars* until identified as a *Cedar*— at which point it links to the appropriate Database Entry.

### Are the leaves:

1. **Cypress: Scaled** (*rounded & scaled is Juniper, whereas flattened & scaled is Cedar*)



<http://oregonstate.edu/dept/ldplants/culey3.htm>

3. **Spruce: Triangular or Square-shaped** (*the needles can be “rolled” between your fingers, but they’re not perfectly cylindrical*)



<http://www.finegardening.com/fir-vs-spruce-vs-pine-how-tell-them-apart>

2. **Pine: Cylindrical** (*Pine*)



<http://www.keyword-suggestions.com/cGluZSBuZWVk bGVz/>

4. **Yew, Hemlock, Fir: Flat Needles**



<http://nwconifers.blogspot.com/2015/07/focus-on-pacific-yew.html>

## Different Types of Trees, *Different Types of Mushrooms*

The *first* question the app asks after a user has selected “*Identify A Species > Identify a Mushroom*” determines the *substrate* the mushroom is growing on, because *different types of mushrooms grow on different substrates*.

### Substrate:

“The surface or material on or from which an organism lives, grows, or obtains its nourishment.”

### Beneath Oaks (& Other Hardwoods)

For instance, the *very abundant* “*Honey*” aka “*Oak*” Mushroom is a parasitic fungi which *can be* a destructive forest pathogen— known to cause “white rot” root disease. Admired for its firm meaty texture— most recipes call for combining it with other ingredients rather than preparing it alone. Because of its dense consistency, it tolerates long cooking without losing its shape. Its advised to parboil the caps for 5 minutes & to discard the water to avoid a slightly bitter aftertaste.



Photo from “Common AZ fungi in mixed conifer woods”:  
[http://www.tanelorn.us/data/mycology/myc\\_loc\\_mix1.htm](http://www.tanelorn.us/data/mycology/myc_loc_mix1.htm)



## Jack-O-Lanterns

Considered a poisonous look-a-like to Honey Mushrooms & some species of Chanterelles. The program will earmark *look-a-likes* & tell you *exactly* “what to look for” to differentiate any mushroom apart from one another using the least number of questions possible.



[https://biodiversityjc.wikispaces.com/Jack+O'Lantern+Mushroom?](https://biodiversityjc.wikispaces.com/Jack+O'Lantern+Mushroom?responseToken=652bb5d52024b9f9be099eb43d4239de7)

[responseToken=652bb5d52024b9f9be099eb43d4239de7](https://biodiversityjc.wikispaces.com/Jack+O'Lantern+Mushroom?responseToken=652bb5d52024b9f9be099eb43d4239de7)

## Beneath Pines (& Other Conifers)

“Often referred to as “pine spikes,” the mushrooms in *Chroogomphus* are mycorrhizal (see next page) partners with conifers, recognized by their blackish spore prints, their gills (which are attached to the stem or, more commonly, begin to run down it), & the orangish to yellowish or reddish color of the flesh in the cap. They can be distinguished from species of *Paxillus* by the fact that the gills are not separable in a layer, & from species of *Phylloporus* by the fact that the gills are not thick, waxy, & yellow. Additionally, the spore print is not blackish in either *Paxillus* or *Phylloporus*.”<sup>15</sup>



<https://en.wikipedia.org/wiki/Chroogomphus>

**Note:** MushroomExpert.com is going to be a primary resource for differentiating lookalikes & for creating the identification keys.

<sup>15</sup> <http://www.mushroomexpert.com/chroogomphus.html>

## Mushrooms That Grow *Under* Trees Are Often *Mycorrhizal* Mushrooms

Mycorrhizae are symbiotic relationships that form between fungi & plants. The fungi colonize the root system of a host plant, providing increased water & nutrient absorption capabilities while the plant provides the fungus with carbohydrates formed from photosynthesis.<sup>16</sup>

Mycorrhizal fungi form symbiotic relationships with plants at the root level. These fungi enshroud *and— in some case—* penetrate the structure of plant roots to form an intimate connection that facilitates a 2-way nutrient exchange.<sup>17</sup>

**Diagram of *The Mycelial Network* of Mycorrhizal Mushrooms Interacting With The *Rootlets* Of The Tree; The “Mushrooms” Are The *Fruiting Bodies* of *The Mycelial Network*, or *Colony***



From UBC Botanical Garden & Plant Research Institute:  
[http://botanyphoto.botanicalgarden.ubc.ca/2010/03/mycorrhizal\\_networks.php](http://botanyphoto.botanicalgarden.ubc.ca/2010/03/mycorrhizal_networks.php)

16 The New York Botanical Garden: <http://sciweb.nybg.org/science2/hcol/mycorrhizae.asp.html>

17 From Radical Mycology: <https://radicalmycology.com/educational-tools/other-fungi/mycorrhizal-fungi-101/>



## “Shelf Mushrooms”

Our *task* of “mapping mushrooms” to create *location-responsive identification keys* is well underway & can already be seen on [www.WildLivingSkills.org](http://www.WildLivingSkills.org). Mushrooms which grow on *live trees or deadwood* which have “no stipe” (“*stipe*” is the technical term for a “mushroom stem”) are called “shelf mushrooms”.

### Mushrooms That Grow *On Rotting Trees*; “Saprophytes”

Mushrooms that grow *on rotting trees* (also wood chips) usually are *saprobies* (“*saprophytic*”). Sometimes saprophytic mushrooms will be growing on something that is *decaying* beneath the tree & thus will *appear* not to be saprophytic— *check the substrate!* “Turkey Tails” (*at right*) are a common (*edible!*) example of a saprophyte.

### *Some Grow On Hardwoods, Others On Conifers*

Parasitic *and* saprobic on living and dead oaks (also sometimes on the wood of other hardwoods); “Chicken of the Woods” is considered a *choice edible*; growing alone or— more typically— in large clusters; summer & fall, rarely in winter & spring.<sup>18</sup>



Turkey Tail {*Trametes versicolor*} mushrooms growing on deadwood.



"Chicken of the Woods" photo posted on Pinterest: <https://www.pinterest.com/pin/507921664195997967/>

18 [http://www.mushroomexpert.com/laetiporus\\_sulphureus.html](http://www.mushroomexpert.com/laetiporus_sulphureus.html)



## When Identifying A *Mushroom*, The First Question The App Asks Is:

Which *best* describes *where* is the mushroom growing?

### On a Live Tree

- **Hardwood** (*non-Conifer*)
- **Softwood** (*Conifer*)

### On Ground Below or Near a Live Tree

- **Under a Hardwood**
- **Under a Softwood**

### On a Decaying Tree or Wood

- *Has a Stipe (stem) with Gills*
- *Has a Stipe with Pores*
- *NO Stipe; Shelf Mushroom*
- *Puffball or Puffball-like*
- *Cup Fungi {Pezizaceae}*

### In a Meadow

- **Has a Stipe** (*stem*) **with Gills**
- **Has a Stipe with Pores**
- **On Another Mushroom**

### On Another Mushroom

### In Dung

## How All This Data Is Integrated

Because the computer is *also considering* the “time of year”, search results are narrowed *even further*, as the computer will only read the “Spring Description” sections of the database entries (*see page 11*) in spring, *Autumn Descriptions & associated photographs* in Autumn, & so on. Mycologists (& mushroom fans of all sorts) will love this because you won't have your “winter mushrooms” being asked about within the same set of questions as your 'springtime mushrooms’; *which cuts the number of “identification questions” in half right there!*

**Example of A Potential Search:** If you were *on a mountain* with your smartphone & a solar panel, & opened up to the “Identify a Species” section of [www.WildLivingSkills.org](http://www.WildLivingSkills.org), & you were trying to identify “a blue flower” at 3000 ft. within *Section 6 of the map on page 13*<sup>19</sup>, the *first question* the app would ask is: “*Which type of biological organism are you seeking to identify?*” You're given the choices: *plant, shrub, tree, grass, mushroom, lichen, moss, mold, or algae.* After selecting “plant”, the app might ask “flower present” or “no flower”. The user would select “flower present”; *then* the computer would ask the flower color. You'd select “blue”, & at that point the search would be narrowed down to *only 1 or 2 possibilities of species that could be growing in your location during the spring or fall depending on what time of the year it is.* This new technology thereby will soon enable humanity to quickly identify nearly any biological organism on the planet to the species within *usually* less than 5 questions.

**FAQ:** Why not just make an app so that you can identify it by *taking a picture?*

**Answer:** A database built in *this* manner is the *first step* to building a *later* version that could be used to identify a species by *taking a photo*, although for *many species* there would *still* have to be a follow-up question to see “if there are small white dots on the underside of the leaf”, *for instance*, to differentiate lookalikes. Building a database in *this way* is *how* we get from “here” to “there”.

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<sup>19</sup> Mojave Desert, U.S. National Park Service: <https://www.nps.gov/jotr/learn/nature/mojave.htm>

## **Step 4: Pay Biological Society Members for Database Entries for Use in Building the 'Database & App'**

Wild Willpower will use *Campaign Contributions* for use in paying members of The California Native Plant Society ([www.CNPS.org](http://www.CNPS.org)), The Mycological Society of San Francisco ([www.MSSF.org](http://www.MSSF.org)), The California Lichen Society ([www.CaliforniaLichens.org](http://www.CaliforniaLichens.org)), & other “Biological Societies” (similar organizations, students) a sum of “\$40 per Database Entry” so that *such database entries can be immediately inserted into The Wild Living Skills Database & Smartphone App*. By offering to pay members will be able to “cash in” database entries *most members* currently have “laying around”, & by doing so *we'll* have credible entries to *swiftly* build [www.WildLivingSkills.org](http://www.WildLivingSkills.org).<sup>20</sup> Each entry must contain “*all information from a minimum of 4 book sources*” so that information broadcast can be *protected via Fair Use* (see page 2), & members will be compensated following *verification* of their entries; entries *to be developed* in the format described on pages 11 & 12.

### ***A Bit About The California Native Plant Society***

Since 1965, CNPS has worked hard to protect California's native plant heritage & preserve it for future generations. CNPS actively promotes the use of science in land use & management decisions through Online Rare Plant Inventory & essential reference book: Manual of California Vegetation, 2nd Edition, both of which are the most advanced resources available for identifying & managing critical habitat in California. CNPS works closely with decision-makers, scientists, & local planners to advocate for well-informed & environmental friendly policies, regulations, & land management practices.



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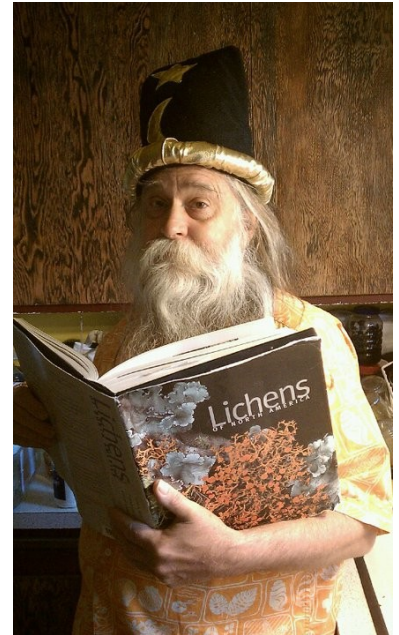
<sup>20</sup> *About California Native Plant Society:* <http://www.cnps.org/cnps/about/>



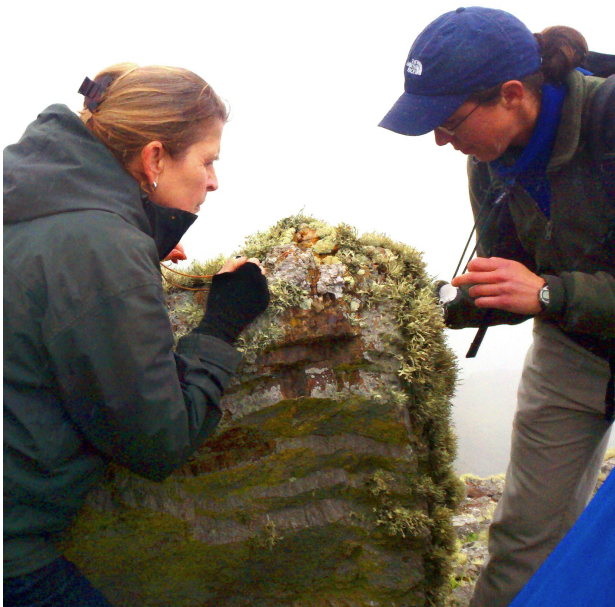
## Bill Hill & The California Lichen Society (CALs)

Bill Hill from *Fairfax, California* is one of the founding members of The California Lichen Society (“CALs”)<sup>21</sup>. Although not *directly* involved with Wild Willpower's mission, Bill played an integral role in educating Ms. Wilson (*founder of Wild Willpower*) on lichen identification & understanding over the years, while *providing a space in his home* for both she and Kevin for many years while they worked *round the clock* to move the projects forward.

They regularly attended CALs workshop together, from where Ms. Wilson documented a repertoire of *expert-identified* photos with *insights* on “what makes this one identifiable” written in the notes to accompany each photo. This documentation laid the foundation for the *lichen section* on The Wild Living Skills Database & Smartphone App. A portion of Wild Willpower's proceeds will be used to offer *payment* to CALs members in exchange for *database entries on lichens* that will be inserted into [WildLivingSkills.org](http://WildLivingSkills.org).



*Former CALs President Bill Hill.*



*CALs members Kathy Faircloth & Shelley Benson examining, identifying, & documenting lichens along the coast.*



*CALs has a Petition to get Ramalina menziesii aka "Lace Lichen" to be California's "State Lichen".*

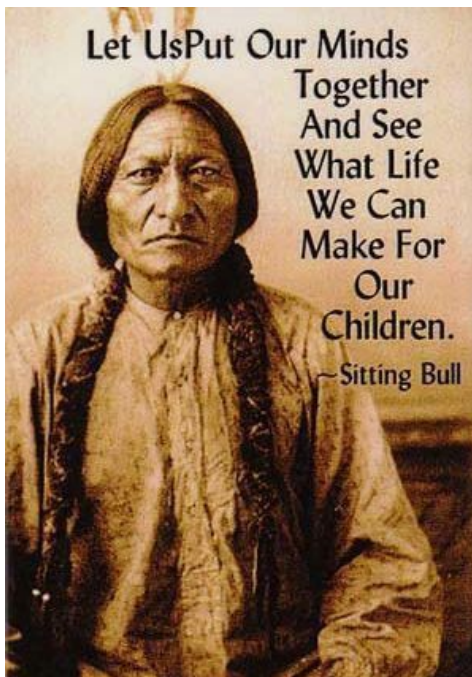
21 California Lichen Society *home page*: [www.CaliforniaLichens.org](http://www.CaliforniaLichens.org)

## **Step 5: Document Alongside & Sponsor Native American Traditional Plant Uses & Wild Living Skills Teachers; Then *Embed Footage Throughout www.WildLivingSkills.org***

We seek to work with & sponsor Native American teachers who would like to be part of *passing on vital knowledge to help humanity through The Wild Living Skills Database & Smartphone App. The coming generations are only going to have the skills we teach them to carry them forth, & the more hands-on survival skills and ecological and cultural wisdom they are given, the better off they'll be. Its time to let the few Native American elders who still carry this *vital knowledge* have a platform to teach & be heard from, & to be honored; *please contact Distance@WildWillpower.org to join our mission.**



*The wolf is the symbol of the "teacher" in many Native American traditions. "Dogs" are a symbol of loyalty.*



*Sitting Bull, Hunkpapa Lakota holy man who led his people to resist unconstitutional U.S. Policies.*

*Graphic source:*

<https://www.pinterest.com/explore/sitting-bull/>



*Richard Lonewolf teaching Cattail {Typha sp.} uses, from "The Forgotten Abundance of America's Wildlands" DVD produced by Wild Willpower:*

<http://www.richardlonewolf.com/original-publications/dvds-w-booklets/the-forgotten-abundance-of-americas-wildlands-educational-dvd-w-laminated-in-depth-ethnobotanical-field-guide/>



## ***Types of Survival Skills To Include:***

- **In-Depth Knowledge Pertaining to the Edible and Utility Uses of Wild Native Plants, Shrubs, Trees, Vines, Mushrooms, Lichens, Mosses, & more— *such as this on***
- **Traditional Native American Plant Medicines & Wilderness Emergency First Aid techniques— allergies, arthritis, broken limbs (sprains, etc.), emphysema, heard conditions, infections (staph, MRCA), psoriasis, & more.**
- **How to Locate, Recover, & Purify Water— *water indicator plants, filtration & purification using endemic materials (native OR introduced to the ecosystem), & other skills.***
- **Ancestral Cooking Techniques (*highly energy efficient!*)— *3-Rock Technique, blast oven, keyhole lay, “nature’s cooking utensils”, natural ovens, rock boiling, steam pit (shown below), & many others.***
- **Emergency and Ancient Fire Making Techniques— *bow & drill (pictured below), flint & steel, hand drill, & many others.***
- **Traditional & Emergency Shelter Building Techniques for All Conditions**



*Processing Buckeye Nut flour using the Steam Pit cooking technique; photo from More Valuable Than Gold by Richard Lonewolf & Distance Everheart.*



## ***Part of Step 4 and 5: Integrate Mushroom Experts***

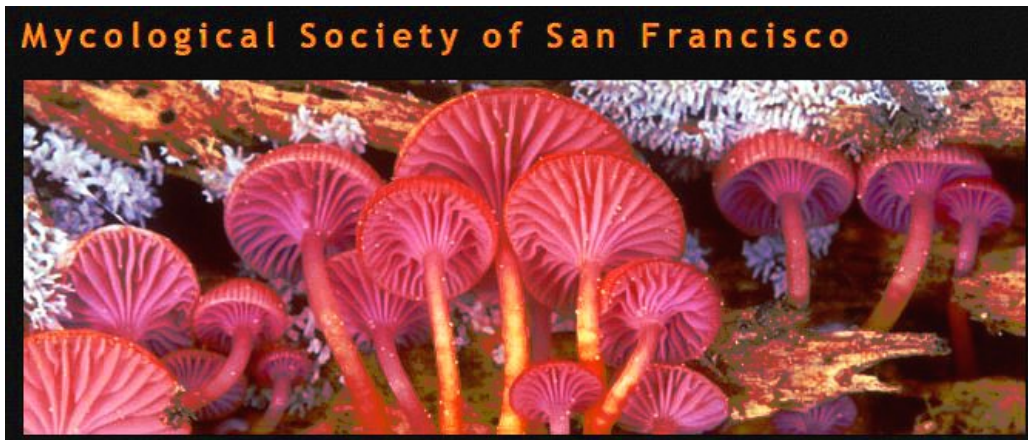
Just as we'll be offering California Native Plant Society & California Lichen Society ~\$40 per database entry (pages 41-42), we'll be offering the same to members of the several “mycological societies” throughout California. Just as we plan to have footage of Native American teachers teaching plant uses & other traditional wild living skills to have the photos & videos embedded throughout the site, we'll do the same with lichen & mushroom (mold, etc.) experts.



Paul Stamets, well-loved founder of *Fungi Perfecti* ([www.fungi.com](http://www.fungi.com)).



Oyster Mushrooms. Source: <https://www.pinterest.com/pin/392094711289149819/>



[www.MSSF.com](http://www.MSSF.com)

## How Animal-Related Knowledge Is Being Integrated

We've found it *rare to nonexistent* for a *wilderness education organization* to include a *vegan perspective* when it comes to wilderness survival. We're building a platform everyone is going to appreciate by making sure this site/app *includes* otherwise-unbroadcast knowledge to ensure people get all the facts:

- **Animal-friendly, plant-based alternative “wild foods” which contain *iron, calcium, B12, protein (all 9 essential amino acids), fat, Omegas 3, 6, & 9, & other need-to-know plant & mushroom-based alternatives.***<sup>22</sup>
- **Historical records of vegan civilizations around the world— *Choctaw Native Americans***<sup>23</sup>, *Cathars*<sup>24</sup>, *Pythagoreans & Early Grecians*<sup>25</sup>, *Buddhists & Jains*<sup>26</sup>, & *many others.*
- **Cases of *wild animal communication*: we've begun *compiling* documentation of people living *peaceably among the wild* with so-called “dangerous animals” *just to get you thinking.***
- **Although Wild Willpower doesn't broadcast hunting or trapping skills, we would like to broadcast *how to procure fallen animals* via utilizing *traditional Native American techniques— leather, rawhide, fur, sinew, soaps, & other procurable materials.***
- **We'd like to broadcast traditionally-accurate *animal meanings & stories* for the sake of uniting intercultural knowledge so that it may be truthfully (*to traditional knowledge rather than hearsay*) & respectfully broadcast so that everyone may have the opportunity to connect with & learn from this knowledge what they will.**



Kevin Richardson, “Cat Whisperer”:  
[www.lionwhisperer.co.za/](http://www.lionwhisperer.co.za/).

22 “Animal-Friendly Alternatives” on *The Wild Living Skills Database & Smartphone App*:  
<http://www.wildlivingskills.org/vegan-resources/native-to-california-plant-based-alternatives-to-animal-products/>

23 International Vegetarian Union, “Native Americans & Vegetarianism”, by Dr. Rita Laws:  
[http://www.ivu.org/history/native\\_americans.html](http://www.ivu.org/history/native_americans.html)

24 “Cathars and Cathar Beliefs in the Languedoc Cathar Church v Catholic Church v Waldensian Church”  
[http://www.cathar.info/cathar\\_catholic.htm#vegetarianism](http://www.cathar.info/cathar_catholic.htm#vegetarianism)

25 International Vegetarian Union, “Ancient Greece and Rome  
Pythagoras (~580-500 BC)”: [http://www.ivu.org/history/greece\\_rome/pythagoras.html](http://www.ivu.org/history/greece_rome/pythagoras.html)

26 Spencer p. 78-84; Tähtinen p. 106-107; *Encyclopaedia of Religion and Ethics* vol. 1 p. 231.

**BELIEVE  
THERE IS  
GOOD IN  
THE WORLD**

*Graphic from "Be The Good": <https://thingsinnecessity.wordpress.com/2013/12/03/be-the-good/>*



## Step 6: We'll Pay You To Help Build The Database

Once the foundation of the Database & App are developed to operate as described throughout the previous pages, people will be able to *use the website/app* to identify biological organisms within less than 5 questions. Once a person has *identified a species*, if we don't already have identification-friendly photos uploaded onto the page, users can *upload their own identification-friendly photos (directions will be given via the site)*. Once verified, an amount of \$25 per photo will be deposited into the user's account! If the person submits significantly *better* photos than the ones we've got, the *old photos will be archived*, & the new ones will be posted instead. Money will then be deposited into *that* user's account. Supporting Wild Willpower helps to support the building of The Wild Living Skills Database & Smartphone App in this way.

The Wild Living Skills Database & Smartphone App will always remain *free to all users*. This technology is a *gift to humanity & all future generations; its the combined knowledge of all our ancestors!*



Photo source: <http://www.alamy.com/stock-photo-lady-photographer-taking-close-up-shot-of-plant-13019540.html>

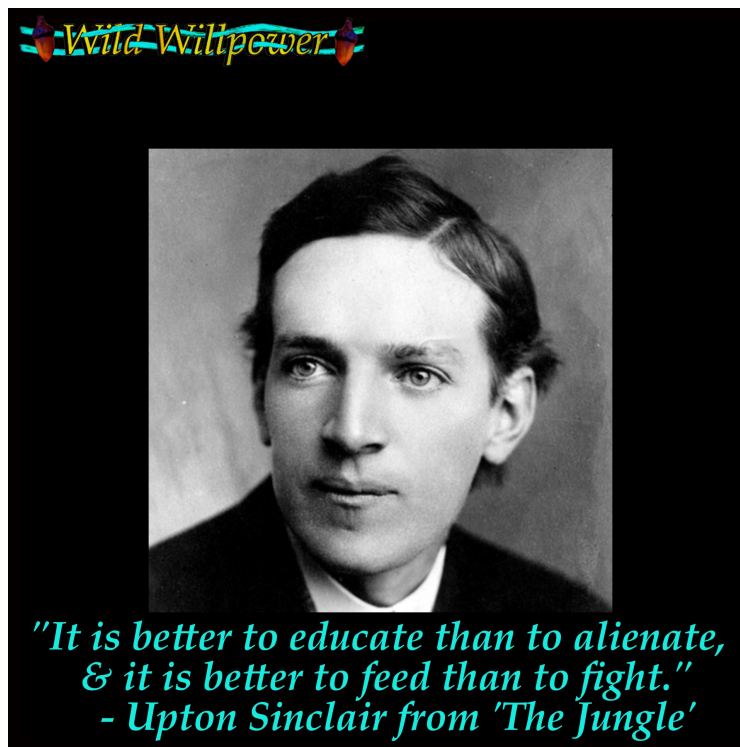
## Step 7: Find Some *Bright Green Sponsors*

*The Database & App is being designed to be “As Useful In The Cities As It Is In The Wilderness!” (users will be able to toggle between “Forest Mode” & “City Mode”). In City Mode, Bright Green Sponsors are indicated on a location-responsive map. Click on any of them to view a special offer that is only available through the site. Special offers are received by Database Users after they show up & state: “Thank you for helping to sponsor The Wild Living Skills Database & Smartphone App!”. Bright Green Sponsors (organizations with ecological & human rights commitments— requisites coming asap) receive a certificate to display at their location following their annual (sliding scale) contribution. Here's an early draft of a certificate (on the “to-do list”) sponsors receive to display at their location, which also helps drive traffic to the website— which in turn drives traffic out to our Bright Green Sponsors!*



## Helping Companies “Make The Transition” So They Can Become Bright Green Sponsors

We plan to carry products such as “styrofoam alternative packaging” to help restaurants—*for instance*— transitions *off* styrofoam packaging & instead *onto* our *styrofoam-alternative* packaging (*which in turn supports “alternative packaging entrepreneurs” who can connect to customers through our program*). Wild Willpower will then allot a percentage of royalties (*each time the company re-orders*) to fund the furtherance of our campaign *including* the further & more improved development of the *Database & App*. Annual fees for Bright Green Sponsors are offered on a sliding scale, which provides *great advertising prices for small businesses* and which are used to help sponsor the teachers, developers, artists, & transcribers who are working to make this happen. Our Bright Green Sponsors program is projected to be available by 2017.





**All research & concepts throughout this pamphlet  
*brought to you by* [www.WildWillpower.org](http://www.WildWillpower.org).**

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**You may find the following *related* publications on our website:**

- Wild Willpower's *Housing Solutions* national Plan & Petition
- Petitioning & **Civil Rights Legal Self-Help Guide**
- *How to Coordinate with Forest Officials to Legally Harvest Wild Food*
- *Introducing... (heirloom & Native Seed) Homesteading Starter Kits!*
- Our line of **Highly-Efficient Outdoor Gear**
- **Wild Willpower's Original Publications**
- *Who Is Wild Willpower, & How To Help*

**Please contact [Distance@WildWillpower.org](mailto:Distance@WildWillpower.org) if you have any questions, ideas, *to collaborate, or* to offer a campaign contribution &/or become a monthly sponsor. We can only make this happen with *your* help.**