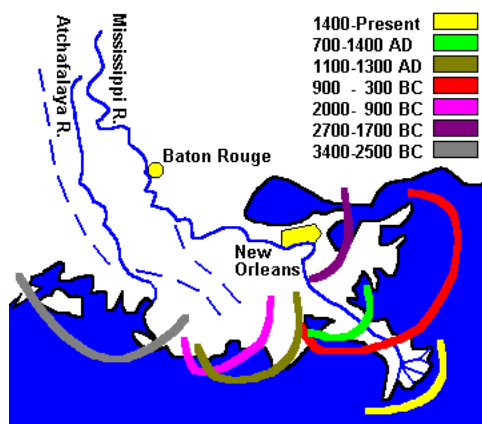


Why is our soil on the south shore of Lake Pontchartrain different from the Northshore and much of the Southeast? Where did it come from and how can we work with it? There are at least a few interesting factors, and so we might ask ourselves the following. What is the relationship between:

- - planting on the latest soil deposited by the Mississippi River
- - the pattern revealed by the natural range of the plants shown in the BONAP maps below
- - the reluctance of native azaleas, blueberries and other species to flourish for many gardeners south of the Lake, while they may appear naturally in woods and fields north of the Lake, just twenty or so miles away.
- - the seasonal yellowing of some of our trees' and shrubs' leaves
- - your philosophy of working with nature vs. your desire to have a bulldozer come in and scrape it all away and have it replaced with dumptrucks full of rich loam that you don't need a 24 pound iron railroad bar to puncture in order to plant something

Taking it from the top...

1) You may have seen this map of the Mississippi River deltas over the past 4,000 years or so, before it was constrained within the current levee and river control structure system. New Orleans is sitting on parts of these deltas of silt, sand and shells - - some of the newest land in the world.

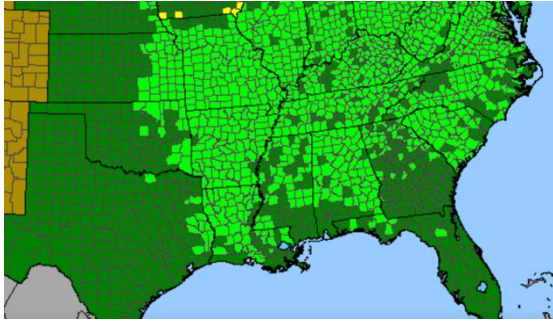


2) The Mississippi River's water and its sediment are naturally somewhat alkaline, (with a pH over 7, often 8 or a little above), and is thought to have been so prehistorically, because of the large number of shells (and ground up shells of clams, etc.) that it carries. If you get your soil tested, this is why it may show a high pH, (ours was about 8.2) and also a high percent of calcium ions, from the calcium carbonate of the clam shells. Calcium is actually a minor nutrient of plants, but in large amounts can bind up more major nutrients, making them unavailable to some acid soil-loving plants.

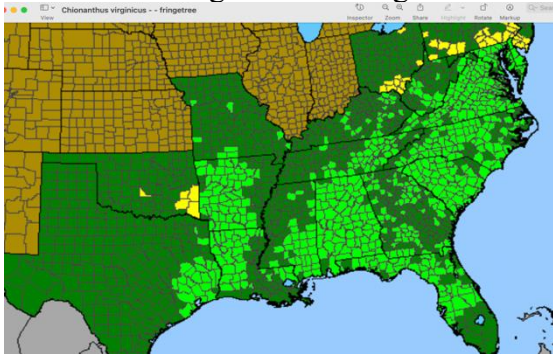
And so we see the following pattern, time and again, of all of the species that do not naturally occur in these newer, more alkaline soils. Here are a few such plants, with their natural range shown on the BONAP maps, not much south of the Lake.

Asimina triloba - - pawpaw

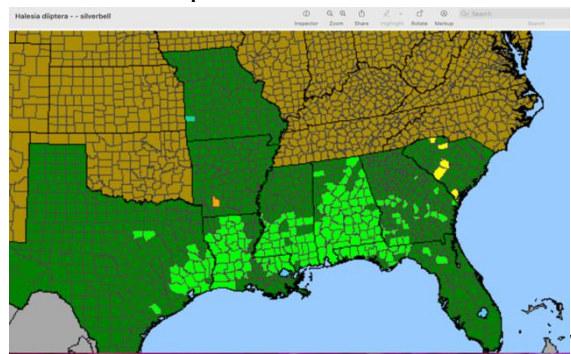
Rhododendron - - all native azalea species



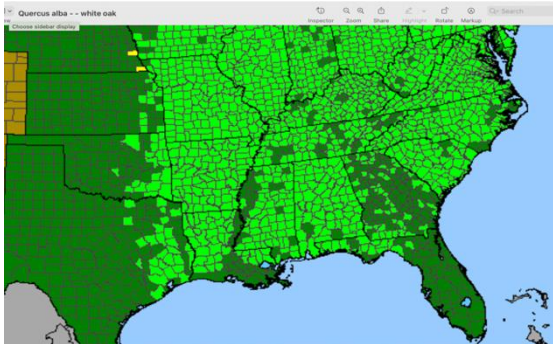
Chionanthus virginicus - - fringe tree



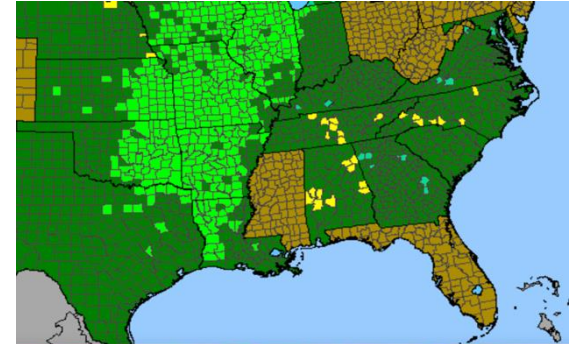
Halesia diptera - - silverbell



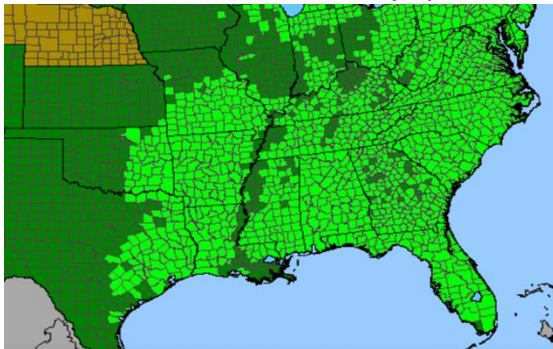
Quercus alba - - white oak



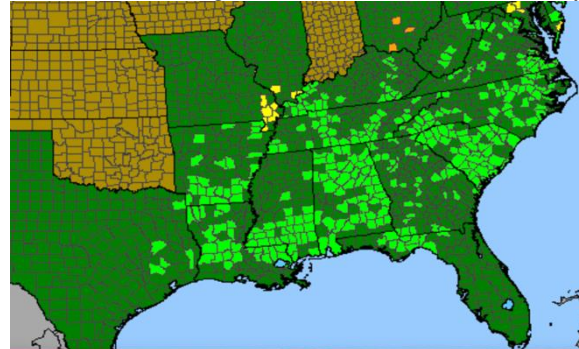
Echinacea pallida - - coneflower



Vaccinium - - all native blueberry species



Malus angustifolia - - southern crab-apple



- 3) If you live in New Orleans, or any other area that was settled a hundred or more years ago, who

knows what was going on in your yard before you arrived? I've lived in a few places where for some people, the dump was as close as the back yard, as there was no official solid waste transfer station to haul it to. (Check out what shows up in peoples' old outhouses when excavated.) But I'm thinking more of the busted up concrete or plaster, etc. that can also raise the pH. A part of our yard was a clamshell driveway, and another part where you find bricks, chunks of concrete, broken glass and ceramics, of course, and all sorts of rusty hinges, nails, etc. (A 6' long drive shaft is one of my prizes. Taking a powerful magnet to your beds can be fun, btw.). The solid bed of clamshells is probably not a midden from human activities, but according to some older local folks, brought in from the Shell Beach area and dumped there by the truckload for a solid place to park. Those Rangia clamshells are the same ones used to give NO roadbeds some stability, and will laugh at attempts to penetrate them with shovels or posthole diggers - - thus the big iron bar. And how much motor oil was dumped here over the years? And on and on.

- 4) The good news is that many plants are well-adapted to our south shore alkaline soils, and can be

grown without much or any challenge. Speaking of iron, it's iron chlorosis that can often be the reason for yellow-ish leaves on some acid soil-loving plants. The iron is present in the soil, it's just that the plant can't take it up due to the high pH. From everything I've read and tried, foliar feeding with common iron-based products like Ironite or Staygreen, etc., will not correct the situation. The soil has to be more acidic for the nutrients to be taken up. (It's interesting that the yellowing seems to have a seasonal basis, that either soil temperature or perhaps the bacterial/microflora activity of the soil community is involved. Here, I'm just guessing.)

- 5) So short of replacing the soil, how to bring down the pH? Almost all of the reliable solutions are

somewhat long-term, a few years. Here's what I've gathered from reading and my own experience:

- Use leaves, etc. to mulch and create an active, living soil community as they break down, the humus

either bringing the pH down slightly over the years, or at least making the nutrients a little more available. I've seen the affected plants get a little greener and less yellow over the years.

- Use some compost and/or damp(!) not dry, peat moss in the planting mix. Like the decomposing

mulch, compost is not by itself acidic, but will buffer the activity of the problematic ions to make the iron, etc. more available to the plant. It will also bolster the soil micro-flora and -fauna to help maintain a living soil.

- Now about peat moss... you may be aware of the debate as to how eco-conscious it is to mine peat

from environmentally sensitive bogs in Canada. And I have to agree that it is not. I've used it in the past, but have decided to stop. Others will argue that peat bogs are still being formed to this day, and so peat is a renewable resource. But this seems disingenuous, as those new bogs are not yet supporting the special flora and fauna of the prehistoric ones. Planting new redwoods is not the same as not cutting down the ancient ones. That's my take on it, but all that is up to you.

- My strongest ally: granular sulfur, or sulfur prills - - elemental sulfur, as in 80 to 99% actual Sulfur, not

some value-added product. Nurseries and big-box stores sell 5 or 20 pound bags, with the larger bags going for just a little over \$1 per pound. You just sprinkle a little around your acid soil-loving plants, work it under the mulch so the little yellow dots disappear, water it in, and just don't let it pile up in direct contact with stems or plant tissue. Again, this is a long-term process, but it works.

(Yeah, sulfur might also be nonrenewable, but since it's used by the many tons every year by US steel, etc. industries, I'm going to relax about this one.) Note: be careful not to purchase sulfur dust, as it can oxidize (burn) spectacularly.

- - back to peat moss for a moment. If you do use it, you can soak some in a bucket of water to make a

dilute tea to water the certain plants with. I don't know of any reliable directions or proportions, just err on the side of caution and dilute it a bit.

- - I don't use commercially available aluminum sulfate, often sold to get one's Hydrangeas to bloom

blue instead of pink. It's the fastest-acting to lower pH, but can also cause aluminum toxicity if overapplied.

- 6) Just to mention, some landscapers jokingly (or not) actually have recommended digging up the

current soil and replacing it with something more favorable to the intended plants, according to some local accounts. If all you have is an old concrete slab from a driveway or shed, what else can you do? And, as native plant grower Rick Webb once remarked to me, sure, you can grow just about anything if you amend the soil long enough. He pointed out all the azaleas and camellias happily growing in the Garden District, where they've had 100 years to get the soil more friendly to those plants.

- 7) Philosophically and practically, how much do you want to change the soil, in order to accommodate

plants that might not naturally occur here? If all you have is a moonscape or post-industrial wasteland for a yard, you might obviously need to change something. It's hard not to get excited about trying to grow certain plants. But considering that question or not is all up to you.

And I just have to ask - - does anyone else find marbles wherever they dig in the yard?