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Comments: I am writing to you about including river cane forests in the upcoming forest plan for Biden's National Forest Plan Amendment for old growth forests. River cane fits the management plan perfectly for addressing old growth forests with cane ecosystems having a rich prehistoric and historic relationships to the indigenous people as well as to the Euro settlers who turned the river cane ecosystems into agricultural fields and feed lots for livestock.

River cane *Arundinaria gigantea* is one of four indigenous species of bamboo to North America with river cane ecosystems now considered endangered by botanists and tribal people with the cane ecosystems now covering less than two percent of the initial area it once covered prior to this country being "discovered" in 1492.

River Cane (*Arundinaria gigantea*) is an indigenous plant to North America with a rich history dating back to the archaic period (caveman) with the leaves of the plant found in woolly mammoths' stomachs. River cane torches have been found deep within caves from this ancient period as well with the practice continuing into the colonial period.

River cane was used extensively by prehistoric Natives populating southeastern North America prior to contact with the plant utilized for shelter, food, ceremony, and weaponry. River cane was used in the wattle and daub method for house building with river cane also made into mats for use on walls, floors, ceilings, and roofs. Cane culms (shoots) were used to make fish weirs, traps, bedding, blowguns, arrows, and baskets for obtaining and preparing food. River cane was also used for blow tubes, whistles, and flutes for ceremony while cane was used for shields, knives, arrows, and armor for weaponry.

In the 18th and 19th centuries numerous accounts on the sizes of river cane ecosystems found in the southeastern United States reported they would cover one to nine miles along rivers and streams with the ecosystems stretching miles back into the landscape establishing giant biomes creating magnificent hunting grounds for indigenous tribes (Roosevelt 1908, Bartram 1791). Native Americans from southeastern tribes such as the Cherokee, Choctaw and Chitimacha continue the age-old tradition of making baskets and other material culture items from river cane.

Cherokee categorization and language structures regarding river cane differentiates one piece of river cane with cane brakes. The Cherokee name for one piece of river cane is *ih* meaning "one or only a couple river cane" while the Cherokee name for canebrake is *dihya* and it means "whole bunch of river cane" indicating a large amount of cane or a cane brake depending on the context the conversation provides.

During the 18th and 19th centuries farmers and ranchers used river cane ecosystems as feedlots for livestock with all sorts of academic research of the time informing ranchers how river cane as a food made cows have larger and healthier calves, fattened up livestock, and provided a means of storing livestock during winter months. It must be noted that river cane leaves have are about 20% protein and an excellent source of food for livestock. Farmers also found the sites where river cane was growing made excellent fields for crops and would destroy the cane for the land.

River cane (*Arundinaria gigantea*) is a monopodial bamboo that grows in extensive stands of erect culms (shoots) often referred to as canebrakes. The tall slender river cane stands arise from rhizomes and reach heights up to 10 m creating evergreen ecosystems. Currently, canebrakes are remnants of millennial ecosystems that were utilized by Native Americans as well as various flora and fauna creating a distinct biota. Canebrakes are considered critically endangered ecosystems with a 98% decline of river cane ecosystems as measured through area loss or ecological degradation (Noss et al. 1995, Brantley, Platt 2001).

The rapid decline of river cane after colonial contact after the practice of canebrakes to feed cattle and hogs followed by the clearing of cane brakes for the rich soil cane grows upon for revitalized farm land greatly impacted and accelerated the demise of canebrake ecosystems even further. Subsequently, many flora and fauna associated with river cane ecosystems went extinct, such as the passenger pigeon, which once roosted extensively in canebrakes. The American Burying Beetle (*Nicrophorus americanus*) and the Ozark Big Eared Bat (*Corynorhinus townsendii ingens*), both of which are listed as federally protected and endangered species, are similarly dependent upon dwindling river cane ecosystems for food and shelter. These species are believed to represent only a small proportion of indigenous fauna whose viability depends on the conservation and restoration of cane brakes in the Central US.

River cane has historically provided riverbank stabilization when flooding occurs in creeks and rivers while acting as a filter in the collecting of sediment and bioaccumulations during these episodes. Canebrakes provide many functions to the environment through providing sustaining and environmentally "green" riparian zone rich in Cherokee culture. Research conducted by Southern Illinois University found that canebrakes can significantly reduce nutrients and toxins from surface runoff. Research utilizing river cane as a riparian system for agricultural purposes discovered that it-canebrakes, not only reduced nitrogen and phosphorus from surface runoff but in the groundwater as well. In Illinois, research canebrake ecosystems were effective in reducing ground nitrate levels by over 90% and dissolved phosphorus concentrations by 28%. (Schoonover 2003, Blattel 2005)