

Outline for Douglas Fir Talk

for Wilderness International

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Amazing Facts about God's Douglas Firs?

- The Douglas Fir is a tall, coniferous, evergreen tree, native to western North America and eastern Asia. This means that the Douglas fir is also native to Oregon. Douglas Firs are cone producing trees that *do not* lose their needles in the winter and as a result are able to fix carbon and methane pollution from Earth's atmosphere and release life-giving oxygen into Earth's atmosphere, all year round.
- The Douglas fir has very distinctive cones which are very symmetrical like spruce trees but with trilobed bracts (bracts are modified branches) which are liken to little mice resting in each of the pouches in the cone. [Allegory to identify in field] [Tell the story of mice and show mice poster] [Bring in some Douglas fir and spruce cones].
- The Douglas Fir is in the *Pinaceae* family, the Pine family. The Pine family includes not only what we typically think of as pine trees like the Western white pine and Ponderosa Pine, but also the cedars like the Biblical Cedars of Lebanon and Atlas Cedars, spruces like the Colorado Blue Spruce and the Sitka Spruce, firs like the Grand Fir and Subalpine Fir, just to name a few. Our Douglas Firs, which are in a genus of their own which I will talk a little more about later.
- Within the *Pseudotsuga* or Douglas fir genus there are many species of Douglas Firs. A genus is a taxonomic classification term which means the closest relative of a given species. The species of Douglas fir native to Oregon is the *Pseudotsuga menziesii* [sude-suga men-zi-zi-eye]. *Pseudo* is the Latin root for false. *Tsuga* in Latin means hemlock. *Menziesii* comes from the Latin word for zigzag. *Pseudotsuga menziesii* means "zigzag false hemlock" in Latin because this species of Douglas fir has very distinctive zigzag bark and was once misclassified by scientists. *Pseudotsuga menziesii*, is very distinctive with very thick, zigzag bark, liken to the armor of a medieval knight, can grow up to 100 meters tall, has a vast geographical range, can grow at a variety of altitudes form sea level to 2,9000 meters above sea level and can grow in places with both high and low rainfall. *Pseudotsuga menziesii* has this very distinctive, impressive and magnificent bark as an adaptation to resist forest fires and diseases and was given a root system which is very shallow for a tree of such a great height. For the rest of the talk, I will be referring to the Douglas Fir species which is native to Oregon. Their thick bark serves as a barrier protecting the delicate insides of our fir from fire and disease and the zigzagging breaks up the bark of our tree, helping to contain the spread of fire and disease.
- The Douglas Fir is also known as a pioneer species, it requires nearly full sun for its best growth and usually puts down roots in areas that have been burned, logged, or otherwise cleared of competing vegetation. In fact, in the Hoyt Arboretum, where I volunteer as a tour guide, herbarium archive assistant and citizen scientist, there are some impressive stands of hundred

year-old Douglas firs growing naturally on arboretum land. This is because there was a major forest fire in Washington Park in Portland, Oregon in the early twentieth century which wiped-out most of the existing old-growth temperate rainforests in Forest Park. Although, one can still find individual old-growth trees and even whole stands in Forest Park as well as individual Douglas Firs which came-up after the forest fire, however.

- It is also important to talk about the ethnobotany (study of human plant uses) of Douglas Firs. Coastal First Nation communities in the Pacific Northwest used Douglas fir wood and bark for fuel. Douglas fir wood was also used for spoons and for caulking canoes and water vessels, just to name a few. Believe it or not, the pitch (needles and other detritus) like that of many coniferous trees was used to make a medicinal salve for wounds and skin irritations. Specific tribes like the Nuxalk and Quinault of the Pacific Northwest made torches from Douglas Fir's pitchy heartwood. Nuxalk is a native tribe in British Columbia and the Quinault is a native tribe in Washington State. The Comox (another Pacific Northwest tribe in British Columbia) prepared dogfish by stuffing a dogfish with rotten, powdered Douglas-fir and buried the dogfish in a pit lined with rotten, powdered Douglas fir flesh. In our society, some telephone poles and many Christmas trees are from Douglas firs. The Douglas Fir is only native in North America to the coastal bioregions of the Pacific Northwest between the Cascades and the Pacific Ocean and is only found in the more central and southern portions of the Pacific Northwest including Oregon, Washington State, British Columbia and Northern California. Douglas Firs are not native to Alaska.

What Do Douglas Firs Tell Us About God?

- Douglas Firs are in the pine family. In Judaism, pines are used for Jewish coffins as it is the least expensive wood. The Jewish religion is against cremation and insists on burial of the dead and preservation of the body for resurrection in the Messianic Age. For this reason, pines can also symbolize: the equality of all creatures before God. In Ecclesiastes in the Hebrew Bible it says, "As for the children of men, it is God's way of testing them and of showing them that they in themselves are like beasts [in regard to death]. For the lot of man and of beast is one lot; the one dies as well as the other. Both have the same life-breath, and man has no advantage over the beast..." (Ecclesiastes 3:18-22, NRSV-Catholic Edition). [What humans have in common with the rest of God's Creation is that both experience a bodily death]
- The word origin of Pinaceae (the pine family) has its word origins in Ancient Greek, the same language the Bible's New Testament was written in. So everytime you see a member of the pine family like our native Douglas Firs to the Pacific Northwest, a member of the pine family can serve as a reminder that both the Book of Nature and the Holy Book were written by the same author, God, the Creator, Sustainer and Redeemer of the Universe and are both subsequently sacred.
- Douglas firs like all trees tell us that there is a meaningful and purposeful, life in death. When a tree dies, a tree can remain standing as a snag and provide critical food and shelter for wildlife of all kinds for many years after its own bodily death. For example, standing Douglas Fir snags provide nest sites for owls including the highly endangered northern spotted owl which is still in

trouble because despite the valiant efforts of environmentalists in preserving spotted owl old-growth forest habitat in the 1990s, environmentalists ended-up only preserving sub-optimal habitat for spotted owls, with their optimal habitat still unprotected, coupled with spotted owls currently being crowded-out by barred owls who are currently expanding their range. This means that the northern spotted owl is still not out of the woods yet. This means that saving Douglas fir snags is critical to saving northern spotted owls from extinction. Even when a tree falls, a tree can provide habitat and home for the creeping things of the ground for many more years after its own bodily death. When a tree decays, the tree becomes detritus, dead organic matter, providing nutrients for new life for even more years after its own bodily death. When a tree falls into a stream, a tree can provide critical habitat for aquatic life. A dead tree can even be a womb for its own offspring, providing good soil on which its own seeds can germinate, live and procreate, all the days of their lives, known as a nurse log. New trees and plants can also grow on tree stumps too. God our Teacher reveals to us through our knowledge of nurse trees, that there is in fact such a thing as the Resurrection of the Body. That we too, as humans, when our own bodies die, will also discover a meaningful and purposeful, life in death. This is because our Risen Messiah Jesus, who is both our Creator and our Redeemer, has completed Creation through death; with death, there is also rebirth.

- Finally, I want to talk about what I have personally learned from God and about God from Douglas Firs. As a Back Easter, I was even in awe of the second growth stand of mature Douglas Firs in Washington Park when I first visited Portland on a summer vacation to Oregon, several years ago. I was in awe of the impressive heights of the Douglas Fir canopy, the cathedral-like nature of the Douglas Fir forest and the unique magnificence of thick zigzag Douglas fir bark. I knew from the beginning that these trees were really something special. Since then, I have been in true old-growth Douglas fir forests with canopies so high I cannot even see the crowns of these gentle green giants. Onetime even witnessed with a park ranger in Mount Saint Helens National Monument, an old-growth forest with Douglas Firs and Western Red Cedars which dates back to the time of King Arthur in the early Christian middle ages. It was a living link to my Christian ancestors. Since, God has blessed me with the opportunity to volunteer at the Hoyt Arboretum since moving to Portland, I have been blessed with many opportunities to learn more about the fascinating natural history of Douglas Firs from experts in their fields. This knowledge as led me to appreciate Douglas Firs even more as a Christian. For example, Douglas Fir's whimsical cones with mice like appendages have captured my imagination helping me to better appreciate God's Creation as a beautiful work of art. A wondrous work of art which was not created by human hands. Or by human wisdom or understanding. This creature was created by our loving God, Jesus. The arboretum staff showed me a particularly mature Douglas Fir on arboretum land which in the mid-twentieth century was struck by lightning. Even through this lightning strike left a huge gash in this majestic Douglas Fir, this particular tree was able to survive and thrive through God creating new plant cells for this tree. Today this tree not only lives, but is even thriving, providing habitat and home to countless spiders who like to hide and build their webs in the deep crevices of this century old Douglas Fir. God affirmed for me through this amazing Douglas Fir tree, the possibility of the hope for the continued resilience and restoration of All God's Creation through giving me a little window into how the Earth as a

whole, heals and regenerates. Most importantly, God has taught me through Douglas Firs about his all-powerful timeless love for his beloved Creation and the limits of the individual. I experience Douglas Firs as tabernacles of the Living God.

- God is able to give me all these insights about the theological meaning of Douglas Firs because of Darwin's Theory of Evolution. The Theory of Evolution, especially the plant systematics branch of the Theory of Evolution, the classification of plants based on evolutionary genetics, allows me to connect with All the Plants of the Bible and their historical and symbolic presence in Holy Scriptures through plant species which are close evolutionary relatives in my own local bioregion. For example, the Douglas Fir is in the pine family, the same family as the Cedars of Lebanon, meaning Douglas Firs have a theological concordance with the Cedars of Lebanon, so every time I come across a Douglas Fir in my life journey, I am reminded of the Cedars of Lebanon in the Holy Bible and their meaning in the Holy Bible.
- I also prayed and mediated in a Jerusalem pine grove also when I was in Israel this year. Jerusalem pine is another member of the pine family. I experienced the same deep Peace of Christ in this Jerusalem pine grove in the Holy Land that I oftentimes experience in the Douglas Fir groves right here in the Pacific Northwest.
- Also on my most recent extended stay in Israel, I discovered that the Cedar of Lebanon is not even native to Israel. They were believe it or not introduced to Israel by King Solomon himself where he not only used Cedar of Lebanon wood which he had towed all the way down from Lebanon and brought into the Holy Land through the ancient Port of Jaffa which I personally visited while there. He also planted live Cedar of Lebanon in Israel for he wanted to replace the native sycamore figs with Cedar of Lebanon for Solomon liked Cedar of Lebanon more than the native sycamore figs. Sounds familiar? The Cedar of Lebanon is an invasive species of plant mentioned in the Bible. I also learned that King Solomon also modeled the First Temple of the Lord after a Cedar of Lebanon forest where Solomon was even able to capture the intricacies of this pine forest ecosystem including not only drawing inspiration from these impressive pine trees for building a place in the woods and for the temple pillars, Solomon even captured three main layers of the forest (floor, understory and canopy) and the openings between the trees. Solomon even replicated moss through the fossilized remains of an extinct red coral-like creature quarried locally near Mount Carmel. I even learned that Cedar of Lebanon is endemic to moister mountainous climates of Lebanon then the temperate woodlands of Israel. Meaning that the Cedars of Lebanon have more in common with our Douglas Firs then merely sharing a family. Both the Cedars of Lebanon and our Douglas Firs were both lovely placed in a similar ecosystem by Jesus our Creator God.

Why Do We Care About Douglas Firs?

- **The Ecological Value of Douglas Firs for Tending and Keeping God's Amazing Creation:** The distinctive zigzag bark of Douglas Firs provides nooks and crannies for bats which are also in trouble. The impressive branches of Douglas Firs provide nesting habitat for endangered marbled murrelets (a majestic open ocean bird who comes inland each year to nest in old-growth temperate rainforests). On my family's summer vacation along the southern coast of

Oregon, God blessed me with the opportunity to personally witness a wild marbled murrelet making a pilgrimage from the open Pacific Ocean to her inland nesting ground in old-growth temperate rainforests. The impressive branches of Douglas Firs also provide a habitat and home for two native mammal species, martens and fishers. I also have personally witnessed on Hoyt land that the second growth mature temperate rainforests which are coming back because of Douglas Firs reclaiming land ravaged by forest fires and deforestation because of farming and various public works projects and are allowed to still stand thanks to the Hoyt Arboretum management practices, seem to also support native songbird habitat. I have personally witnessed a substantial resident population of towhees, juncos and chestnut sided chickadees on Arboretum land. I have also run into in the Washington Park forest, red breasted nuthatches, a brown creeper, a Pileated woodpecker, a Rufus hummingbird, a Barred Owl and even a hermit thrush, just to name a few. Also the Hoyt Arboretum because of the Douglas Firs is also one of the only places within the city limits of Portland where I come across Douglas Fir squirrels who eat Douglas Fir cones. You can also see Douglas Fir squirrels within Portland at Tyron Creek State Park. Mice are known to eat Douglas Fir cones too. Douglas Firs also provide habitat and homes for insects which provide food for bats and birds alike. I have also observed that Douglas Firs also provide habitat and home for many different native plant species from small understory trees to shrubs to vines to wildflowers to ferns and mosses, as well as lichens and fungus. Douglas Fir is not just a particular kind of a tree; Douglas Fir is a whole ecosystem in need of protection, stewardship and restoration. Douglas Fir is not just an ecosystem; Douglas Fir is an irreplaceable tile in the whole mosaic of temperate rainforest bioregions in the Pacific Northwest. Douglas Fir can also grow on the dry side of mountains too.

- **Humans Benefit from Tending and Keeping Douglas Firs:** One single 36-inch diameter at breast height Douglas fir tree provides a total of \$218 worth of benefits every year the tree is not cut-down and left standing. One single 36-inch diameter at breast height Douglas fir tree cleans the air by reducing atmospheric carbon by 570 pounds. One single 36-inch diameter at breast height Douglas fir tree raises property value by \$49. One single 36-inch at breast height Douglas fir tree reduces your electric bill by 128 kilowatt hours. One single 36-inch at breast height Douglas fir tree intercepts 5,410 gallons of stormwater runoff. The Douglas fir stands for the environmental, economic and health benefits of all mature trees.
- **God's Douglas Firs Have Certain Needs which we are called as Christians by Jesus our Creator to tend to:** Douglas Firs are in trouble because of human mismanagement of forests going all the way to the first European settlements in Pacific Northwest on both private lands and public lands alike. Probably by Native Americans as well though not as commonly discussed and impact not as significant. As a result of this predominately European colonialist effort, most old growth Douglas Firs have already been cut down. Old growth is defined as a tree at least 180 years old. So it takes Jesus, our Creator, Sustainer and Redeemer, a really, really long time to replace old-growth once lost. What precious little old-growth trees which are left absolutely must be preserved and protected. Unfortunately, what precious little old-growth which is left is still at risk of being cut down for forest products. Monocultures of Douglas Firs have also been planted. Monocultures undermine the biodiversity of a very complex, intricate ecosystem, Douglas Fir temperate rainforests. Wildfire suppression policies have also been very wounding to Douglas

Firs. Certain types of forest fires (like controlled burns) are needed to keep Douglas Fir forests healthy, keep bark beetles in check, kill old trees and open up cones so Douglas Firs can release their seeds and procreate. Wildfires create openings in the Douglas Fir forest canopy creating new growth and highly productive wildlife habitat which is equivalent in ecological value to old-growth Douglas Firs when it comes to plant biodiversity and biomass and the creation of extremely valuable dead and dying Douglas Firs for wildlife, as well as insect habitat. In other words, wildfires are how Douglas Fir forests live and have their being. Forest fires are how Douglas Fir forests heal and regenerate. Forest fires even help Douglas Fir forests to breathe. If trees are the lungs of the forest, forest fires are then the noses of the forest.

How Can We Care About Douglas Firs?

- The Hoyt Arboretum Friends have a poster on the double doors which all visitors to the Hoyt Arboretum use to enter the Hoyt Arboretum Visitor Center in Portland, Oregon's Washington Park which explains the numerical environmental economic value of Douglas Firs when Douglas Firs are left standing.
- Reduce, Reuse and Recycle all paper when possible.
- Buy paper made from post-consumer waste when possible.
- If you are a landowner and you have a tree on your own property with a more than 12-inch diameter at breast height make a habit when possible to spare the life of your tree. If you live in an apartment, if possible, join and get active in your local citizenship association and find-out about any possible development, logging, tree farming, fire suppression or tree removal proposal in your community.
- Planting trees is not as helpful as preserving mature trees and preserving mature and old-growth forests because seedlings cannot replace the ecological services lost by mature trees, stands and forests. Planting seedlings can actually create a carbon footprint when pesticides and fertilizers are used to help the seedlings become rooted. So if you are planting tree seedlings, make sure you *do not* use pesticides or fertilizers but rely on organic remedies for potential pest problems and soil nutrient deficiencies. Also, for planting trees to be ecologically beneficial, let alone, ecologically benign, make sure to plant only native trees and shrubs when possible, plant trees which are beneficial to wildlife and can be used as a human food source when possible and please *do not* plant water loving trees in regions susceptible to droughts. Plant only drought tolerant trees, shrubs and other plants in drought susceptible regions.
- Most importantly, feel free to delight in mature trees and mature and old-growth forests. Your knowledge of their existence might just save their life. Positive motivations like beauty, wonder, faithfulness and love, not to mention, stewardship of-course, are more powerful sustaining motivators to live more sustainably with the Earth than negative motivations like fear and anger and guilt and shame. Wanting to be a good steward of God's Creation and being in awe of God's Creation is just as good of an ecological motivation as anything else. When we do everything in our own power to beautify God's Creation, whether we delight in God's amazing Creatures or we seek to live more sustainably with God's beloved Creation in our own personal lifestyle choices or we become informed about important environmental issues or when we get civically

active in our own communities or even when we pray for God's amazing Creation, we bring glory and honor to Jesus. Jesus is our just, merciful and loving Creator, Sustainer and Redeemer of the Entire Universe, our source of healing and empowerment and our teacher, guide and advocate as peoples of the Christian faith.

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