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(54) **CLEAN FOREST REGION CERTIFICATION**

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(76) Inventors: **Philippe R. Murcia**, White Plains, NY
(US); **Robert J. Hess**, Stamford, CT
(US)

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Correspondence Address:

**GIBBONS, DEL DEO, DOLAN, GRIFFINGER
& VECCHIONE
1 RIVERFRONT PLAZA
NEWARK, NJ 07102-5497 (US)**

(57) **ABSTRACT**

Certification of the cleanliness of a property with respect to the amount of waste wood remnants (deadwood) that are present on the property relative to the amount of healthy biomass tree species present on the property. Proof of the certification of cleanliness may be given to the owner or resident of the property where the certification took place. Such proof may be submitted so that the owner or resident of the property receives a monetary benefit. The submission may be to an insurance company, which lowers the premium to the insured for risk of loss. The submission may be to consummate the sale or purchase of air rights over the property that satisfy carbon monoxide and carbon dioxide emission levels that are set by domestic or international standards.

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(60) Provisional application No. 60/376,294, filed on Apr. 26, 2002.

CLEAN FOREST REGION CERTIFICATION**CROSS-REFERENCE TO CO-PENDING PATENT APPLICATIONS**

[0001] Priority is claimed from provisional application serial No. 60/276,294, filed Apr. 26, 2002.

BACKGROUND OF THE INVENTION**[0002] 1. Field of the Invention**

[0003] The present invention relates to certification that wooded property have only a volume of sickly and fallen trees that are needed to ensure forest regeneration.

[0004] 2. Description of Related Art

[0005] A forest region, if left uncleansed of waste wood remnants that arise from either natural forest destruction or leftover from logging operations, may become sickly or increase the likelihood of becoming a source for harmful environmental damage.

[0006] For instance, the following hazards may arise due to the presence of an excessive amount of waste wood remnants on property:

[0007] Fire, due to ignition of dry waste wood remnants during times of little rainfall.

[0008] Bacteria and fungi growth that is environmentally harmful, because such growth thrives on waste wood remnants in shady areas such as within forests.

[0009] Water runoff pollution, which arises from rainwater runoff across the surface of wood waste remnants that carry an pollutants away into forest streams.

[0010] Carbon monoxide and carbon dioxide emissions given off from the decay of waste wood over extended periods of time.

[0011] The latter is considered a form of air pollution that the Kyoto protocol treaties imposed on signatories to reduce. Countries with vast tracts of forests with a plentiful supply of waste wood remnants are more at risk of exceeding permissible carbon monoxide and carbon dioxide emission from their territories that are countries whose forests are more sparse or non-existent. The Kyoto protocol treaties created clear air rights that can be bought or sold. This clean air rights market tends to encourage those to cleanse the air by offering incentives to lower carbon monoxide and carbon dioxide emissions and penalties for higher carbon monoxide and carbon dioxide emissions. The polluters may purchase clean air rights from the non-polluters and thereby avoid penalties under the Kyoto protocol treaties.

[0012] While the removal of waste wood remnants from forest regions reduces each of the fore-mentioned hazards, some level of waste wood remnants in forest regions is beneficial for forest regeneration. That amount varies from forest region to forest region, but is generally within a range of 8-12 percent of the total biomass in the forest region. Any waste wood remnants that are present in excess of what is needed for forest regeneration increases the risk that the fore-mentioned hazards may arise without any counterbalancing benefit to the environment (such as promotion of forest regeneration).

SUMMARY OF THE INVENTION

[0013] The present invention is directed at using inspectors or an inspection service to certify the cleanliness of a property with respect to the amount of waste wood remnants (deadwood) that are present relative to the amount of biomass present. The inspectors issue proof of the certification of cleanliness to the owner or resident of the property where the certification took place. Such proof may be submitted so that the owner or resident of the property receives a monetary benefit. Such a submission may be to an insurance company, which may lower insurance premiums based on the proof. Such a submission may be to consummate the purchase or sale of air rights over the property that are in compliance with carbon monoxide and carbon dioxide emission standards.

DETAILED DESCRIPTION OF THE INVENTION

[0014] Once a property is so certified for cleanliness without having an excessive amount of deadwood relative to the biomass present, its air rights may be bought and sold based on proof of certification. Such would be in accord with the Kyoto protocol treaties where air rights over property may be sold where it meets the emission level of carbon monoxide and carbon dioxide set forth in the treaties. Such a sale of air rights would be a monetary benefit to the owner or resident of the property.

[0015] The owner or resident should be insured for risk of loss with an Insurance company. Such an Insured submits such proof of such certification of cleanliness to their insurance company (or the inspector or inspection service does on behalf of the Insured). The Insurance company then reduces the insurance premium of the Insured based on the proof. Thus, the owner or resident realizes a monetary benefit in the form of a reduction of an insurance premium to cover risk of loss.

[0016] Fire insurance companies may offer a discount on their fire insurance policies to an Insured upon submission of proof of certification that the property of the Insured has been certified as clean of an excessive amount of deadwood. The reason is that the property is cleared of excessive wood waste remnants that could otherwise be a source of spontaneous combustion to spread fire on the property or risk burning from the spread of fire on adjoining property.

[0017] Such certification may also show that the property has an insufficient amount of wood waste remnants to serve as a breeding ground for insect infestation, water runoff pollution or an excessive amount of harmful organisms such as bacteria and fungi growth. Each of these, if left unchecked, poses a risk to the health of persons residing in the vicinity of such insect infestation, pollution, bacteria or fungi growth. Health insurance companies may thus offer a reduction in their premiums for covering health risks upon submission of proof of certification that the property of the Insured is cleared of excessive wood waste remnants.

[0018] Also, the certification may show the property is less susceptible to the risk of wind damage, which may otherwise arise from deadwood falling either onto structures on the property, such as those having intrinsic historical value, or on adjacent property or public thoroughfares (where the deadwood is near the boundary with such adja-

cent property or public thoroughfares). Again, an insurance company that insures the Insured for risk of loss from wind damage may offer a discount or reduction in their insurance premiums based on such certification.

[0019] The cleansing operation involves waste wood remnant removal and, preferably, transformation of the waste wood into wood charcoal or finished wood derived products. An inspector or inspection service makes a determination as to the area of biomass present on the property and the area of deadwood still remaining on the property after cleansing of excessive wood waste. If the area of deadwood still remaining is within a range of 8-12 percent of the total biomass present on the property, the inspector may certify the property as being sufficiently clean of excessive deadwood. If the area exceeds such a range of 8-12 percent, then further cleansing needs to be done because the amount of deadwood is still excessive.

[0020] The determination may be made as follows. An inspector, which may be a forest pathologist, surveys the property by dividing it generally into groups of regions that have common types of tree species. By examining sample areas within each of the different regions, the inspector can apply his findings for the entire group of regions containing like tree species. Thus, the inspector determines the volume of healthy trees within a sample region and the volume of sickly and fallen trees within the sample region (multiple sample regions may be considered for this purpose). The healthy biomass volume is computed for an average healthy tree volume multiplied by the number of healthy trees in the sample region, which average is computed by finding the average height and diameter of all healthy trees within the sample region. The unhealthy biomass volume is likewise computed but for sickly and fallen trees. The inspector then factors in a natural destruction rate of tree species for the region, generally between 2-3 percent, and then determines the extent the unhealthy biomass volume of the property exceeds 8-12 percent of the healthy biomass volume of the property. To the extent there is excess, the inspector computes the volume of excess and such excess sickly or fallen tree species is cleared from the property. Once the excess is cleared off the property, the inspector issues a certificate to the property owner/resident or directly to an insurance company that insures the owner/resident against potential risk of loss. The certificate certifies that the property contains an acceptable volume of sickly and fallen trees relative to the volume of healthy tree species to satisfy what is needed for forest regeneration, but not an excess of what would be so needed for forest regeneration. Clearing the sickly and fallen trees may be done with conventional tree moving equipment or dragged away and either carted to a site away from the property or transformed with equipment on the property into a useful wood derived product.

[0021] While the foregoing description represent the preferred embodiments of the present invention, it will be understood that various changes and modifications may be made without departing from the spirit and scope of the present invention.

What is claimed is:

1. A method of certification, comprising:

clearing property of at least some deadwood, the deadwood being selected from a group consisting of fallen timber and sickly trees and a combination thereof;

certifying that a sufficient amount of the deadwood has been cleared off the property so that a percentage of a volume of the deadwood remaining on the property relative to a total volume of healthy tree species remaining on the property falls within a percentage range of what is needed for forest regeneration without exceeding such a range;

submitting proof of the certifying, and

realizing a monetary benefit based on the submitting of the proof.

2. A method as in claim 1, wherein the property either belongs to an Insured or is where an Insured resides, the realizing being derived from a reduction in an insurance premium of the Insured to cover a potential risk of loss, the reduction being based on the proof.

3. A method as in claim 2, wherein the potential risk of loss includes a risk of fire damage arising from fire burning the deadwood on the property because of spontaneous combustion of the deadwood on the property prior to the clearing or from fires spreading from adjacent property areas to the deadwood on the property prior to the clearing.

4. A method as in claim 2, wherein the potential risk of loss includes a risk of the Insured contracting a disease that is derived from insect infestation of the deadwood on the property prior to the clearing.

5. A method as in claim 2, wherein the potential risk of loss includes a risk to health of the Insured attributed in part to exposure to organisms that reside on or in the deadwood prior to the clearing.

6. A method as in claim 2, wherein the potential risk of loss includes a risk of fire damage or wind damage to a structure on the property of the Insured that has intrinsic historical value where the risk of fire damage is from combustion of the deadwood on the property prior to the clearing and the risk of wind damage is from breakage of the deadwood on the property falling on the structure prior to the clearing.

7. A method as in claim 2, wherein the potential risk of loss includes breakage from trees falling that is in proximity to either a property boundary with adjacent property or to a public thoroughfare.

8. A method as in claim 2, wherein the potential risk of loss includes risk of pollution from water runoff on the property, wherein contaminants from the deadwood seep into the water runoff.

9. A method as in claim 1, wherein the benefit is derived from purchase or sale of air rights over the property that may be bought and sold with respect to satisfying an emission level of carbon monoxide and carbon dioxide.

10. An apparatus to reduce an insurance premium, comprising:

means for clearing property of at least some deadwood, the deadwood being selected from a group consisting of fallen timber and sickly trees and a combination thereof;

means for certifying that a sufficient amount of the deadwood has been cleared off the property to provide certification so that a percentage of a volume of the deadwood remaining on the property relative to a total volume of healthy tree species remaining on the prop-

erty falls within a percentage range of what is needed for forest regeneration without exceeding such a range; and

means for submitting proof of the certification, which results in realizing a monetary benefit based on the proof.

11. An apparatus as in claim 10, wherein the property either belongs to an Insured or is where the Insured resides, the monetary benefit arising from reduction in an insurance premium of the Insured to cover a potential risk of loss.

12. An apparatus as in claim 11, wherein the potential risk of loss includes a risk of fire damage arising from fire burning the deadwood on the property because of spontaneous combustion of the deadwood on the property prior to the clearing or from fires spreading from adjacent property areas to the deadwood on the property prior to the clearing.

13. An apparatus as in claim 11, wherein the potential risk of loss includes a risk of the Insured contracting a disease that is derived from insect infestation of the deadwood on the property prior to the clearing.

14. An apparatus as in claim 11, wherein the potential risk of loss includes a risk to health of the Insured attributed in part to exposure to organisms that reside on or in the deadwood prior to the clearing.

15. An apparatus as in claim 11, wherein the potential risk of loss includes a risk of fire damage or wind damage to a structure on the property of the Insured that has intrinsic historical value where the risk of fire damage is from combustion of the deadwood on the property prior to the clearing and the risk of wind damage is from breakage of the deadwood on the property falling on the structure prior to the clearing.

16. An apparatus as in claim 11, wherein the potential risk of loss includes breakage from trees falling that is in proximity to either a property boundary with adjacent property or to a public thoroughfare.

17. A method as in claim 11, wherein the potential risk of loss includes risk of pollution from water runoff on the property, wherein contaminants from the deadwood seep into the water runoff.

18. An apparatus as in claim 10, wherein the benefit is derived from purchase or sale of air rights over the property that may be bought and sold with respect to satisfying an emission level of carbon monoxide and carbon dioxide.

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