

CFTM
 Committee on Forest Land Taxation Methodology
 February 23, 2007
 10:00 AM
 ISTC 5CR1 Boise, Idaho

Tom Katsilometes opened the meeting. He welcomed everyone and asked them to introduce themselves.

In attendance:

Name	Representing	E-Mail
Tom Katsilometes	ISTC Commissioner (Chair)	tkatsilometes@tax.idaho.gov
Jane Wittmeyer	IFA – Boise	jane@intforest.org
Daniel G. Chadwick	IAC	dchadwick@idcounties.org
Janice Davis	ISTC	jdavis@tax.idaho.gov
Dave Ryals	Boundary Cty Assessor	dryals@boundarycountyid.org
Stan Leach	Clearwater Cty Commissioner	commissioners@clearwatercounty.org
Jerry White	Shoshone County Assessor	jwhite@co.shoshone.id.us
Michael G. McDowell	Kootenai Cty Assessor	mmcdowell@kcgov.us
Lloyd Fillis	Stimson Lumber	LFillis@Stimson.com
John Mandzak	Potlatch Corporation	John.mandzak@potlatchcorp.com
John Currin	Potlatch Corporation	John.currin@potlatchcorp.com
Kevin Boling	Forest Capital	kboling@forestcap.com
John Eikum	Idaho Rural Schools	jjikum@aol.com
Steve Fiscus	ISTC	sfiscus@tax.idaho.gov
Gregory Cade	ISTC	gcade@tax.idaho.gov
Rod Brevig	ISTC	rbrevig@tax.idaho.gov
Ron Craig	ISTC	rcraig@tax.idaho.gov
Joined the meeting by phone:		
Gordon Harnasch	Kootenai County	gharnasch@kcgov.us
Stieg Gabrielson	Idaho Forest Owners Assoc.	stiegjoan@msn.com

Tom Katsilometes asked Jane to proceed with her opening remarks.

Jane Wittmeyer said Steig Gabrielson, a member of her timber team, was unable to attend the meeting. She said she would try to encompass his remarks in hers. She thinks the CFTM statutory language is adequate to cover the issues of today. CFTM was formed to address the issue of forestland taxation methodology, and it has proven extremely successful. It has formed some great relationships and working partnerships with county and state staff and provided an opportunity to talk about issues. For those who are new to the group, Jane reviewed how the CFTM was formed over a period of six years. In 2005, legislation was successful that put in place the methodology that this

group created as a way to value forestland for property taxation purposes. She feels this committee is the place to resolve issues and continue to try and reach agreements so issues are worked through and a consensus is reached before going to the Legislature. When the issue about productivity classification came up last summer, she and her group decided the best place to engage a discussion is the CFTM, and that's why they asked for this meeting. One end goal of the last effort was to reach a consensus of stability--so the counties know with more certainty what their revenues will be from forest land taxation and, from the timber side, so they have an idea of what their taxes will be. Everyone felt very comfortable that the end goal was met. Today, the committee is here to discuss the use of the process used to classify lands into productivity categories using habitat typing. The timber team of the CFTM believes that it is not an appropriate or transparent way for forestland owners to have their lands classified for determining which lands fit in the productivity categories. The timber team is adamant about that. As it exists today, they are not comfortable with this process. They are hopeful that today's meeting will lead to an understanding of how to move forward.

Tom Katsilometes told Jane he appreciated her comments and spirit of cooperation. The STC, as a neutral party, wants to make sure both ends are going in the same direction, and that's why the CFTM was created.

Steve Fiscus took a head count for lunch.

Dan Chadwick said he thinks Jane did a good job of describing the process gone through in setting up this committee and the legislative action that put stability into the determination of the methodology. He thinks she also outlined the issue for the timber industry with regard to the timber classification process and their concerns. From the counties' point of view, this is the right place to talk about these issues. Dan will be interested in hearing what the issues are and hopes to be able to respond to the concerns. He welcomes the opportunity. He doesn't know if the law requires an annual meeting of CFTM but perhaps this could be called the annual meeting.

Tom Katsilometes thanked Dan. The code says the CFTM itself can call a meeting, so it doesn't need to be called by the STC (Idaho State Tax Commission). Item three on the agenda is reviewing code and rule. Rod Brevig will review the current code and rules and go through some other items as presented on the agenda.

Rod Brevig handed out a list of the committee members and asked, if anything is incorrect in the information on the list, please let him know and it will be corrected. He described what is in the packet, including copies of the meeting notes for all the previous CFTM meetings, a copy of Idaho Code Section 63-1705 and Property Tax Rule 962 which includes the statutory authority and methodology for identifying forestland productivity for property tax purposes and a copy of the power point slides he will use in his presentation. He wants to discuss the methodology in rule because it leads to a common understanding of how to identify the productivity classification process. Establishing forestland productivity is not an easy thing to do; there's a lot of judgment involved; and any system that is put in place is going to have some of the same

difficulties that might present themselves with the current process. Some of the things he will talk about today are necessary to form a common source of knowledge that the CFTM can use as further discussions on this subject take place.

Rod reviewed the handout of the power point presentation:

Forest Ecology. Forest ecology describes how a natural forest ecosystem is put together. Forests have pieces and parts. How it all integrates together is part of what is considered when looking at the productivity classification system. The concept of forest ecology has developed over time becoming better able to explain the interactions within forest ecosystems as more is understood concerning these dynamics. The only way to really teach forest ecology is to go out in the forest and look at them, look at the plants, look at the structure of the plant associations and understand how complex it is and how it works together. An explanation in words will not convey the information that is intended because each of us will interpret these descriptions differently based on our previous experiences and fund of knowledge. Taking people into the woods is the only way to really form a common knowledge base on this subject.

Climate. Climate is intuitive because we experience it every day. There's a difference between climates in the various regions of the state. Using some kind of broad system to identify climate and how it interacts with forestland and what the forest produces is very difficult to explain unless you're on site and all of your natural senses can be brought into play. Your ability to use your senses of sight, smell, hearing, tasting and feeling integrate with your ability to draw on past experiences and intellect to draw together a picture to help you to understand forestland productivity.

Forest Soils. Forest soils are very complex. Idaho has an interesting geologic history and a great diversity of geologic development. To explain the complexities of soil depth and structure and how those things interact with plant communities, you have to have a tool to explain these concepts. Soil profiles as explained in a soils manual gives an indication of the technical descriptors of a soil, such as silt, clay and loam content, rock fragments and soil parent material. Additionally, how these soil components are distributed in the soil profile differentiates one soil from another, but additional information is needed to explain forestland productivity. It can't be done from a remote location; you have to be on the ground to really understand how it all works.

Forest Site Index. What has happened in the past to a particular tree makes a difference in its site index, which is the trees total height at a given age. A tree has various influences on its development over a period of time. A dominant or codominant tree will express itself in height dominance very early in its life cycle, some scientists say in the first 3 to 5 years of its life. However, many things can affect a tree's growth and position in the stand, e.g., an ice storm; heavy cone crop breaking out the top of the tree; insects, and diseases sapping the strength of the tree can all be influential and change the position of a tree in the stand relative to its neighbors. The forester has to make a judgment call concerning all these influences when deciding which trees to measure to determine the site index of the stand being examined. If suppression (a decrease in the

average growth rate of the tree) is detected in the increment core taken from the tree the tree is rejected as a sample tree and another tree without suppression is selected to provide the site index of the site.

Ecology. From an ecological standpoint, every portion of the environment--climate, soils, elevation, precipitation, latitude, topographic position, etc.--affects what happens in the forest. A system that can be used to identify all these interacting influences at one time is needed. Rod read the definition of forest ecology from the handout. "Ecology is the science of the interrelationships of organisms in and to their complete environment." There are constant changes in the relationships between the plants in the forest. One of the largest changes in a given area (without undue influence from man or the environment) is the amount of shading imposed on one plant by its neighbors over time. He read the definition of Forest Synecology and explained some of the differences that occur in various areas of the state. "Synecology is the study of the community and the interaction of the organisms which compose it." Unless you have a tool that provides a method to integrate all of these variables in the forest throughout the year, you do not have an effective tool to explain forest productivity.

Average precipitation. As we know from our experience in life, differences in precipitation occur from one region of the state to another. Clearwater, Shoshone and Latah counties are among the areas in the state that get the largest amount of precipitation. The precipitation map of Idaho in the power point slides also shows that parts of Bonner and Boundary counties, also get high levels of rainfall. But just because there is moisture delivered to the site, doesn't mean it's available to a tree. In areas of excessive drainage the moisture can slip out of the reach of the plants roots and reduce the productive potential of a site. Rod read the definition of a forest site from the handout. "Site is the area in which a plant or stand grows, considered in terms of its environment, particularly as this determines the type and quality of vegetation the area can carry. Sites are classified either qualitatively, by their climate, soil, and vegetation, into site types, or quantitatively, by their potential wood production, into site classes." Again a system is needed that recognizes all of the factors that influence the growth potential of a tree to determine potential productivity. The height and age of the tree can be measured but then it has to be determined whether or not the tree qualifies as a site tree. If the growth pattern revealed in the increment core of the sample tree is distorted for a period of time or the growth rate of the tree changed over time then a careful evaluation of the quality of the tree for use as a site tree must be made.

Site Productivity. Rod used agricultural land as an illustration. The productivity of a field of wheat can be measured by the amount of wheat that will be produced on the field year after year. The starting point is the soil itself after that the components of productivity will be determined by the genetics of the wheat planted, the fertilizers that are applied, the amount of moisture that is delivered to the site by weather or irrigation and the herbicides that are applied to control competing vegetation. Forest site productivity is also determined by the inputs that occur on a site. The measurement of these inputs requires a tool that can be used from one location to another with precision that can be taught to others and conveyed in a consistent form from one investigator to

another. Site index is one of the tools that is available. Additional tools are a soils classification system provided in a soils manual and plant classification system such as habitat typing provided in a habitat typing manual.

Estimating Site Productivity. There are approaches that can be used to determine what a site produces: measure tree growth (site index); measure or map physical factors (climate, soils); measure vegetation (habitat typing); or a combination of these. All of these are indicators along with land-use history—what’s happened in the past—to help interpret what we’re observing today.

Rod read from the code, Idaho Code Section 63-1705, and Property Tax Rule 962. Idaho Code 63-1705: “The state tax commission shall promulgate rules relating to the timber productivity valuation process,... (b) establish a uniform system of forest land classification which considers the productive capacity of the soil to grow forest products and furnish other associated agricultural uses.”

Rule 962 (03) Classification of Forestlands. “In all forest valuation zones, there shall be three (3) separate productivity classes of forestland: poor, medium, and good. These broad classes are related in the following manner by definition to the “Meyer Tables” published in “Yield of Even-Aged Stands of Ponderosa Pine” and “Haig Tables” published in “Second-Growth Yield, Stand, and Volume Table for the Western White Pine Type” as both documents are referenced in Rule 006 of these rules...

(a) Poor productivity class is defined as forestland having a mean annual increment, MAI, of one hundred twenty-five (125) board feet per acre per year, based on a seventy-three (73) year rotation...

(b) Medium productivity class is defined as forestland having a mean annual increment, MAI, of two hundred twenty-five (225) board feet per acre per year, based on a sixty-eight (68) year rotation...

(c) Good productivity class is defined as forestland having a mean annual increment, MAI, of three hundred fifty (350) board feet per acre per year, based on a sixty-three (63) year rotation...

(d) For forest valuation zones 1 and 2, forestland shall be stratified into areas of similar productive potential using the habitat typing methodology described in “Forest Habitat Types of Northern Idaho: A Second Approximation”, referenced in rule 066 of these rules. Within these stratified areas, site index trees will be selected and measured that will identify the site index to be used to place the land in one (1) of the three (3) productivity classes listed above.

(e) For forest valuation in zones 3 and 4, the criteria for stratification shall be generally the same as that used in zones 1 and 2 based on the habitat typing methodology described in “Forest Habitat Types of Central Idaho,” as referenced in Rule 006 of these rules, with the following adjustments made in growth rates for lower moisture levels. Poor productivity class, one hundred twenty-five (125) board feet per acre MAI shall be used in the valuation process. Medium productivity class, two hundred thirteen (213) board feet per acre MAI shall be used in the valuation process. Good productivity class, three hundred twenty (320) board feet per acre MAI shall be used in the valuation process.”

Rod asked John Mandzak if he was familiar with Cooper's work in the Forest Habitat Types of Northern Idaho: A Second Approximation.

John Mandzak replied that he is very familiar with it. He suggested that when classifying by habitat type, identify two things: (1) what species of trees are there, called climax communities, which means that succession has gone on until a certain species are replacing themselves, and (2) that there has been enough time for the under story components to stabilize and indicate what their composition is. Look for uniform, repeating combinations across the landscape.

Rod Brevig thanked John and continued. He explained the illustration he had drawn on the board of trees with various heights. He explained climax species—those that survive after the rest fade away for many reasons but primarily due to shading from their neighbors. Normally the survivors are more shade tolerant than others. Climax species will survive under shade and grow very well when exposed to the sun. Early seral species will jump ahead of the climax species after a fire or harvesting operation has removed the original stand only to grow old and succumb to disease, insect attack or another form of attrition as the climax trees take their place in the stand. A forester is trained to recognize all of these stand dynamics and interpret the position of the stand in relation to its progress toward reaching a climax composition. This is a skill set honed by experience but easily taught to others by experienced foresters.

Rod introduced the map of Kuchler Potential Natural Vegetation in his power point slide presentation. Kuchler recognizes in very broad terms how vegetation classes are distributed across the state of Idaho. Rod emphasized that the system of forestland classification used for property tax purposes must recognize the difference between one forest type and another and take into account the regional differences in the forests of the state. Forest Value Zones 1 and 2 are stratified into areas of similar productive potential using habitat typing methodology described in "Forest Habitat Types of Northern Idaho: A Second Approximation." Rod read from the property tax rule 962 (d). In any area of the state from the bottom of a slope to the top, there are differences because of soil depth and development, moisture availability, and topographic position which can influence the length of the growing season and the amount of solar radiation. A forest tool is needed that is better than site index alone to identify the differences in forestland productivity. That's the reason for habitat typing--it's a tool to use to explain to others the differences in regions and even small ownership's in the state. It's a tool to communicate those differences even to those not familiar with the habitat typing system or even forestland productivity in general. Habitat typing is a tool used to explain most of the intricate differences between one forest site and another. It's an outstanding forest tool, and very effective in identifying the differences in forestland productivity. When measuring site index, the height and vigor of the trees are complexities a forester has to take into account in selecting the appropriate site index trees to sample. Habitat typing provides that "bioassay of the environmental factors" that forms a frame of reference to assist the forest scientist in determining whether the site index tree he has selected is appropriate for the study area. Habitat typing can be accomplished by anyone who can identify the plants on

a site including the trees and has gained an understanding of the procedure by reading the habitat typing manual.

Factor compensation helps to explain why similar plant communities exist in areas separated by relatively large geographic distances. All plants try to survive. If they are able to compensate for the deficiency in one of the elements they need to survive with an abundance of another element they will form a plant community that can be identified as a habitat type. The fact that they survive conveys a great deal of information to the observing forest scientist. Habitat typing is a tool to explain this phenomenon and provides a uniform way to interpret potential forestland productivity and ensure uniformity and equity in the way that forestland owners are treated for property tax purposes in various locations in the state.

The state of Idaho has been divided into four different forest value zones which follow county boundaries. These forest value zones (FVZ's) were established as one of the ways to recognize the differences in the productive potential of forestland in the state.

Another tool to recognize the differences in productive potential are the site curves that have been selected to measure site index. Irvin Haig a research forester with the USDA Forest Service did extensive work on growth and yield of western white pine in Idaho. Western white pine was the tree species with the greatest economic value when Haig performed his work. Due to white pine blister rust and other factors western white pine has declined in number from comprising 15 to 20% of the stands in northern Idaho at the turn of the century to around three to five percent of the stands in most of northern Idaho today. Even though it is normally a small component of current stands, western white pine was chosen as the species to use to indicate the site index used to determine forestland productivity in Idaho. Site curves were developed by Glen Deitschman and Alan Green, again forest scientists working for the USDA Forest Service in 1965 for the tree species growing in association with white pine such as Douglas fir, western larch, lodgepole pine, grand fir, and western hemlock. These site curves have been used for each of these tree species to determine site productivity when white pine is not present in the current stand. The site curves developed by Walter Meyer have been used for ponderosa pine.

The next illustration in the power point presentation is Daubenmire's original work showing the relationship of habitat types as the elevation on Moscow mountain increases and aspect changes. As there is a gain in elevation, normally precipitation and available moisture increase, and there is generally a change in habitat type that is recognizable. The boundary from one plant community to another is called an ecotone and represents a change in the composition of a plant community that can be identified as a change in habitat type. The effect of changes in topographic position will normally result in an ecotone that will divide one habitat type from another. Changes in past forest management operations may mask differences in habitat type. However an experienced forest scientist can normally identify the causal agents for the variations that are present and identify the correct forest habitat type for the area. Habitat typing provides a tool to explain most of the differences in forest stands in a common language that allows a forest

scientist to classify similar lands together. This classification is important in our efforts to maintain equity between forestland owners.

The NRCS (Natural Resources Conservation Service) soil survey is a tool that has recently been updated in some of the counties in Idaho. One of these updated soil surveys occurred in Shoshone County and included soils mapping and plant association descriptions for their soils classes. Site index was measured for each of these soils and supported the indications of forestland productivity indentified by the soils and plant association descriptions. Information from the soil survey was overlaid on an aerial photo for a large portion of Shoshone County and this data source has been used to compare one area with another in the county. The 2006 field season was used to field check the productivity classes indicated by the NRCS data. In most instances there was broad agreement between the site index and habitat typing procedure described in code and rule and the soils manual. When differences in the results of field plots and the NRCS data were identified they were normally limited to inclusions in the soil survey in which the soil survey was not conducted with the specificity allowed by the establishment of field plots at specific locations.

The illustration of the productivity classes by forest value zone in the power point slides is a little dated. It shows Idaho's four forest valuation zones. In FVZ 1, about 49% is in the good category, about 40% is medium, and the rest is poor. In FVZ 2, about 50% is good, 34% medium, and the rest poor. In FVZ 3, 16% is in the good productivity class, 73% medium, and the rest poor. In FVZ 4, all the land is classified as medium. There is more medium productivity identified in FVZ 3 than in zones 1 and 2. The growth rates are limited in FVZ 3 by total precipitation and soil depth, ash content and development as compared to FVZ's 1 and 2. Also, there's more medium in FVZ 1 than in FVZ 2. The forest lands are generally not as productive FVZ 1 as they are in FVZ 2 because lower temperatures limit the period of time in which the trees can grow. The growing season is limited by late spring and early fall frosts.

The charts constructed by Dr. Jay O'Laughlin compare the productivity classes of the Forest Survey and those of the counties for property tax purposes. Dr. O'Laughlin used site classes developed by the forest survey and compared them to the productivity classes that are recognized in Idaho Code. On the left side of the chart you have the Forest Survey Site Productivity Class and on the right the Tax Productivity Class. It's a report card of sorts that assists us in determining where the productivity classes in the counties are in comparison with a neutral source of the same information on the same ownership. The chart demonstrates that the productivity classes that are currently used in the counties are low compared to what should be recognized as indicated by this neutral source of information.

Kevin Boling asked where the growth factors in northern Idaho site class and tax class came from on the charts. He said the figures don't compute with what he knows about how forests grow. Maybe when they're 20 years old for a time, but over the life of a rotation, they don't approach those kinds of numbers. Maybe it's assuming the Forest Service's practice of never harvesting, using a 300 year rotation.

Rod Brevig replied that the information came from the Forest Survey compiled by the U.S. Forest Service. If there are concerns about the accuracy of the data it would be best to contact the authors.

John Currin discussed the culmination of the growth increment of a stand. When forests first get established they aren't producing any board feet but as they get older the average keeps increasing to a point where the stands slow down and then the average starts going the other way. It's called the culmination of mean annual increment and that may or may not be some magic point, most of the time it's a little bit beyond that. The second point would be perhaps they could come up with some numbers like that determined by a natural stand that somehow regenerated itself with nearly perfect stocking, and didn't get messed with. Those are really big numbers and may be obtainable with intensive management.

Kevin Boling said in his experience in managing and putting together long term harvest plans for both Potlatch and Forest Capital, he is sure they don't come any where close to the kind of growth rates indicated in the charts. Those charts ought to be torn up and thrown in a waste basket. If the point is that we've got a good deal on the right side of the chart, he has a great deal of heartburn with that. The chart should not be used to make a point. Based on his experience, the chart is wrong.

Rod Brevig said he did not create the chart and any problems with it should be taken up with the author. He could recognize their discomfort with the information in the charts because they do indicate that they are getting a good deal.

Jerry White asked Rod if he had witnessed any of these numbers in his travels.

Rod Brevig said he has seen some very productive forest land in Idaho and some really poor forest land in Idaho. He can measure site index which is the most broadly used tool to identify forestland productivity. The charts are from other people's publications which were developed independently of any consideration of property taxation. The charts are used because they provide an unbiased source of information that allows us to determine whether the productivity classes that are used in code and rule agree with data from independent sources which have also examined the issue of the productivity of the private forestlands in Idaho. Again these are neutral sources and are not biased by the intentions of the scientists to under or overstate growth due to forest tax implications. As a neutral source they should carry a lot of weight in determining whether the productivity classifications that presently occur in the counties are as accurate as they could be.

Tom Katsilometes asked Rod if the last two slides that show the comparison between the Forest Survey and the counties productivity classes are used by the assessors for valuations.

Rod Brevig said no, not for valuations and they are used here for comparison purposes. These are neutral sources from unbiased scientists and should weigh heavily in the considerations of the committee.

John Mandzak complimented Rod on his presentation and said he (Rod) did a good job with presenting in plain English this discussion on forestry issues. John explained his background was a degree in forestry and botany, and his doctorate work was in forest soil and that is how he got to the position of a technical advisor to foresters. His everyday tasks are to give technical advice to foresters concerning thinning trees, planting, fertilizing, and all sorts of things, which includes productivity assessment. He said he leans quite a bit on the biometrics people who run growth models but he has to keep familiar with the basics. He is quite familiar with habitat typing and took some of the original habitat type courses in '81 and '82 from Bob Pfister in Montana. He has looked at what was in those original publications, and it shows a very broad relationship in terms of a statistical measure to habitat type versus site index. One of the things he was taught was, when looking at vegetation, disturbance can really mess it up. To find a good tree to measure for site index can be tough to do. You're trying to determine that a tree was naturally regenerated and didn't have too many impediments to growth (e.g., wasn't too heavily over stocked or under stocked). If you could find a place like that, you could do height measurements, like Rod described, and use site index. But habitat type calls are tricky. Do you use those under story plants? Have they been disturbed? Has there been grazing? Has there been fire? And that sort of thing; so disturbance can mess it up. Some people talk about a two bucket model. The grasses and shrubs are in the top bucket of the soil because that's as deep as their roots grow. But you can have very high productivity with a very good soil in a fairly dry environment because of stored water from over winter. John said that he did a little background work when John Currin asked him to come to this meeting--looking at records of old memos, which were critical of habitat typing as a measure of productivity. He asked himself, "how would I do this?" What if he were trying to find a fair and equitable manner of assessing forest sites. People have been trying to do that forever. For instance, in Montana, they use a tax system based largely on elevation with the idea that, as you go up in elevation, there's moisture and the forests are more productive, and therefore your tax base is higher. He has a property there, 160 sitting adjacent to another 160. His taxes are higher on the upper 160 which is a basic rock pile than they are on the lower area which has some deep soils. So some quirky things can happen when you're trying to make a good general program. He said he thought one key in Idaho's system is the ability of forestland to produce stumpage income, maybe analogous to agriculture; the person with an 80 bushel wheat yield should pay more tax than the guy with a 40 bushel yield. Soil expectation is a classic formula that has been around forever. So given that habitat type is so broad, is there a tighter measure of forest productivity? One of the things that Rod showed was soil typing and John is excited about that because Potlatch now has nearly a complete GIS layer across the whole ownership so some analysis can be done using these NRCS map layers. The most recent stuff is on the NRCS website and there is also everything from older surveys of Benewah and Latah counties and so forth. They are called woodland interpretations. Some guy got the task of going out and ranking the productivity of forest soils, and he was told about the same things that Rod talked about--

look for site trees and put them into a curve. They report various tables for site index, cubic foot growth, maybe a board foot growth, and so forth. But one thing that's really critical and the advantage they have is they can look at a soil mapping unit that might encompass usually 10,000 acres and find just those forest stands that are a good place to measure site index and then do a productivity ranking for the whole body of soil and not have to rely on measuring trees in Joe Blow's horse pasture. John thinks they get pretty good numbers that way. The soils integrate a lot of the things that Rod was talking about. An old equation is that soil is a function of climate, parent material (rocks and whatever), organisms (plants and animals), relief (how steep it is), and then time (mineralization and, weather).

Another thing Rod asked was how the property is currently coded for productivity. He thinks people are dissatisfied with the way somebody decided that a particular piece of ownership has been ranked as to low, medium, or high productivity. How would you check this? Like in Rod's scaling, how would you check scale or something like that? One term that surfaced was transparency. What's a clear method and process that is available? John thinks Rod is saying to use habitat type, but he's not sure how that's being applied. Another issue about habitat typing is the lack of access to spatial tools. That is, do you have a GIS layer with a polygon? Your GIS guy can run a tax bill; that's what those guys are good at. They drill down through and can break a 40 up into two types: 40% this, 60% that. That's why John Currin was really delighted to see the NRCS stuff. He said, if he has a disagreement with Rod, its like, if you have NRCS mapping unit data, why would you go backward to habitat type. He thinks there is a more solid, stable measure of habitat type by using soil types. If anything, you may want to encourage NRCS to pick up the standards of their work or map scenarios that aren't covered. John said those are the major points he wanted to make, keeping NRCS involved. He said he tried to make the point that an NRCS productivity call is potentially better than a straight habitat call. As Rod pointed out, there are many complex factors that contribute to productivity and John thinks we would be better off using the data that is in soil bodies and using the spatial tools that are associated with it.

Tom Katsilometes thanked John and asked Mike McDowell if he wanted to follow up.

Mike McDowell asked if the same soil could be identified at different elevations and could elevation elements impact the site?

John Mandzak answered, yes they can. But you would want to use a soil series that would show, to the extent that you're identifying that kind of relationship, what that soil profile looks like--it's got so much loam, ash, other things. But as an ecological thing, that soil type may, at low elevations, occur around the north side and at high elevations have rotated around. Nevertheless, the forest trees should be seeing about the same ability to access water, nutrients, light, and so forth.

Jerry White asked Rod if there was any correlation between the NRCS data and habitat typing in Shoshone County.

Rod Brevig answered, yes and explained. He didn't mean to imply that we are going backwards as John Currin had said by using habitat type instead of the NRCS data. He agrees with what John said about the NRCS data as providing a better tool than habitat typing alone. He uses habitat typing to be able to relate and communicate information when on the ground with landowners. It provides an interpretative tool to use with land owners to relate to plant communities that they have observed for years as they've worked on their land. As the plant communities are described and the differences in potential productivity are discussed the differences are intuitive and easy for the landowners to relate to. The NRCS data shows how the land area in the survey is delineated with borders on the land and gives a real definite way to describe the set of conditions you are describing. Habitat typing does much the same when ecotones are used to delineate borders on the land and plant communities are the tools that are used to delineate the borders rather than changes in the soil conditions which are more difficult to see without digging a soil pit.

Dave Ryals said he would like to clarify what Jane said in her opening remarks about the landowners' concern with stabilizing the formula so tax loads could be accurately and predictably anticipated and that the counties were interested in doing the same to maintain predictable levels of tax revenue. Maybe some people don't understand the assessors' role. It's not tax revenue that assessors are concerned with. Assessors are concerned with the proper valuation of individual properties. So that comes down to value; if your value goes up, someone else's tax bill goes down if everything else remains the same. If your value goes down, somebody else's tax bill goes up. So it's not really a question of dollars to the assessors, its valuation. He said he didn't want to make a preference as far as a model or procedure but, listening to Rod this morning, it became very evident to him that there are many variables out there for the forest landowner that have to be given attention because hard revenues, future revenues, are dependant on how these soils and the properties are managed. It's absolutely necessary to look at that. Assessors are looking at stabilization of the methodology and predictable tools that get them in the ball park. When you look at the value on your residence, for instance, it's in the ball park. It's close. Assessors don't go out like a bank appraiser and do an actual fee appraisal on a specific house or on any of the land either, whether agriculture or forest. All they're looking for is a tool that's predictable, useful, stable, and that gets them in the ball park. He said he was not trying to push anyone in any direction, he just wants everybody to know that, from the assessors' perspective, they just want to be in the ball park, and it seems that, at least for now, the soil surveys have been doing that and are used when available.

John Currin again thanked Rod for his presentation. He said he thinks the issue is being skirted. The issue isn't how to stratify the land, whether it be soils or vegetation. There are a number of tools out there that stratify land. We can take models and throw in precipitation, elevation, and a number of factors to stratify the land. But until the connection is made between that stratification and productivity, the tool is useless. That's his concern. What is the connection between any tool out there and productivity? Time and time again, publication after publication, study after study shows that the

relationship between habitat type and productivity is nebulous at best. (When asked after this meeting for these publications John said that he was depending on the point of view that had been offered by others he had been talking to and didn't have any publication that he could point to that actually stated this point). Productivity is broad against any given habitat type. That's where the issue is. Habitat type is a good tool to stratify land but not to predict site index. There is a tool to make the connection between habitat type and productivity, but not through site index. The forest service developed a model at the forest service research station in Moscow. A guy named Al Stage developed a model called Prognosis and that's evolved now into a model called FVS which is managed by the Forest Service and covers the western United States. It's headquartered at the Denver research station. You can plug in habitat type, run this model, and get productivity. You don't need site index. There are other ways of getting from whatever to productivity. But site index is not the way to go for a whole number of reasons. Some reasons Rod mentioned and some John Mandzak mentioned. First, trying to find the right trees to measure under a managed forest condition is very hard. Rod said site trees either have to be dominant or codominant their entire life. In today's managed forest, those trees almost never exist because the original forest no longer exists. The trees have been thinned and stand composition changed in any number of ways. So, that's our concern about how the current process is used to rate or measure productivity. The other concern that John Mandzak mentioned is, how you can spatially distribute the productivity classes. We have technology, for instance GIS that can spread those productivity classes out spatially. We have soil surveys digitally available. We need a tool that can spread spatially and that is a good indicator of productivity. We know the current system as written is not the tool. Like Jane said, we spent almost two years getting that economic model put together and we're happy with that. We believe that is the model to use and the factors in that model are the factors to use. Now the question is how you distribute those productivity classes over the landscape. That's what we're talking about, and we believe we should go through the same process we went through to develop the valuation model to develop the currently needed tool.

Ron Craig asked if the model the Forest Service developed works for both habitat type and soil type; if you use one or the other, will it produce a reasonable predictor of what the productivity rate of the site will be. Also, is the program available?

John Mandzak answered that, to his knowledge, it doesn't work for soil type. The model is available as it's in the public domain.

John Currin said he was just throwing that out as an example and that there are other systems out there which could be considered also.

Jane Wittmeyer said she has been asked a couple of times what she would recommend and she has been pretty consistent in saying she doesn't have anything to recommend. However, she knows there are folks out there who specialize in that stuff and they are what this group ought to look at.

Dave Ryals asked what might change. We're looking at potentially complicating further the process we've already used to potentially arrive at the same end? Are we going to a lot of trouble to move laterally or have you got some kind of a sense of what you're going to end up with?

John Currin answered, no, we don't. At least at Potlatch, we've had that same concern. Are our values going to increase or decrease or stay the same? We say that's not the point. Our Vice President for resources says we don't care what our taxes are as long as they're equitable and determined in a way that we understand. And so we're not coming in with any preconceived ideas of what we'll end up with. We know that, under the old model, our values are not what they should be. But we have no idea what we might end up with.

Dave Ryals said the reason he asked the question just now is, again, we do mass appraisal work. We don't do piece appraisal work. Time after time, we use very general rates and formulas to come up with ball park figures to get close to what you could reasonably expect to sell your property for if it were on the market and, every year, even though we've used the same rates for thousands of houses and properties, we have people come in and argue. All these little things might make a difference in the real world to somebody at some point in time but we're about getting close, in the ball park. As long as we have something reasonable, that seems to be kind of getting us there, he is leery about spending a lot of effort and resources only to move laterally. Is it going to get any better?

John Mandzak said that's why he asked himself, how would I do this sort of thing. He thought of the KISS principle: Keep It Simple Stupid. A Dodge pickup truck is pretty easy to operate even though they are fundamentally a very complex machine, and that's the sense of where I would want it to go. It's got to be something you can actually use.

John Currin said, at least when you're out there appraising houses, you do have some sales, classification of the houses, and maybe ratio studies. Those are things that you understand very well and, if a taxpayer took the time to learn about that process, they would probably understand that also. In this particular case, we don't understand the process. We know that the correlation between habitat type and productivity is not where it should be. That's our concern. We understand this is not a mass appraisal process. Where are we going to end up? We don't know, and that's not so much our concern as it is to have a process that we understand and that follows at least the science that's out there.

Jerry White said he was not convinced and asked to see evidence that habitat typing doesn't correlate to productivity.

John Currin said the author of the book that is used for habitat type states, in publication after publication, that correlation of habitat type and productivity is so broad that we do not have confidence in it. He asked John Mandzak to answer further.

John Mandzak said he agreed.

John Currin talked further about Cooper's book. Cooper states, on page 86, given the relatively low or uncertain confidence to be placed in this curve. In fact that curve cannot be applied to site index values greater than 80 commonly exceeded in northern Idaho and the misuse for which the values generated have been applied. Again, he's talking about site index curve. He goes on to say, research is sorely needed to develop the relationships between site variables, habitat types, site index, spatial areas, and productivity. So the author of the manual that's used for habitat typing says that the relationship between habitat type and site productivity can be shown.

Rod Brevig said, to clarify, what he uses habitat type for is to classify similar areas in the same way. It's not to establish the productivity class. He uses site index to establish the productivity. So your criticism toward habitat typing to identify productivity classes is misdirected, because he doesn't. He uses site index for that. So the dissatisfaction needs to be directed towards site index, not habitat typing. He uses habitat types simply to determine if he is within an area that's similar to another in order to classify similar lands in the same way and maintain equity between landowners. You have to have some way on the ground to identify the differences between one site and another. That need is intuitive, and is part of the process that any stratification system must provide. He doesn't think a forester can explain to a forest landowner the difference between one site on his land and another just by measuring site index.

John Currin said that he agrees.

Rod Brevig said that when he works with landowners across the state of Idaho, he has to have a better tool than just site index to explain differences in potential productivity. Habitat typing is intuitive; landowners can easily see the differences in one habitat type and another. He uses trees to measure site index and site productivity and habitat typing to explain differences to landowners that they can see on the ground. He doesn't use habitat typing alone to establish productivity classes. It's used as an interpretative tool, as a way to measure whether or not the site index is where it should be when you compare one area to another. A lot of the similarities between one area and another can be explained through habitat typing.

John Currin asked how to spread site index out spatially. How do you determine that this tax parcel is site index X if you haven't measured any trees on it? Every tax parcel has not been measured for site index. So you're still trying to make the correlation between habitat type and site index on any given parcel because you haven't measured trees for site index on every parcel.

Rod Brevig responded, that physically and financially, the assessors and the Idaho State Tax Commission are limited as to how many parcels can be field measured and verified for potential productivity. He said that in the process that is currently used to measure site index, three or four site trees are measured at each plot location and the

highs and lows are kicked out by using the median tree measurement. Because of the physical and financial limitations that exist there has to be a means of spatially working with the predications of potential productivity. In Shoshone County the work was accomplished by overlaying the NRCS data over an aerial photograph digitally. The predications that were made in this way were field verified by sampling as many areas as time and budget would permit. He said that he is convinced that there is a high correlation between site index and habitat type to potential productivity because he can repeat it time after time in field measurements. If there are deviations from the predicted productivity there is always a reason that adds richness to the field verification process because the abnormalities in the site are obviated by the fact that it is different than the norm. These differences are normally due to root diseases or past management practices that highly impacted the site. He agreed that the use of habitat type to predict potential productivity must be applied correctly, however he has found in his work that doing so can be repeated time and time again and is the best tool he has found to work in the field with.

Kevin Boling asked Rod what would happen if he were hit by a car tomorrow.

Rod Brevig said “you’d find a way” to accomplish the work anyway.

Kevin Boling said he didn’t think so. He doesn’t think the Tax Commission would be able to replace the expertise that Rod brings to this particular issue. And that’s his concern--the requirement that this be a uniform system and the uniform system is essentially an expert system dependent upon one person in the Tax Commission to train the counties to use it. So, what we are here to request is that we evaluate some uniform system that is not an expert system that can be easily used and explained by folks who have a question about the way their property has been assessed. And the system that you have now doesn’t do that.

Jerry White said he disagrees. He knows someone in Shoshone County who works for the Forest Service who is as knowledgeable as Rod; he could be Rod’s son.

Kevin Boling asked Jerry why he was just doing the eastern half of Shoshone County in this current round of investigation of how the productivity classes ought to change.

Jerry White answered that he can’t be in two places at the same time.

Kevin Boling said he is suggesting that there are models that take very discreet information such as soil layers, precipitation layers, temperature variations, etc., and correlate these measurements to tree growth and they can do that in one run, as opposed to the expert system of Rod’s having to go out on the ground. It’s a simpler set of tools to describe how you arrived at the assessment.

Stan Leach asked if what Rod is describing isn’t the same as what foresters do when cruising timber. Mark the plot, and measure the trees. You don’t measure every

tree in the stand, but you measure a plot that will hopefully be representative and then extend that out over the whole stand of timber. Is that the same thing Rod is talking about? You get some site index trees and you extend that throughout the rest of the plot and you use habitat typing to see if it's relatively similar.

Dave Ryals added that that's mass appraisal, just as he was trying to say.

John Mandzak said he couldn't disagree with the analogy, but he disagrees with the premise that forestry education and communication is an art form. He thinks what Rod said is that you can take landowners out and only with habitat typing you can show them how their tax bill was created. He thinks you can tell the landowners that some soil scientists came through and this is what they came up with. They figured it out. There is a protocol used to determine that, and here it is. So, again, trying to get something that is a little more technically accurate but also easy to use without overly complicating things is his goal.

Steve Fiscus asked if all counties that have timberland are mapped by the NRCS at this point.

John Mandzak said maybe 85 – 90 percent of the Potlatch ownership is currently covered, and that could be an issue. He thinks there are parts of the Potlatch ownership in Latah and Benewah counties that are not mapped. But, if they want to use the system, he thinks there are quick ways to put in some preliminary mapping. He thinks there's ways to ask the soil guys to do two things. One is finish up some mapping or at least some preliminary polygons, and the second thing is, if there are any issues about productivity, call and ask for additional work so you're more confident in what you're putting in woodland interpretations.

Steve Fiscus asked Jerry White if there is a soil survey in the eastern half of Shoshone County that he is familiar with.

Jerry White said that soils mapping is kind of spotty in Shoshone County.

Dave Ryals said he had a couple of questions. Other than Shoshone, which is apparent, are there any other counties that industry or landowners seem to be experiencing some difficulty with? He wonders if it doesn't boil down to the incompleteness of the soil surveys that are out there. He can't recall ever having anybody ask about a forestland value or a soil typing. Could it be the book, the soil survey itself is part of the problem in that it's not been completed.

Mike McDowell said soil mapping is less precise in the forested areas of Kootenai County than in the cultivated areas.

John Currin said using a tool to determine what productivity is in the forest is important to the counties and the State Tax Commission, and it's more important to forest land owners. It's something foresters have always been looking for. People who are

interested in this tool include the Idaho Department of Lands, Forest Extension, University of Idaho, small land owners and large land managers. There are constituencies out there that we need to tap into, and there are people who can develop those tools to help us. This isn't something unique to forestland for property tax purposes, that's a very small piece of the reason for this tool. If Rod has the data out there and he is convinced that there's a strong correlation between habitat type and site index, it needs to get published because nobody else knows about it. I can give you publication after publication and that correlation is not there. It is not a transparent process and that's all we're asking for.

Ron Craig said we've talked a couple of times this morning about this issue of equitability. I really think that's what Jerry was trying to get at is equitability. And when I look at the comparison I have a hard time believing that Latah County has 28 percent more good acres than Shoshone; that Clearwater has 59 percent more good acres in it; or that Benewah has 30 percent more acres. I think that's what Jerry is trying to address, is it equitable with the other counties as far as how the productivity classes have been assigned.

John Currin and we have no problem with what Jerry has done. It may seem that we came across that way because you're trying to implement this system. That's just an opening for us. We've discussed it. We've talked among ourselves about this issue for a long time. When we developed the economic model, we discussed it and we agreed that's not the time to bring it up. We need to get through this process because if we would have thrown that out there, we would have killed everything. It was just too much to address at one time. At least from Potlatch's perspective, we don't have any problems with what you're doing Jerry in terms of implementing a tool we're just questioning the applicability of that tool is all.

Tom Katsilometes John Mandzak has to take off. He's got a more important deal than this (for a meeting with his wife in Portland). Anything you want to add before you leave? You've had some good comments and we appreciate it.

John Mandzak I appreciate the opportunity to discuss this with you. It's an interesting problem we all have.

Tom Katsilometes shall we break for lunch? Is this a good time? Is there any further comments?

Dan Chadwick I have a follow up question on one comment Jane made. I think that ultimately we really want to come back to something that can be easily replicated across the state and could be enacted if need be in every jurisdiction regardless of size. There are some things I think are critical to that process though. Is the data universally available throughout the state, whatever data is ultimately decided that we need. Is the technology available to counties and is the training available for those counties to be able to put that data into proper use. Those are two major points that I don't know if we've got at this point in time in our state's development, either the availability of the data or

the expertise at a universal level such that we'll be able to implement it across the state and so there may have to be more of a phased in approach to this to take into consideration some of those very real differences between jurisdictions and the ability to afford implementation in some of the small counties. GIS tools are certainly not cheap.

Steve Fiscus I make a suggestion there's a note made because I felt like we were called out into the street to straighten out the counties and for the counties to respond to the issue of what is the lack of uniformity they currently have.

Dave Ryals said that's why I asked the question.

Tom Katsilometes Okay. John Currin left to take John Mandzak to the airport during the break for lunch.

Steve Fiscus the question was raised by John Currin as to what the counties are doing differently. I wanted to know if they wanted to respond to John's assertions.

John Currin there are issues about different software, the way information is available from counties. It's a multitude of different software platforms that the counties are operating on. That was the point. In answer to Dan, Yes, we would expect whatever system is developed to be applied by all counties across the board. I didn't mean to be critical in that comment.

Tom Katsilometes should we have some of these different methodologies brought to the table so we can look at them, compare them, analyze what might be useable from them, and maybe even the habitat typing and get better clarification on that in terms of it's transparency, get a little better handle on it. It may be worth an actual on the ground look at what we're doing with this group.

Jerry White said he understands there's a problem from the perspective of the large landowners, but it's the tool we have. That's what he has been educated in and what he understands and is confident in; but he does have an open mind. If there is something better and better ways, he'd like to consider it.

Dan Chadwick asked, assuming we came up with some other tool, what will the expectation be at that point. Will the expectation be that every county will have to go back and reclassify the land using that new model? Or will it be that at some point when you do reclassify, you will be expected to use the new model? What is the outcome you're looking for? Are we expected to go out there and reclassify everything based on that new model? What would be the approach?

John Currin answered that he would think that the counties would put the new methodology in place when it is available. From a taxpayer's perspective, one of the most frustrating things he deals with is multiple counties and multiple processes among those counties. The processes are not the same among the counties, and not just the evaluation process, but the administration process, and others. Taxpayers need

uniformity across the counties. One qualification of this new process would be that it would not take an extreme effort by the counties to implement. If it is available to a GIS system, hopefully most counties have a GIS system so they don't have to recreate the world.

Dan Chadwick asked, "Who pays?" It's a valid question that has to be put on the table.

Jane Wittmeyer said, from what she has heard, there's still a difference of opinion on whether or not there's an issue. She still thinks there is an issue that needs to be addressed a little more. Then get the group back together, somewhere like Moscow, and have people come in and talk to us. Find out from the NRCS what they have and how they do it and how it might be applicable. Then call in a couple of other people who have ideas that we may not even know about. She suggested meeting in Moscow and have a couple of presentations, work with landowners, and go out on the ground.

Dan Chadwick said I'm not sure we think there's a problem, but we can put all those methodologies on the table for review and consideration and we all go through them, talk about them, do that on the ground trip and see how they're applied. We have to have a conversation. Out of conversations come solutions, and we may find a better way. Then talk about implementation and the cost of implementation.

Dave Gabrielsen asked if it would be possible to get a briefing or some kind of handout explanation about these other systems that we'll be reviewing before we meet so we can have an understanding of what they are before we get together.

Tom Katsilometes responded yes, we'll expect that.

The committee decided to:

- Meet again in mid to late June in Moscow;
- Have a briefing or handout material about other systems prior to the meeting;
- Test the pros and cons of habitat typing while we're there;
- Distribute information to committee members 30 days before the meeting;
- Funnel the agenda through the STC and then out;
- Have a day out in the field;
- If possible visit a couple of different Forest Value Zones.

Gordon Harnasch suggested inviting Don Larson, a forester who worked with soil scientists in Moscow to the meeting.

Meeting adjourned.

Janice Davis
Secretary

Tom Katsilometes
Chairman