

TESTIMONY OF

RON WOLFE
CORPORATE FORESTER AND NATURAL RESOURCE MANAGER
SEALASKA CORPORATION

HEARING ON
RESEARCH AND DEVELOPMENT EFFORTS TO SAFELY AND
EFFICIENTLY SEQUESTER CARBON DIOXIDE

SUBCOMMITTEE ON SCIENCE, TECHNOLOGY AND
INNOVATION
SENATE COMMITTEE ON COMMERCE, SCIENCE AND
TECHNOLOGY

NOVEMBER 7, 2007

INTRODUCTION

Good afternoon Mr. Chairman, Members of the Subcommittee. My name is Ron Wolfe, Corporate Forester and Natural Resource Manager for Sealaska Corporation. Thank you for this opportunity to present testimony on the United States' efforts to control greenhouse gas emissions.

I would like to begin by telling you who we are. Sealaska Corporation (Sealaska) is one of 12 Regional Corporations established pursuant to the Alaska Native Claims Settlement Act (ANCSA) of 1971. Sealaska is the Regional Corporation for Southeast Alaska. Sealaska has over 17,000 shareholders and is the largest private landowner in Southeast Alaska. Our shareholders are the descendants of the original inhabitants of Southeast Alaska, the Tlingit, Haida and Tsimshian Indians. Our land and natural resources provide the foundation for our business strategies to deliver benefits to our Native shareholders. Sealaska also plays an important role in educating and training its Native shareholders, through scholarships and internship programs, and in preserving the culture of the Native people of Southeast Alaska.

Sealaska and other southeast Alaska Native entities own more than 575,000 acres of coastal temperate rainforest located in the panhandle of Southeast Alaska from as far north as Yakutat on the outer coast of the Gulf of Alaska to the Prince of Wales/Dall Island area at Dixon Entrance, the boundary between Alaska and Canada.

Given our substantial forest land holdings, we see many opportunities for Alaska Natives to contribute to the global efforts to address global warming as well as to create economic benefits for themselves and others. My testimony today outlines Sealaska's current thinking with respect to these opportunities.

OUR CARBON MISSION

Sealaska strives to manage its natural resource holdings in a manner that maximizes the various multiple uses of those resources. As we consider carbon sequestration strategies and technologies we need to ask what our motivation is for sequestering carbon. Ultimately the goal is to preserve earth's ecological functions. As such we should not focus exclusively on carbon sequestration as a panacea without understanding the ecological consequence of our actions. We believe that any federal program designed to encourage carbon sequestration must create incentives that reward systems that both sequester carbon and protect and enhance ecological functions.

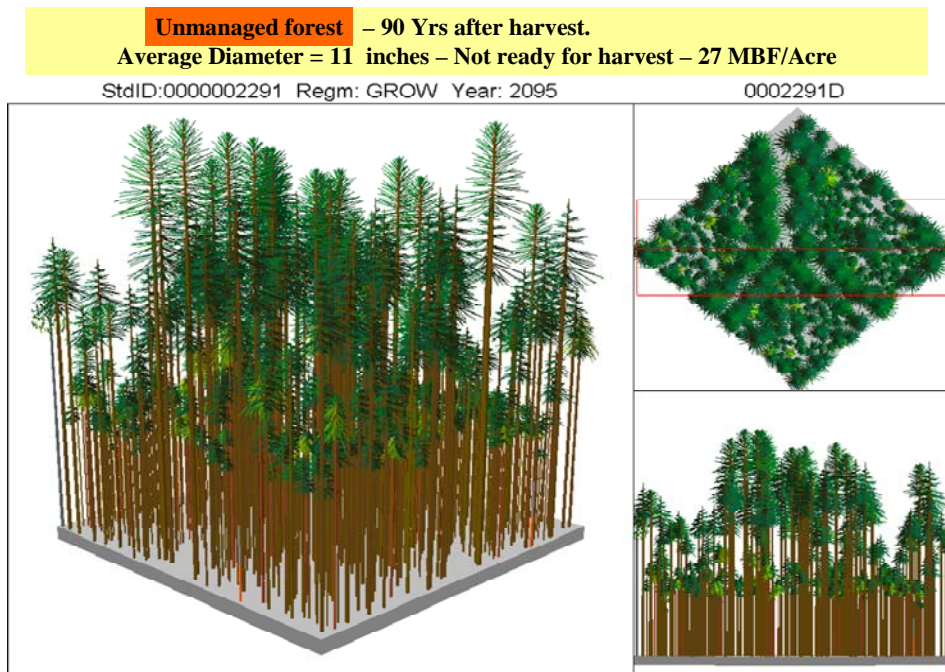
Trees are mostly carbon, about 50% or more by weight (the balance being primarily water), and have a tremendous capacity to take up and store carbon. The forests of Southeast are a coastal temperate rain forest with few disturbance agents and for several centuries have been free of catastrophic forest fires, creating a relatively stable carbon storage unit. But these forests do much more than store carbon. They also provide clean air, clean water, wildlife habitat, stream habitat, erosion control and soils protection, ecosystem and ecological functions, as well as recreation, hunting and fishing, subsistence, reverent religious experiences and spiritual well being opportunities.

Sealaska has embarked on an effort to document how management of the temperate rainforests of S.E. Alaska sequesters carbon and provide other co-benefits. These efforts can help guide development of policies and regulations that create the right incentives to induce forest land owners to "grow carbon" and to create other co-benefits including ecological functions.

We all understand that carbon sequestration using trees is not a silver bullet that will absorb the huge influx in carbon emissions that needs to occur to stabilize climate change. But, forests can be managed to sequester carbon and to be part of a combination of solutions needed to solve the climate change crisis. To that extent the Committee needs to appreciate that a policy directed to keep forest lands in tree production is an important component of a carbon

sequestering strategy. The right policies and inducements can entice forest land owners to manage lands to optimize carbon sequestration.

Our analysis concludes that managing a forest purely for maximum sequestration may cause a deterioration of the ecological functioning of forest lands. I have provided two graphic attachments from a computer model that predicts tree growth. The pictures show the results of two different management strategies. The first illustration depicts a strategy to maximize carbon sequestration:

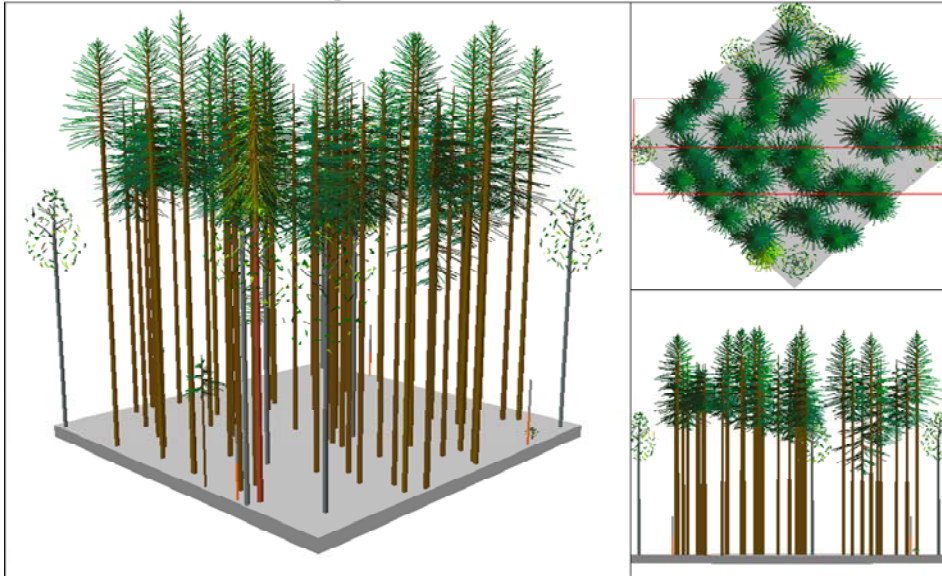


The second illustration depicts a strategy to optimize carbon retention and protect other ecological functions:

Managed forest 85 years after harvest – 70 years after management
Average Diameter = 14" – Ready for harvest – 39 MBF/Acre

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Both forests are the same age, but one has many small trees with less ecological function, whereas the other has larger trees and much better ecological function.

Modern forest managers of today require inventory systems and data capable of planning at both the individual “stand” level and at the landscape level. Sealaska’s forest planning software (FPS)¹ is designed to assist us to manage forest stands for optimum benefits. From FPS we are able to provide visual representation of the forest condition over time and to calculate the amount of carbon our forests grow over time for a variety of management regimes and prescriptions.

These diagrams demonstrate two principals:

- 1) A tree canopy that is dense will block sunlight reaching the forest floor, significantly retarding growth of ground vegetation important for forest diversity. This is the best strategy to maximize carbon sequestration in our forests.

¹ Information about this software program can be found at <http://www.forestbiometrics.com/>

2) Conversely a tree canopy that is managed to create open spaces allows sunlight to reach the forest floor enhancing brush, shrubs and forbs production that serve as food for wildlife and other important ecosystem functions. This is the best strategy to optimize both carbon sequestration and ecological functions.

Close inspection of the diagrams for an unmanaged forest reveals a very densely stocked stand of trees that shuts out virtually all sunlight beginning at age 30 and persists until age 180 when individual trees begin to die and fall to the forest floor; even then little sunlight reaches the forest floor. Compare now a stand that has been thinned early in its development by removing the small trees at age 15; much more sunlight is allowed to reach the forest floor, and this condition persists with time. Herein lies the co-benefits to wildlife and ecosystem functions. While the unmanaged forest shades all sunlight to the forest floor, the managed forest allows the sunlight to reach the forest floor.

Consistent with the ultimate goal of carbon sequestration we believe that any federal climate change regulatory program should reward for both sequestration of carbon and enhancing ecological function. Likewise, federal research and development initiatives should be focused on how best to maximize carbon sequestration, while also maintaining and enhancing the other ecological functions provided by the forest.

Mr. Chairman, I would also like to point out that proper management of the forest is not the only way to store and save carbon. Products made from wood store carbon for the duration of their use. A wood 2 X 4 stud used in house construction stores carbon so long as the house stands and perhaps longer depending on what happens to the 2 X 4 when the house is taken down. Further, and perhaps more importantly, a wood 2 X 4 requires less carbon to manufacture than substitute products such as aluminum, cinder blocks, bricks or concrete, creating a savings in carbon.

Similarly, use of forest materials can reduce carbon emissions in the energy sector. Sealaska has investigated a variety of technologies to convert lignocellulosic biomass (wood and bark) into ethanol and

other renewable fuels. Our studies with the Department of Energy have proven several viable technologies for creation of renewable fuels. Pellet fuel wood produced from biomass that is currently waste in the forest, or from the manufacture of wood products, also offers savings in carbon over alternate fossil fuels. Providing carbon offset credits for these benefits would facilitate the development and commercialization of these technologies.

Lastly, it is important to point out that active management of forests is not a silver bullet in the total sequestration game, but fits within what should be the first rule of sequestration policy "*keep what you have*". Consistent with this rule, Sealaska believes that any federal climate change program should provide incentives to forest land owners and managers to keep lands in forest production and not convert forest lands to other uses. The argument that forest land owners should be awarded for only the delta or increase in sequestration from current practices is not an incentive for retaining forest lands and managing to be long-term carbon sinks.

In summary, Mr. Chairman, climate change solutions require a sequestration strategy. However, the ultimate reason for addressing and attempting to manage climate change is to preserve the earth's ecological functions. Any forestry sequestration strategy must ensure we get the right outcome:

- Single focus sequestration strategies can negatively impact ecosystem diversity.
- Strategies to provide incentives for sequestration AND maintaining co-benefits should be rewarded.
- A national policy for forest sequestration should reward for all carbon sequestered in a forest and clarify that within appropriate management prescriptions harvesting forests for renewable fuel and wood products is within the sequestration objectives.

Southeast Alaska's forests generate a broad spectrum of ecosystem goods and services (both carbon and other ecological co-benefits). Forest management practices directed to sequester carbon can provide a wide array of economic opportunities important to the public, especially to American Indians and Alaska Natives.

Sequestering activities can create new commerce and job opportunities in some of the poorest rural, predominately Native areas of S.E Alaska. while enhancing the forest's ecological functions.

By creating a regulatory framework that expands the economic opportunity to sequester carbon in these forests, the American public will benefit by managed landscapes that promote enhanced biodiversity and contribute in a positive way to greenhouse gas climate control. For these benefits to occur public policy must allow accounting of the entire forest carbon budget and related co-ecological benefits so purchasers get what they are paying for and sellers receive fair compensation for what they are providing with appropriate carbon sequestration verification systems and protocols.

COMMENTS ON S. 2191 – AMERICA'S CLIMATE SECURITY ACT

Mr. Chairman, the Subcommittee on Private Sector and Consumer Solutions to Global Warming and Wildlife Protection of the Committee on Environment and Public Works has just reported S. 2191, the America's Climate Security Act. Since it appears that S. 2191 is a likely vehicle for Senate consideration of a climate change regulatory program, we would like to take this opportunity to provide our views on the legislation.

Sealaska strongly supports the provisions of S. 2191 that create two opportunities for forestry landowners to participate and earn revenue through sequestration --

- the set aside of 5% of the annual emission allowance budget for agricultural and forestry projects under section 3701; and
- the opportunity to generate and sell offset allowances under section 2402.

Both of these programs could provide significant contribution to the ultimate success of the U.S. efforts to control and reduce greenhouse gas emissions as well as provide substantial economic benefits to Sealaska and similarly situated land owners if the rules are right.

It is critical that the rules for what projects are eligible for emission allowances or offset allowances be consistent with our above testimony and focus on the credibility of each project. The rules should not limit the universe of projects that may qualify.

If the offsets from a project meet the legislation's test of representing "real, verifiable, additional, permanent, and enforceable reductions in greenhouse gas emissions or increases in biological sequestration" then that ought to be sufficient to receive allowances. There should not be any other artificial constraints on the ability of a particular project to earn such allowances.

To ensure maximum benefit from these two opportunities and maximum participation from forestry and agriculture land owners, the outreach program called for in Section 2401 and the research and development program called for in Section 3702 are essential. They need to be comprehensive, robust and well-funded.

CONCLUSION

Sealaska appreciates the opportunity to testify on this very important subject. Forest conservation and management needs to be a critical component of any cap and trade system designed to mitigate global greenhouse emissions based on the voluntary participation of landowners. This business and regulatory framework must provide economic incentives that exceed the opportunity costs of other resource uses or land conversion for landowners to be successful. Managing organizations with a fiduciary responsibility must adhere to a higher standard of economic decision-making and carefully weigh future land uses and opportunities to generate sustainable sources of revenue. A properly designed national climate change regulatory program can be a "win / win" situation for the nation and Sealaska. We stand ready to do our part to benefit the global climate, mankind and our shareholders and look forward to working with the Congress in that endeavor.

I am happy to address any questions the Subcommittee may have, Mr. Chairman.

Thank you.