Appendix A: DEFINITIONS

This appendix contains a number of different definitions related to sustainability. No particular definition should be considered the "best" or "correct" definition since sustainability is a concept much too complex to define it with a short phrase. Rather, reviewing and reflecting on all the definitions should lead the reader to a better sense of the overall meaning of the term and how it fits within various contexts.

A.1 Forest-Related Sustainability Definitions

Sustainability

"…sustainability is ultimately about balancing resource demand with resource supply over the long term." *Donald W. Floyd, Sarah L. Vonhof, and Heather E. Seyfang. "Forest Sustainability: A Discussion Guide for Professional Resource Manager", Feb 2001 Journal of Forestry, p.9.*

Sustainable Forest

"The defining values of the sustainable forest vary tremendously among people. Parks or preserves, habitat or watershed mosaics, multiple-use or industrial forests, short-rotation farm plantations are all sustainable from some point of view if the conditions in which they grow balance inflows and outflows over time." *Jeff Romm, "Sustainable Forests and Sustainable Forestry" (quoted in Floyd, Vonhof and Seyfang, Feb 2001, p9)*

"the capacity of forests, ranging from stands to ecoregions, to maintain their health, productivity, diversity, and overall integrity in the long run, in the context of human activity and use" *(Helms, 1998, "The Dictionary of Forestry") (quoted in Floyd, Vonhof and Seyfang, Feb 2001, p9)*

Sustainable Forestry/Sustainable Forest Management

"[One type of foresters] group (A) regards the land as soil, and its function as commodity-production; [another type] group (B) regards the land as a biota, and its function as something broader…group A is quite content to grow trees as cabbages, with cellulose as the basic forest commodity. Group B, on the other hand, … employs natural species, and manages a natural environment rather than creating an artificial one. Group B prefers natural reproduction on principle. It worries on biotic as well as economic grounds about the loss of species….It worries about a whole series of secondary forest functions: wildlife, recreation, watersheds, wilderness areas." *Aldo Leopold, Sand County Almanac 1949, p221*

"…maintaining the forest for a long time, showing concern for the well-being of future generations, making reasonable estimates of future needs, knowing current rates of resource use and regeneration, and reaching consensus on appropriate levels of resource use." *Donald Floyd, Sarah Vonhof, and Heather Seyfang, Forest Sustainability: A Discussion Guide for Professional Resource Managers, Journal of Forestry, February 2001, p.8.*

"…the continued existence and use of forests to meet human physical, economic, and social needs, the desire to preserve the health of forest ecosystems in perpetuity, and the ethical choice of preserving options for future generations while meeting the needs of the present." *Sourcebook on Criteria and Indicators of Forest Sustainability in the Northeastern Area USDA Forest Service, State and Private Forestry, Northeastern Area, May 2002, Publication # NA-TP-03-02, available online at: http://www.na.fs.fed.us/sustainability/sourcebook.htm*

"…meet the needs of the present without compromising the ability of future generations to meet their own needs by practicing a land stewardship ethic which integrates the reforestation, managing, growing, nurturing, and harvesting of trees for useful products with the conservation of soil, air and water quality, wildlife and fish habitat, and aesthetics." *American Forest & Paper Association SUSTAINABLE FORESTRY PRINCIPLES AND IMPLEMENTATION GUIDELINES as approved by AF&PA Board of Directors on October 14, 1994, web site: http://www.woodcom.com/woodcom/afpa/afpabp02.html*

"… a type of management that views the forest not as the source of any one economic product (e.g., timber, paper or mushrooms) or service (e.g., recreation or water supply), but as an integrated, ecological whole encompassing countless values, products and services. …[it] is intended to respect the full range of environmental, social and economic values of the forest, and to integrate the way those values are managed to ensure that none are lost and that the forest remains healthy and vibrant into the future." *Roundtable on Sustainable Forests, A Partnership for the Future, web site: http://www.sustainableforests.net/*

"…the practice of meeting the forest resource needs and values of the present without compromising the similar capability of future generations." Note that sustainable forest management includes practicing a land stewardship ethic that integrates the reforestation, managing, growing, nurturing, and harvesting of trees for useful products with the conservation of soil, air and water quality, wildlife and fish habitat, and aesthetics." *UN Conference on Environment and Development, Rio de Janeiro, 1992*

"…'good management' and utilization of forests and forested areas in such a way and at such intensity that their biological diversity, productivity and regenerative capacity, their vitality, and their capacity to fulfill, now and for the future, their pertinent ecological, economic and social functions at the local, national and global levels, be maintained, without thereby doing harm to other ecosystems." *Ministerial Conference on the Protection of Forests in Europe, Helsinki, 1993, from International Union of Forest Research Organization, http://iufro.boku.ac.at/iufro/publications/occ-p9/occp9-1.htm*

"…maintain and enhance the long-term health of our forests ecosystems, for the benefit of all living things both nationally and globally, while providing environmental, economic, social and cultural opportunities for the benefit of present and future generations." *Canadian Institute of Forestry/Institut forestier du Canada, Canada Forest Accord May 1, 1998, http://www.cif-ifc.org/practices/*

"Ecologically sustainable forest use implies optimizing the tangible and intangible social and economic benefits which forest can provide to the community, with the goals of maintaining the functional basis of forested land, biodiversity, and the options available

for future generations." *The Australian National University, School of Resources, Environment and Society Source: Ecologically Sustainable Development Working Groups, 1991* http://sres.anq.edu.au

"Sustainable forestry may be defined as an approach to forest utilization and management that recognizes:

- that human societies and economies exist within, and are dependent on, the natural ecosystem;
- that the resources of the earth are finite;
- that all organisms have a right to exist and share in the earth's bounty; and
- that the present human generation must respect the rights and needs of future generations"

Appalachian Sustainable Forestry, http://www.uky.edu/OtherOrgs/AppalFor/

"…forest management that:

- maintains the forest, its ecological functions, processes and overall structure, in healthy condition, in perpetuity;
- does not degrade soil or water quality;
- does not produce any irreversible consequences or losses to biological diversity, including genes, species, ecosystems, and forest types (i.e. no extinctions);
- applies to the entire forest as an integrated, ecological whole, rather than to any single component or product of the forest;
- can be either active or passive, and does not require the extraction or harvest of a particular product from the forest;
- can be applied to any size or scale of management area, e.g. individual forest management unit or ecosystem, watershed, landscape, forest type, bio-region, nation, etc.; provided, however, that at each different scale, sustainability must be assessed entirely within the boundaries of the defined unit or region; and
- can produce a wide range of environmental, social and economic benefits to society, depending on the scale of the management area and its capabilities and carrying capacity."

International Tropical Timber Organization (ITTO), from William E Mankin, Director, Global Forest Policy Project, http://www.itto.or.jp/newsletter/v8n3/07.html)

Sustainable forestry is a balance of three things: maintaining ecological integrity, meeting the landowner's needs and desires, and providing societal benefits. *Appalachian Sustainable Development, http://www.appsusdev.org/for/whatis.html*

A.2 Agriculture-Related Sustainability Definitions

"...farmers in sustainable agriculture are concerned about feeding their families and paying their bills, but those are not their only goals in life. They set out to protect the land, improve their quality of life, and enhance the communities in which they live. Their day-to-day decisions are not guided by a single minded search for profit, but by a delicate balancing act among many goals." *(Dick Levins, Land Stewardship Program, White Bear Lake Minnesota. Monitoring Sustainable Agriculture with Conventional Financial Data http://www.landstewardshipproject.org)*

A.3 Community-Related Sustainability Definitions

Webster's

"Sustain - to cause to continue (as in existence or a certain state, or in force or intensity); to keep up, especially without interruption diminution, flagging, etc.; to prolong." *Webster's New International Dictionary. Springfield, MA: Merriam-Webster Inc., 1986*

Random House

"Develop - v.t. - to bring out the capabilities or possibilities of, to bring to a more advanced or effective state." *Random House Dictionary of the English Language. New York, NY: Random House, 1987*

Our Common Future

"Sustainable development is development that meets the needs of the present without compromising the ability of future generations to meet their own needs." *World Commission on Environment and Development. Our Common Future. Oxford, Great Britain: Oxford University Press, 1987, page 8 (Frequently referred to as the Brundtland report after Gro Harlem Brundtland, Chairman of the Commission)*

Caring for the Earth

"improving the quality of human life while living within the carrying capacity of supporting eco-systems." *IUCN/UNEP/WWF. Caring for the Earth: A Strategy for Sustainable Living. Gland, Switzerland: 1991 (IUCN - The World Conservation Union, UNEP - United Nations Environment Programme, WWF - World Wide Fund for Nature)*

Sustainable Seattle

Sustainability is the "long-term, cultural, economic and environmental health and vitality" with emphasis on long-term, "together with the importance of linking our social, financial, and environmental well-being." *http://www.sustainableseattle.org/*

Sustainable Community Roundtable Report (South Puget Sound)

"In a sustainable community, resource consumption is balanced by resources assimilated by the ecosystem. The sustainability of a community is largely determined by the web of resources providing its food, fiber, water, and energy needs and by the ability of natural systems to process its wastes. A community is unsustainable if it consumes resources faster than they can be renewed, produces more wastes than natural systems can process or relies upon distant sources for its basic needs." *http://www.olywa.net/roundtable*

Coop America

"Sustainable society - Society whose long term prospect for continuing to exist are good. Such a society would be characterized by an emphasis on preserving the environment, developing strong peaceful relationships between people and nations, and an emphasis on equitable distribution of wealth." *Coop America Quarterly, No. 37: Summer 1995* *http://www.coopamerica.org/*

Northwest Policy Institute (U. of WA, Graduate School of Public Affairs)
"Sustainable communities foster commitment to place, promote vitality, build resilience to stress, act as stewards, and forge connections beyond the community."
http://depts.washington.edu/npc/.

Interfaith Center on Corporate Responsibility (ICCR)
"Sustainable development...[is] the process of building equitable, productive and participatory structures to increase the economic empowerment of communities and their surrounding regions." *Interfaith Center on Corporate Responsibility, 475 Riverside Drive, New York, NY 10115, (212) 870-2295*

Mountain Association for Community Economic Development (MACED)
"Sustainable community development is the ability to make development choices which respect the relationship between the three "E's" – economy, ecology, and equity:

- Economy – Economic activity should serve the common good, be self-renewing, and build local assets and self-reliance.
- Ecology – Humans are part of nature, nature has limits, and communities are responsible for protecting and building natural assets.
- Equity – The opportunity for full participation in all activities, benefits, and decision-making of a society."

http://www.maced.org

Puanani Rogers, Ho`okipa Network, Lihu`e, Kaua'i, Hawaii
"Aloha 'aina, malama' aina, ahupua'a style living... Aloha 'aina simply means to love and respect the land, make it yours and claim stewardship for it. Malama 'aina means to care for and nurture the land so it can give back all we need to sustain life for ourselves and our future generations, and, an ahupua'a is an ancient concept of resource uses and management based on families living in a division of land that connects the mountains to the reefs and the sea."
http://www.hawaiian.net/~cbokauai/nani/susahu.html

Appalachian Sustainable Development
At its heart, sustainability involves the challenge of integrating human activities into the ecosystem upon which we all depend. [There are] five working principles of sustainable community development. We believe that sustainable development:

- is locally rooted, diversifying the economy and culture of communities and regions;
- fits within the ecosystem, building upon natural assets, honoring limits of absorption and regeneration;
- promotes regional self-reliance by building both individual skills and cooperative, innovative networks;
- adds value to raw materials and shortens the distance between "producers" and "consumers"; and
- lasts indefinitely by building the assets – ecological, human and financial – of particular places.

http://www.appsusdev.org/susdev.html

Hamilton Wentworth Regional Council
"Sustainable Development is positive change which does not undermine the environmental or social systems on which we depend. It requires a coordinated approach to planning and policy making that involves public participation. Its success depends on widespread understanding of the critical relationship between people and their environment and the will to make necessary changes."
http://www.vision2020.hamilton-went.on.ca/

Mathis Wackernagel, coauthor of *Ecological Footprint*
"Satisfying lives for all, within the means of nature." *http://www.rprogress.org*

Friends of the Earth Scotland
"Sustainability encompasses the simple principle of taking from the earth only what it can provide indefinitely, thus leaving future generations no less than we have access to ourselves." *http://www.foe-scotland.org.uk/*

Our Common Journey
"The reconciliation of society's developmental goals with the planet's environmental limits over the long term."
Board on Sustainable Development, Policy Division, National Research Council. Our Common Journey: A Transition to Sustainability. Washington, DC: National Academy Press, 1999, page 2

Thomas Jefferson Sustainability Council (Charlottesville, Virginia)
"Sustainability may be described as our responsibility to proceed in a way that will sustain life – that will allow our children, grandchildren and great-grandchildren to live comfortably in a friendly, clean, and healthy world…. that people:

- Take responsibility for life in all its forms as well as respect human work and aspirations;
- Respect individual rights and community responsibilities;
- Recognize social, environmental, economic, and political systems to be inter-dependent;
- Weigh costs and benefits of decisions fully, including long-term costs and benefits to future generations;
- Acknowledge that resources are finite and that there are limits to growth;
- Assume control of their destinies;
- Recognize that our ability to see the needs of the future is limited, and any attempt to define sustainability should remain as open and flexible as possible."

Jerry Sturmer, Santa Barbara South Coast Community Indicators
"Sustainability is meeting the needs of all humans, being able to do so on a finite planet for generations to come while ensuring some degree of openness and flexibility to adapt to changing circumstances."

Maureen Hart, Sustainable Measures
"Improving the quality of all human life while living off the interest of the community capital (natural, human, social and built)." *http://www.sustainablemeasures.com*

Cornelia Flora
"Sustainable community development is not based on finding the solution, but on increasing the capacity of individuals and communities to work together to respond to constant changes..."

Santa Monica Sustainable City Program
"A way of life that safeguards and enhances our resources, prevents harm to the natural environment and human health, and sustains and benefits the community and local economy – for the sake of current and future generations."
www.ci.santa-monica.ca.us/environment

A.4 Business- and Production-Related Sustainability Definitions

Paul Hawken
"Sustainable businesses:

- Replace nationally and internationally produced items with products created locally and regionally.
- Take responsibility for the effects they have on the natural world.
- Do not require exotic sources of capital in order to develop and grow.
- Engage in production processes that are human, worthy, dignified, and intrinsically satisfying.
- Create objects of durability and long-term utility whose ultimate use or disposition will not be harmful to future generations.
- Change consumers to customers through education."

Paul Hawken. The Ecology of Commerce. New York, New York: Harper Business, 1993, page 144

Sierra Business Council
"We must put behind us, decisively and forever, the notion that our economy functions in a vacuum, sealed from society and the natural world. Our wealth is our total capital – social, natural, and financial. We must not make decisions based on narrow measurements. Instead, we must understand and track our total capital, adopt an integrated, long-term view of our region's wealth, and keep the whole picture in focus."
http://www.sbcouncil.org

Sustainable Production
"Sustainable production is the creation of goods and services using processes and systems that are: non-polluting; conserving of energy and natural resources; economically efficient; safe and healthful for workers, communities, and consumers; and, socially and creatively rewarding for all working people."
http://www.uml.edu/centers/LCSP/

Principles of Sustainable Production *(adapted from Lowell Center for Sustainable Production)*

- "Products and services are
  - safe and ecologically sound throughout their life cycle
  - as appropriate, designed to be durable, repairable, readily recycled, compostable, or easily biodegradable

    - produced and packaged using the minimal amount of material and energy possible
- Processes are designed and operated such that
    - wastes and ecologically incompatible byproducts are reduced, eliminated or recycled on- site
    - chemical substances or physical agents and conditions that present hazards to human health or the environment are eliminated
    - energy and materials are conserved, and the forms of energy and materials used are most appropriate for the desired ends;
    - work spaces are designed to minimize or eliminate chemical, ergonomic and physical hazard
- Workers are valued and
    - their work is organized to conserve and enhance their efficiency and creativity
    - their security and well-being is a priority
    - they are encouraged and helped to continuously develop of their talents and capacities
    - their input to and participation in the decision making process is openly accepted
- Communities related to any stage of the product lifecycle (from production of raw materials through manufacture, use and disposal of the final product) are respected and enhanced economically, socially, culturally and physically; and
- Continued economic viability does not depend on ever-increasing (i.e., unsustainable) consumption of materials and energy." *http://www.sustainableproduction.org*

World Business Council on Sustainable Development

"Sustainable development involves the simultaneous pursuit of economic prosperity, environmental quality and social equity. Companies aiming for sustainability need to perform not against a single, financial bottom line but against the triple bottom line."

"Over time, human and social values change. Concepts that once seemed extraordinary (e.g. emancipating slaves, enfranchising women) are now taken for granted. New concepts (e.g. responsible consumerism, environmental justice, intra- and inter-generational equity) are now coming up the curve."
http://www.wbcsd.ch/

The Natural Step – Four System Conditions

"1. Substances from the Earth's crust must not systematically increase in nature. *(Fossil fuels, metals, and other minerals cannot be extracted at a faster rate than their re-deposit back into the Earth's crust)*

2. Substances produced by society must not systematically increase in nature. *(Things like plastics, ozone-depleting chemicals, carbon dioxide, waste materials, etc. must not be produced at a faster rate than they can be broken down in nature. This requires a greatly decreased production of naturally occurring substances that are systematically accumulating beyond natural levels, and a phase-out of persistent human-made substances not found in nature.)*

3. The physical basis for productivity and diversity of nature must not be systematically diminished. *(We cannot harvest or manipulate ecosystems in such a way as to diminish their productive capacity, or threaten the natural diversity of life forms (biodiversity). This requires that*

we critically examine how we harvest renewable resources, and adjust our consumption and land-use practices to fall well within the regenerative capacities of ecosystems.)
4. We must be fair and efficient in meeting basic human needs. *(Basic human needs must be met with the most resource-efficient methods possible, including a just resource distribution*.)"
adapted from http://www.naturalstep.org/

A.5 Indicator Process-Related Definitions

Some words commonly used in indicator processes are often defined differently and used to mean different things in different cases. This list below is an attempt to explain the most common meanings and how these terms are used in this toolkit. However, it is important that to avoid confusion the people using the terms clarify their meaning.

Vision: The overarching picture of where a community wants to be in 20-50 years in terms of its forest and other natural resources, social and economic development. A vision is not something that can be achieved quickly and easy but rather requires a constant commitment from all community members to work for improving various aspects of their community defined through goals, targets, and indicators.

Goal: description of a future condition that community members wish to achieve. Goals usually refer to a long-term vision and look at the entire community like a system rather than a specific area or project with limited impact.

Criterion: In the context of the Montreal Process Criteria and Indicators, a criterion is a category of conditions or processes by which sustainable forest management may be assessed. The seven Criteria in the Montreal Process are seven categories or topics that must be reviewed or assessed in order to determine if a forest is sustainable. Another common use of the term criterion is as a means of judging; a test by which something can be judged. In this toolkit, when the term Criteria or Criterion is capitalized, it refers to the MP C&I meaning of the word – one of the seven specific categories or topics that must be considered for assessing sustainable forestry. When it is not capitalized, it refers more generally to a test by which something can be judged or assessed.

Indicator: An indicator is something that provides information about a system including the condition or changes in the system or the condition or changes in forces that affect the system over time. Generally an indicator's purpose is to show you how well a system is working. If there is a problem, an indicator can help you determine what direction to take to address the issue. In this toolkit, the term "indicator" is used to refer to numerical indicators, that is, something that can be measured and for which changes can be reported over time. Another common use of the term "indicator" is as something that implies that there is a problem, however, in this toolkit, the term "indication" will be used for this meaning. For example, a large number of dead trees in a forest is an indication that there may be a problem, but it does not provide enough information to make decisions on how to solve the problem.

Data: Data are the values of indicators at particular points in time and can be thought of as the raw materials that are used to create indicators. To have a good indicator you need

good data – individual measurements, collected over a period of time. An indicator is a variable and the data are the actual measurements that this variable can take. Thus, when the data of an indicator are put together, they form a "time-series" that makes it possible to analyze trends over time.

Target: A target is a desired future value that an indicator could take. Targets are usually set for shorter periods of time – between 1-2 and 10 years – than the overall goal period (20 to 50 years). Targets serve as milestones in the process of achieving a goal or a vision and lead to initiating corrective actions.

Benchmark: Benchmark is a term used to mean several different things. One commonly used meaning is as a "target." In this sense, a "benchmark" is a desired value for an indicator at some point in the future. Another commonly used meaning is as a "standard." In this sense, a "benchmark" is a value that others have achieved with their indicators or have set as a worthwhile value to aim for. Related to this meaning, is the use of the term to include all of the actions required to achieve a certain value for an indicator. In this case, "benchmarks" means "best practices."