

Focusing on Stewardship for Long-term Sustainability

Lesson Description

Throughout this course, you have been learning about land stewardship. You have examined the different system components on your property (or future property), starting with setting goals and examining limitations, and then examining soil, water, plants, animals and potential business opportunities. In this module, you will apply a whole-farm approach to incorporate all of the lessons you have learned throughout the Living on the Land course. We will review and expand your understanding of what it means to be a steward of the land and gain a better understanding of farm sustainability. You will also be introduced to some additional concepts of sustainability, including renewable energy and the social context of sustainability.

Lesson Objectives

1. Understand the relationships among the various components of land stewardship you have learned during the course.
2. Learn how a whole-farm systems approach to property management will promote sustainability.
3. Identify goals and action steps to increase the sustainability of your property.
4. Increase your awareness of additional sustainability issues, such as renewable energy.
5. Understand the need for monitoring by completing an assessment of your sustainable management practices.



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Lesson Handouts

1. Habits of a Systems Thinker Information Sheet
2. Putting Sustainable Goals Into Action Activity Sheet
3. Drought and Flood Activity Sheet
4. Sustainable Farm Management Assessment Activity Sheet

Supplemental Resources

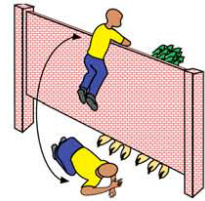
Sustainable Agriculture: An Introduction, ATTRA

Moving toward Sustainable Farming Practices, WSU King County Extension

Water Quality Self-Assessment for Small Acreages, WSU Clark County Extension



1. Habits of a Systems Thinker Information Sheet

Seeks to understand the big picture 	Observes how elements within systems change over time, generating patterns and trends 	Recognizes that a system's structure generates its behavior 
Identifies the circular nature of complex cause and effect relationships 	Habits of a Systems Thinker 	Changes perspectives to increase understanding 
Surfaces and tests assumptions 		Considers an issue fully and resists the urge to come to a quick conclusion 
Considers how mental models affect current reality and the future 	Uses understanding of system structure to identify possible leverage actions 	Considers both short and long-term consequences of actions 
Finds where unintended consequences emerge 	Recognizes the impact of time delays when exploring cause and effect relationships 	Checks results and changes actions if needed: "successive approximation" 

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Putting Sustainable Goals Into Action Activity Sheet

Long-term Goals	Short-term Actions
	1. 2. 3.
	1. 2. 3.
	1. 2. 3.
	1. 2. 3.
	1. 2. 3.
	1. 2. 3.



Drought or Flood Contingency Planning Activity Sheet

In this activity, you'll develop a plan so you'll be ready to manage droughts or floods that may affect your property. Make a list of the ways drought or flood conditions will affect your property goals in the short term (one year):

Make a list of the ways drought or flood conditions will affect your property goals in the midterm (three years):

Make a list of the ways drought or flood conditions will affect your property goals in the long term (five years):

What are your contingency plans for drought or flooding?

How would a drought or a flood affect your property management?



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Sustainable Farm Management Assessment Activity Sheet, page 1 of 4

Sustainability assessment means taking a look at your whole-farm operation and evaluating how well you are doing to meet your long-term goals for the land, your farm business and/or your family. Skip any categories that do not apply to your property.

YES	NO	Sustainable Farm Management Assessment Activity Sheet
Goals		
☐	☐	Do you have written goals for your property or farm operation?
☐	☐	Have you identified the strengths and weaknesses of your property or farm business?
Soil quality and conservation		
☐	☐	Do you monitor your soil quality? How often do you monitor? ☐ monthly ☐ seasonally ☐ annually ☐ other (specify):
☐	☐	Have you tested your soil in the last three years?
☐	☐	Do you have a plan to minimize soil erosion and maintain vegetation on your land? Examples are: planting on the contour, proper irrigation water management, minimum/no-till farming, cover crops, prescribed grazing, enhancing riparian areas, etc.
☐	☐	Are you building soil organic matter by minimizing your tillage operations? Examples are: plowing down green manure crops, rotating your crops, adding compost or mulch, etc.
Water quality		
☐	☐	Do you check the efficiency of your irrigation systems? How often? ☐ weekly ☐ monthly ☐ seasonally ☐ other (specify):
☐	☐	Have you taken steps to protect your wellhead?
☐	☐	Do you regularly pump your septic tank? How often do you pump? ☐ 1-2 years ☐ 3-4 years ☐ 5+ years ☐ other (specify):
☐	☐	Do you have the legal right to use the water that is on or flows through your property?
☐	☐	Do you prevent animals from entering all water sources?
☐	☐	Do you have a manure management plan?
Defensible space		
☐	☐	Do you have a plan for a defensible space zone on your property?
☐	☐	Have you taken the steps necessary to create defensible space around your home, animals and other structures?
☐	☐	Do you have a plan to maintain the defensible space on your property?
☐	☐	Do you know what to do when a fire is approaching your home?
☐	☐	Do you have a personalized evacuation plan for your property in case of a wildfire? This includes evacuating your animals.
☐	☐	Do you have a contingency plan for after the fire?



Sustainable Farm Management Assessment Activity Sheet, page 2 of 4

YES	NO	Sustainable Farm Management Assessment Activity Sheet
Pasture/forages		
☐	☐	Do you monitor your pastures? How often do you monitor? ☐ weekly ☐ monthly ☐ seasonally ☐ other (specify):
☐	☐	Do you know what grasses and legumes are growing on your property?
☐	☐	Have you identified one or more key species?
☐	☐	Do you know the location of the growing points on your key species?
☐	☐	Do you know how to manage the key species? Examples are: adequate growth height before grazing, amount of height that can be removed by grazing before a rest period should occur, how long the rest period should be, and how all those factors change throughout the growing season.
☐	☐	Do you recognize the characteristics of an overgrazed and an underutilized pasture?
☐	☐	Do you have a sacrifice area?
☐	☐	Do you have strategies for dealing with shortages and excesses of forage?
☐	☐	Do you use a rotational grazing system?
Weeds		
☐	☐	Do you monitor your property for weeds? How often do you monitor? ☐ weekly ☐ monthly ☐ seasonally ☐ other (specify):
☐	☐	Have you identified the weeds growing on your property?
☐	☐	Do you have a strategy to manage weeds on your property? Methods include mowing, cultivation, burning, applying herbicides, using biological controls, or using a combination of methods.
☐	☐	Do you use integrated weed management?
☐	☐	Have you identified the most effective, lowest toxicity management methods?
☐	☐	Are weed populations declining on your property?
Pest management		
☐	☐	Do you monitor your property for pests? How often do you monitor? ☐ weekly ☐ monthly ☐ seasonally ☐ other (specify):
☐	☐	Do you have an integrated pest management plan for your property? Management could include preventative methods, insect monitoring with traps, observations of crop health, etc.
☐	☐	Have you identified the most effective, lowest toxicity management methods?
Livestock/poultry		
☐	☐	Do you know how much food and water your animals need daily?
☐	☐	If no feeds are purchased, does your pasture forage provide an adequate diet?
☐	☐	Do you check your animals for pests and diseases? How often? ☐ daily ☐ weekly ☐ monthly ☐ other (specify):



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Sustainable Farm Management Assessment Activity Sheet, page 3 of 4

YES	NO	Sustainable Farm Management Assessment Activity Sheet
Livestock/poultry, continued		
☐	☐	Do you have a health plan in place for your animals, including vaccinations and proper nutrition?
☐	☐	Do your animals/birds appear to be healthy and vigorous?
☐	☐	Do your animals/birds reach the proper weight at proper ages?
☐	☐	Do you know how to tell your animals' or birds' body condition?
☐	☐	Does your herd or flock have minimal or no fertility problems?
☐	☐	Do you provide the care your animals need before, during and after breeding?
☐	☐	Do you have a manure management plan?
Wildlife		
☐	☐	Do you have a wildlife management plan?
☐	☐	Do you monitor your property for wildlife damage? How often? ☐ weekly ☐ monthly ☐ seasonally ☐ other (specify):
☐	☐	Have you done all you can to make sure your property is not luring in unwanted wildlife? Examples include: putting trash in critter-proof containers, bringing pet food in at night, inspecting and installing barriers to entrance holes in your house, removing brush and vegetation that would provide cover for nuisance wildlife, etc.
Managing impacts		
☐	☐	Have you designed or retrofitted your facilities to minimize impacts from animals' bodies? This would include flashing on fences and around trees, pasture and sacrifice areas located away from wellheads, etc.
☐	☐	Do you prevent animals from entering all water bodies?
☐	☐	Do you have a manure management plan?
Marketing		
☐	☐	Have you identified your customer base?
☐	☐	Are you effectively "telling your story" through your marketing/advertising?
☐	☐	Have you assessed what your customers want?
☐	☐	Do you regularly solicit feedback from your customers?
Record keeping		
☐	☐	Do you keep crop production records? Examples include: when and what is applied, planted, harvested, etc.
☐	☐	Do you keep animal production records? Examples include: source, weights, grazing rotation, breeding records, etc.
☐	☐	Do you keep marketing records? Examples include: product availability through the season, weekly or monthly sales, and external influences on market success.
☐	☐	Do you use your records to make management decisions and plan for the future?

Sustainable Farm Management Assessment Activity Sheet, page 4 of 4

YES	NO	Sustainable Farm Management Assessment Activity Sheet
Economics		
☐	☐	Do you know the costs of production for each of your enterprises?
☐	☐	Are you selling your products at a price that allows you to make a profit?
☐	☐	Is your operation currently profitable?
☐	☐	Are you able to meet your production and economic goals?
Energy		
☐	☐	Are you minimizing energy use inside and outside the home when possible?
☐	☐	Have you installed any energy-saving devices on your farm or property?
☐	☐	Are you conserving natural resources by recycling materials on your farm?
Quality of life		
☐	☐	Are you able to meet your production goals with your existing labor force?
☐	☐	Do you have longevity in your workforce? Examples include: staff remain with you for prolonged periods, seasonal laborers return multiple seasons, etc.
☐	☐	Are you and your family happy about the amount of time spent on your property or on the business?
☐	☐	Do you know, support and give back to your community? Examples include: patronize local businesses, open your property to tours, volunteer in your community, etc.
☐	☐	Is your property aesthetically pleasing?
☐	☐	Overall, are you happy with your lifestyle decision?
☐	☐	Do you feel that your enterprise is truly sustainable?
Contingency plans		
☐	☐	Do you have a plan for dealing with drought or flood conditions in the short-term?
☐	☐	Do you have a plan for dealing with drought or flood conditions in the long-term?
☐	☐	Do you have plans for evacuation of your family and animals in case of natural disasters, such as fires or floods?
☐	☐	Do you have short-term plans for alternative housing and/or animal care in case of natural disasters?



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Focusing on Stewardship for Long-term Sustainability Glossary

Contingency plan: A course of action to be followed if a preferred plan fails or an existing situation changes. It is a plan or procedure that will take effect if an emergency occurs; an emergency plan.

Environmental stewardship: The responsibility to take care of our natural resources to ensure they are sustainably managed for current and future generations.

Land stewardship: The practice of carefully managing land usage to ensure ecological systems are maintained or enhanced for future generations.

Steward: A person who manages another's property or financial affairs.

Sustainability: Meeting the needs of the present without compromising the ability of future generations to meet their own needs.

Sustainable agriculture: According to the 1990 Farm Bill, "an integrated system of plant and animal production practices that satisfies human food and fiber needs, enhances environmental quality and the natural resource base upon which agriculture depends, makes the most efficient use of nonrenewable resources and on-farm resources, integrates natural biologic cycles and controls, maintains the economic viability of farm operations, and enhances the quality of life for farmers and society as a whole."

Sustainable agroecosystems: Ecosystems that maintain their natural resource base by relying on minimum artificial inputs from outside the farm system. Pests and diseases are managed through internal regulating mechanisms. These agroecosystems recover from the disturbances caused by cultivation and harvest.

System: A group of interacting, interdependent elements that function together as a complex unified whole.

Systems thinking: Systems thinking involves looking at your property as a system of interconnected parts. All the parts are interrelated and reliant on the function of other parts, from the soil ecosystem, to the water, plant, animal or natural system, to the total food system. A systems approach gives us the tools to explore the interconnections between farming and other aspects of our environment

Whole-farm planning: A process for on-farm decision-making that includes all aspects of the farm or property. It can be used by the farm family or farm unit to balance the quality of life desired with the farm's resources and the desire for profitability and stewardship of the land. Whole-farm planning takes a systems approach to farm planning and integrates all of the aspects of farm planning. It can also be applied to nonfarm properties.



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Web sites for further information

Agriculture Network Information Center, <http://www.agnic.org>

Alternative Farming Systems Information Center, <http://afsic.nal.usda.gov/>

ATTRA: National Sustainable Agriculture Information Service master publication list, <http://attra.ncat.org/publication.html>

ATTRA: Beef sustainability check sheet, <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=191>

ATTRA: Small ruminant sustainability check sheet, <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=340>

ATTRA: Small-scale Wind Energy on the Farm, <https://attra.ncat.org/attra-pub/summaries/summary.php?pub=305>

Calypso Farm and Ecology Center, www.calypsofarm.org

Clark Conservation District, <http://www.clarkcd.org/>

Clark County Green Neighbors, <http://www.clarkgreenneighbors.org/>

Drought Monitor: <http://droughtmonitor.unl.edu/>

Energy Efficiency and Renewal Network, <http://energy.gov/eere/office-energy-efficiency-renewable-energy>

Food Alliance: Sustainability criteria for producers, <http://www.foodalliance.org/certification/index.html>

Grazing Lands Conservation Initiative, <http://www.glci.org>

Land Stewardship Project, <http://www.landstewardshipproject.org/>

Land Stewardship Resource Centre (Canada), <http://www.landstewardship.org/>

Living With Fire, <http://www.livingwithfire.info>

Local Harvest (market your products), <http://www.localharvest.org/>

Minnesota Department of Agriculture's Whole Farm Planning Program, <http://www.misa.umn.edu/Publications/WholeFarmPlanning/>

National Agriculture Library, <http://www.nal.usda.gov/>

National Campaign for Sustainable Agriculture, <http://www.sustainableagriculture.net/>

National Farmers Union, <http://www.nfu.org>

National Weather Service, <http://www.weather.gov/>

New American Farmer (case studies), <http://www.sare.org/publications/naf2/index.htm>

Northwest Direct Farmer Cases Studies, <http://nwdirect.wsu.edu/studies/>

Open University Systems Group T552 Diagramming, <http://systems.open.ac.uk/materials/t552/index.htm>

Oregon Tilth, <http://www.tilth.org>



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Organic Farming Research Foundation, <http://www.ofrf.org>
Regional IPM Centers, <http://www.ipmcenters.org>
Renewing the Countryside, www.renewingthecountryside.org
Rural Roots, <http://ruralroots.org>
Sustainable Agriculture Research and Education, <http://www.sare.org/>
Sustainable Table, www.sustainabletable.org
Small Farms Program, USDA, <http://afsic.nal.usda.gov/farms-and-community/small-farms>
Small Farm Today, <http://smallfarmtoday.com>
Southern Rural Development Center, <http://srdc.msstate.edu>
Sustainable Agriculture Series, John Ikerd,
<http://web.missouri.edu/~ikerdi/papers/default.htm#Sustainable%20Ag>
Sustainable Communities Network, <http://sustainable.org/economy/agriculture.html>
Tilth Producers of Washington, <http://tilthproducers.org/>
USDA National Agricultural Research Service, <http://ars.usda.gov/main/main.htm>

USDA Natural Resources Conservation Service National Soil Quality Team,
<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>

USDA Rural Information Center Guide to Funding Resources,
<http://www.nal.usda.gov/ric/ricpubs/fundguide.html>
U.S. Environmental Protection Agency Sustainability, <http://www.epa.gov/sustainability/>
University of California Sustainable Agriculture Research and Education Program,
<http://www.sarep.ucdavis.edu/>
University of Minnesota Extension, Soil Biology and Soil Management,
<http://www.extension.umn.edu/distribution/cropsystems/DC7403.html>
University of Wisconsin Madison Center for Integrated Agricultural Systems,
<http://www.cias.wisc.edu>
Western Profiles of Innovative Agricultural Marketing: Examples from Direct Farm Marketing
and Agri-Tourism Enterprises, <http://cals.arizona.edu/arec/wemc/westernprofiles.html>
Western Rural Development Center, <http://extensionsustainability.usu.edu/>
Whole Farm Planning for Economic and Environmental Sustainability,
<http://www.ksre.ksu.edu/bookstore/pubs/mf2403.pdf>
Women and Minorities Farmer Program, <http://www.ssu.missouri.edu/ruralsoc/>
WSU Clark County Extension, Small Acreage Program,
<http://ext100.wsu.edu/clark/naturalresources/smallacreageprogram/>

