

Conservation Planning Environment Components and Interrelationships



Natural Resources Conservation Service

Conservation Planning Course

Module 4—Conservation Planning Environment Components and Interrelationships

Objectives

At the end of this module, the participant will be able to:

1. Explain what is meant by the phrase “conservation planning environment” and list the components of this environment.
2. Describe typical planning environment components of a farm or ranch, and categorize the components as relating to either the “family farm” or the “farm family.”
3. Identify components of a farm or ranch that are related or linked and explain why data analysis should not just focus on individual components, but should also include analysis of interactions between components.
4. Describe key resource, social, economic, and policy components that must be considered to develop a comprehensive, integrated conservation plan.
5. Describe the use of economic and social information to increase understanding of a client’s interest in conservation and ability to implement the planned resource management system.
6. Describe the use of the cultural resources mode to evaluate whether the presence of a cultural resource creates a need to modify the conservation plan.
7. Explain the SWAPA considerations included in the Conservation Practice Physical Effects (CPPE) section of the FOTG.
8. Describe how the interactions of SWAPA resources influence the conservation effects that might result from a resource management system.
9. Describe a model of a typical family farm or ranch that includes (a) business or economics; (b) family, community, and social; (c) resources or environment; and (d) policy components.

References

Ciriacy-Wantrup, S. V. 1995. Dollars and Sense in Conservation. US Dept. of Agriculture. Natural Resources Conservation Service. Resource Economics and Social Sciences Division. Washington, DC, Publ. 95-1. 39 p.

National Employee Development Center. 1990. Training materials and courses on sociology, resource economics, cultural resources, and ecological principles. US Dept. of Agriculture. Natural Resources Conservation Service. Fort Worth, Texas.

National Employee Development Center. 1994. Conservation Management System Course modules on SWAPAH. US Dept. of Agriculture. Natural Resources Conservation Service. Fort Worth, Texas.

National Employee Development Center. 1996. Natural Resources Conservation Course modules on Ecology, Sociology, and Economics. US Dept. of Agriculture. Natural Resources Conservation Service. Fort Worth, Texas.

Natural Resources Conservation Service. Field Office Technical Guide (sections on SWAPAH). US Dept. of Agriculture. Natural Resources Conservation Service. Washington, DC.

Related Courses available from the National Employee Development Center.

Training Aids

Overhead projector, pens to write on overhead transparencies, The Conservation Practice Physical Effects (CPPE) section of the FOTG, flip chart.

Method of Instruction

Presentation, discussion, and exercises

Time for Module

8 hours

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Instructor Note

Conservation Planning Environment—Components and Interrelationships

Introduction for Instructors: During the next 8 hours you are going to lead course participants to a more integrated, systems view of the resources our clients manage, and the social, economic, and policy environment in which our clients—and we—live and work. This module builds on what participants know about SWAPAH, but organizes this knowledge into a new framework. The following paragraphs and other instructor notes throughout the module are provided to introduce to some of the new directions this module will take so you will be better prepared to help course participants learn to take a more integrated, systems approach to their work.

You are encouraged to modify the material to fit local and state situations. Some of the class time in this module will be spent with you getting information from participants through brainstorming. Some will be spent with you using materials provided by the course development team to organize ideas suggested by the participants into a comprehensive, systems view of the conservation planning environment, conservation planning, and technical assistance. Some time will be spent with instructors making formal presentations. The end result should be participants having a more integrated, systems understanding of the clients and resources we work with and the environment in which we work. Overheads are provided to illustrate important points raised in the script.

Integrated or systems thinking about resources has taken several forms in NRCS. “Old timers” in the agency argue that prior to the 1985 and 1990 Farm Bills the conservation plans they helped clients develop were based on an integrated or systems approach. While there is some truth to that position—such plans were certainly more integrated and comprehensive than most of the highly erodible land compliance plans developed during the late 1980s and early 1990s, the old plans will not qualify as comprehensive today because (1) we know more now than we did then and (2) the interests and needs of our clients and the public have changed.

Instructor Note

Two phrases used previously by NRCS and other members of the conservation partnership to describe integrated approaches are “ecosystem based assistance” and “whole farm and ranch planning.” A phrase used by many people to describe a systems approach is “holistic resource management.” “Sustainable agriculture” implies a more integrated, systems approach to farming and ranching. The term “agroecology” refers to the study of the interrelationships of agriculture (the farmer or rancher) with its environment (resources, social issues, economic considerations, and legal requirements).

While any of these phrases can be used to describe an integrated, systems approach to our work, each has baggage that limits its use. We are, therefore, not using any of these phrases to describe the integrated systems way of thinking that will be the focus of this module. We want to promote in this module a different way of thinking, not an approach. The phrase “conservation planning” is a very adequate name to describe the integrated systems nature of our agency’s work, and that of our partners. The three-phase, nine-step conservation planning process is our approach. It is only limited by the knowledge and creative thinking that we, our clients, and conservation planners bring to it.

A way to think about how the conservation partnership can help clients address the diverse issues they face is to define the “conservation planning environment” for a plan. The conservation planning environment is (1) the sum of the variables which may have an effect on a client’s conservation planning decisions—client values and attitudes, resource problems and opportunities, community issues and concerns, economic opportunities and constraints, and legal and policy requirements, and (2) the interactions among these variables.

Instructor Note

For conservation plans to be effective, resource problems and concerns must be addressed in the social, economic, and policy framework that influences a client's decisions. For instance:

- We must help our clients address the economic feasibility of any resource management systems we help clients develop. If we do not and the client thinks the system is too expensive it will not be applied. Neither the client's resource or economic objectives will be met.
- We must help our clients address the conservation effects of a proposed new enterprise on their resources and neighbors, and help them develop a resource management system that will meet the client's and the community's objectives. If we do not, the community may oppose the system and it may not be applied. The client's business and community objectives—a new enterprise and “to be a respected neighbor”—will not be met.
- We must be aware—and inform our clients—of local, state, and national policies that can influence decisions about resource use and management. If we fail to advise a client about policies and fail to help clients develop a resource management system that meets their objectives and complies with the law, we expose them to legal actions that may seriously undermine their ability to remain in business.

This module treats tangible cultural resources as attributes of the landscape similar to soil, water, air, plants, and animals because (1) they can often be located on the land just like the SWAPA resources and (2) they need to be considered in our planning as do the other resources. Examples of tangible cultural resources that can be located on the land include archeological sites, historical sites or buildings, and landscape features with religious or other cultural significance.

Instructor Note

Non-tangible cultural resources are more difficult to deal with because they usually cannot be specifically located on the land. Examples of non-tangible cultural resources include a religious belief about resources or ethnic traditions about farming practices. These will be considered as “social” considerations in this module.

Some might argue that both tangible and non-tangible cultural resources are not real, but exist as values, beliefs, morals, and ethics. This argument may be true, but it is also true for other resource issues we deal with such as “T” or resource “quality.” As conservation planners, we must help clients deal with beliefs, traditions, and facts. All are important.

Some participants may disagree with the approaches to social, economic, and policy issues and cultural resources described above and expanded on in the remainder of this module. The course development team has taken these approaches because we believe that our clients are better served if we help them address all problems—real or perceived. We do not serve a client by underestimating the cost of a resource management system, by overlooking a cultural resource site, or by ignoring the likelihood that neighbors will object to a confined animal facility because they believe there will be an odor problem. We do serve the client well when we fully inform them of the issues—natural and cultural resources problems and opportunities, economic costs, social issues, and legal requirements. They can then make more informed decisions.

This module focuses on developing a better understanding of the conservation planning environment in which a farmer or rancher lives and works. The same principles can be used to define the environment in which other clients—a business, a municipal water system, or an urban home owner—live and work. The course development team chose to focus on a farmer or rancher because (1) most of the participants in the course will have experience with farmers and ranchers as clients, (2) the agricultural community is the environment in which many NRCS employees and members of the conservation partnership have lived and worked, and (3) the field exercise for this course will probably be conducted on a farm or ranch.

Introducing the Module

Overhead #4-1

During the next 8 hours we are going to develop a more integrated, systems view of the resources we work with and the economic, social, and policy environments in which our clients—and we—live and work. This module builds on what you know about SWAPAH, but organizes this knowledge into an integrated, systems framework. By the end of this module you should be able to:

1. Explain what is meant by the phrase “conservation planning environment” and list the components of this environment.
2. Describe typical planning environment components of a farm or ranch, and categorize the components as relating to either the “family farm” or the “farm family.”
3. Identify components of a farm or ranch that are related or linked and explain why data analysis cannot focus just on individual components, but must also include analysis of interactions between components.
4. Describe key resource, social, economic, and policy components that must be considered in a comprehensive, integrated conservation plan.



Slide 1a

MODULE 4

Conservation Planning Environment

Components and Interrelationships



Slide 1b

Objectives

1. Explain what is meant by the phrase “conservation planning environment” and list the components of this environment.
2. Describe typical planning environment components of a farm or ranch, and categorize the components as relating to either the “family farm” or the “farm family.”



Slide 1c

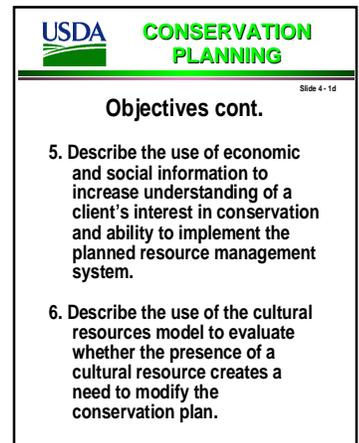
Objectives cont.

3. Identify components of a farm or ranch that are related or linked and explain why data analysis cannot focus just on individual components, but must also include analysis of interactions between components.
4. Describe key resource, social, economic, and policy components that must be considered in a comprehensive, integrated conservation plan.

Conservation Planning Environment—Components and Interrelationships

5. Describe the use of economic and social information to increase understanding of a client's interest in conservation and ability to implement the planned resource management system.
6. Describe the use of the cultural resources model to evaluate whether the presence of a cultural resource creates a need to modify the conservation plan.
7. Explain the SWAPA considerations included in the Conservation Practice Physical Effects (CPPE) section of the FOTG.
8. Describe how the interactions of SWAPA resources influence the conservation effects that might result from a resource management system.
9. Describe a model of a typical family farm or ranch that includes (a) business or economics; (b) family, community, and social; (c) resources or environment; and (d) policy components.

Integrated or systems thinking about resources has taken several forms in NRCS. “Old timers” in the agency argue that prior to the 1985 and 1990 Farm Bills the conservation plans they helped clients develop were based on an integrated or systems approach. While there is some truth to that position—such plans were certainly more integrated and comprehensive than most of the highly erodible land compliance plans developed during the late '80s and early '90s—the old plans do not qualify as comprehensive plans today because (1) we know more now than we did then and (2) the interests and needs of our clients and the public have changed.

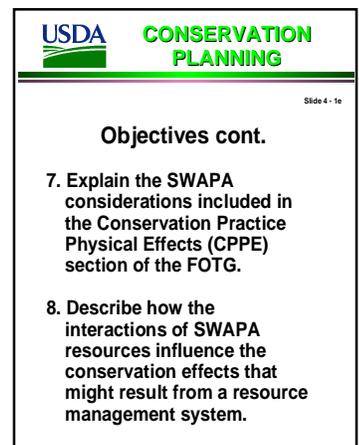


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Slide 4-1d

Objectives cont.

5. Describe the use of economic and social information to increase understanding of a client's interest in conservation and ability to implement the planned resource management system.
6. Describe the use of the cultural resources model to evaluate whether the presence of a cultural resource creates a need to modify the conservation plan.

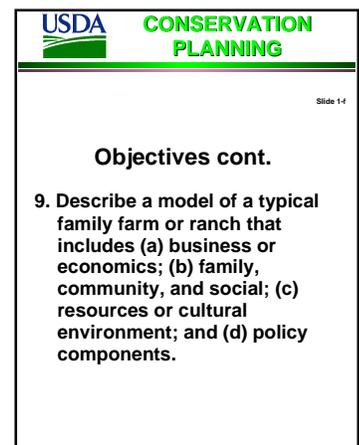


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Slide 4-1e

Objectives cont.

7. Explain the SWAPA considerations included in the Conservation Practice Physical Effects (CPPE) section of the FOTG.
8. Describe how the interactions of SWAPA resources influence the conservation effects that might result from a resource management system.



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Slide 1-f

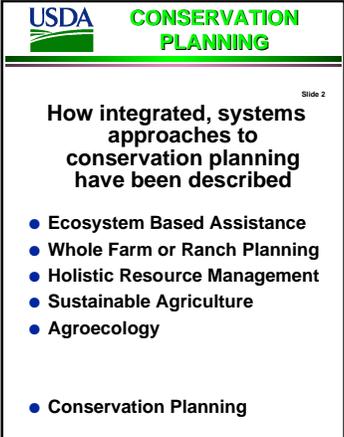
Objectives cont.

9. Describe a model of a typical family farm or ranch that includes (a) business or economics; (b) family, community, and social; (c) resources or cultural environment; and (d) policy components.

Instructor Note

Overhead 4-2 is provided to focus participants' attention on the phrases used to describe integrated, system approaches to our work. Ask participants to offer other suggestions. Record on the overhead any suggestions offered. If a participant says "conservation planning," move on in the discussion. If not, then you need to make these points.

Overhead #4-2



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Slide 2

How integrated, systems approaches to conservation planning have been described

- Ecosystem Based Assistance
- Whole Farm or Ranch Planning
- Holistic Resource Management
- Sustainable Agriculture
- Agroecology

- Conservation Planning

Two phrases used previously by the conservation partnership to describe integrated approaches are “ecosystem based assistance” and “whole farm and ranch planning.” A phrase used by many people is “holistic resource management.” “Sustainable agriculture” implies a more integrated, community approach to farming and ranching. A “science” term used to describe an integrated or systems way of thinking about agriculture is “agroecology,” which refers to the study of the interrelationships of agriculture (the farmer or rancher) with its environment (resources, social issues, and economic considerations, and legal requirements.)

Question

Can any of you suggest other phrases that we or others use to describe an integrated, systems approach to the work we do?

Conservation Planning Environment—Components and Interrelationships

While each of these phrases can be used to describe an integrated, systems approach to our work, each has baggage that limits its use. We are, therefore, not using any of these phrases to describe the integrated systems way of thinking that will be the focus of this module. “Conservation planning” is a very adequate phrase to describe the integrated, systems nature of our agency’s work, and that of our partners. The three-phase, nine-step conservation planning process is our approach. It is only limited by the knowledge and creative thinking that we, our clients, and conservation planners bring to it.

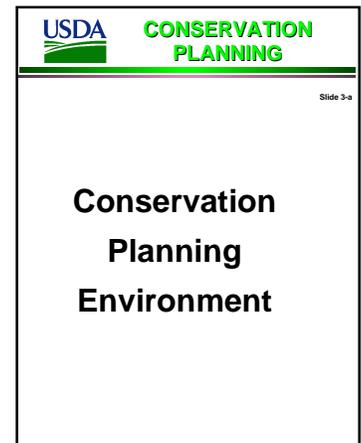
This module focuses on developing a better understanding of the environment in which a farmer or rancher lives and works. We call this the “conservation planning environment” which is the sum of all factors and issues that influence the content of a conservation plan **(Overhead 4-3)**.

Overhead #4-3

The concept is used to define:

- (1) the variables which may have an effect on a client’s decisions— resource problems and opportunities, economic opportunities and constraints, social issues and concerns, and legal and policy requirements, and
- (2) the interactions among these variables.

All of these broad categories are part of a complex whole that composes the conservation planning environment in which a plan is developed and implemented. To isolate one part of the conservation planning environment may result in overlooking problems and opportunities, the identification of symptoms or effects rather than the cause of problems, or the suggestion of conservation practices and systems that do not address important problems and opportunities.



Conservation Planning Environment—Components and Interrelationships

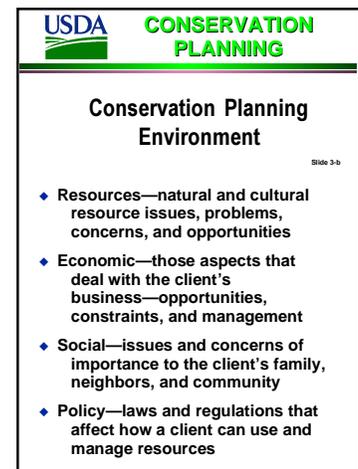
Instructor Note

The title and bullets of Overhead 4-3-a should be revealed one at a time as the instructor discusses each.

For the purposes of this module we have divided the conservation planning environment into four components, **(Overhead 4-3-a)**:

Overhead #4-3-a

- resources—natural and cultural resource issues, problems, concerns, and opportunities
- economic—those factors that deal with the client's business—opportunities, constraints, and management
- social—issues and concerns of importance to the client's family, neighbors, and community
- policy—local, state, and federal laws and regulations that affect how a client can use and manage resources



The image shows a slide titled "USDA CONSERVATION PLANNING" with the subtitle "Conservation Planning Environment". It lists four bullet points: Resources, Economic, Social, and Policy. The slide also includes a small "Slide 3-5" label in the top right corner.

USDA CONSERVATION PLANNING

Conservation Planning Environment

Slide 3-5

- ♦ Resources—natural and cultural resource issues, problems, concerns, and opportunities
- ♦ Economic—those aspects that deal with the client's business—opportunities, constraints, and management
- ♦ Social—issues and concerns of importance to the client's family, neighbors, and community
- ♦ Policy—laws and regulations that affect how a client can use and manage resources

It is also important to remember that many interactions occur between these components. It is very important that we learn to deal with these interactions—these are what makes the whole greater than the sum of the parts.

While this module focuses on a farmer or rancher as the client, the principles can be used to define the conservation planning environment in which other clients—a business, a municipal water system, or an urban home owner—live and work. The course development team chose to focus on a farmer or rancher as the client because

- (1) most of you have experience with farmers and ranchers as clients,
- (2) most of us have lived and worked in the rural, agricultural environment, and
- (3) the field exercise for this course will be conducted on a farm or ranch.

Describing the Farm or Ranch

Field office staff face a variety of complicated and fuzzy social and economic situations that do not have clear solutions or steps. The situation of absentee owners and renters complicate who makes on-farm conservation decisions. Other situations include joint ownership, family decisionmakers, female ownership, limited resource and minority producers, corporate farms, contract farming, vertical integration of production, cooperatives, etc. Each situation needs to be treated somewhat differently.

In Module 6 of this course we will begin working on the course field exercise on name's farm. We are probably going to find that name's farm is like many in our state. I am sure, however, that when we go to the farm to conduct our field exercise on conservation planning we will find that name's farm is unique in many ways. In this module we will capture in general what we know about farms like name's. Through our discussion we will build a model of what a typical farming system looks like, and how it exists in the integrated resource, social, economic, and policy environment. This module should help us look more comprehensively at name's farm.

Overhead #4-4

(Overhead 4-4) This module is not designed to make you an ecologist, sociologist, economist, or policy specialist. You should have a basic understanding of these sciences and how they contribute to conservation planning. You should also have an understanding of the SWAPAH resource concerns currently described in our Field Office Technical Guide.



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Slide 4

For this module, you will use your basic knowledge of:

- Ecology
- Economics
- Sociology
- Policy
- SWAPAH

Instructor Note

Record the participant's comments as short phrases on Overhead 4-5 under the "business," "family," "community," "environment," and "other" columns. An example of items the course development team thought of is provided (Overhead 4-6). Pre-course study of this overhead may help you decide where some of the more difficult items suggested by course participants might be listed. Take your time in deciding where to record suggestions. Ask participants to suggest where they think an item should be listed. If an item does not seem to fit under any of the first four items record it under "other."

Overhead #4-5

Lets begin by brainstorming about what we think the words family farm or ranch communicates. As you share your ideas, I will capture them on this overhead. Tell me in what column you want your contribution recorded. After we have generated a list of ideas we will organize them into our generalized model of the conservation planning environment. Before we are done we will have addressed the natural (SWAPA) resources that we work with every day, the cultural resources that we must always be aware of, and most of the social, economic, and policy issues and concerns that influence our work. Who wants to start? What images or ideas come to your mind when you hear the words famiy farm or ranch?

USDA		CONSERVATION PLANNING		
<small>Slide 5</small>				
What images or ideas come to your mind when you hear the phrase Family Farm or Ranch?				
Economics/ Business	Social Issues Family Community		Resources/ Environment	Policy/ Other

Conservation Planning Environment—Components and Interrelationships

Instructor Note

After several suggestions have been offered, ask leading questions such as, “Can anyone suggest a cultural resource we might find on a family farm or ranch in this area?” Push participants to create a diverse list of issues.

That is a good list to start with. We will expand it and modify it as we progress.

Instructor Note

Show the participants the overhead prepared by the design team (Overhead 4-6).

Overhead #4-6

Here is the list developed by the course development team showing ideas that the phrase family farm or ranch caused them to think of, and how they organized them into the five categories. Did they list anything really different from the ideas we listed? What? Should we add something like this to our list?

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What images or ideas come to your mind when you hear the phrase Family Farm or Ranch?

Economics/ Business	Social Issues		Resources/ Environment	Policy/ Other
	Family	Community		
<ul style="list-style-type: none"> • Management • Costs, fuel • seed, fertilizer • Income • Farm loan • Landlord • Equipment • Comm. program payments • Cost share payment • Taxes • Crops, livestock • Markets 	<ul style="list-style-type: none"> • Owner-operator • Spouse • Kids • Labor • Parents • In-laws • Healthy environment • Recreational swimming, fishing • Money for retirement • Off-farm job 	<ul style="list-style-type: none"> • School • Church • Neighbors • 4H, FFA, Farm Bureau, Extension, Homemakers, Little League • Stores • Community Park • Opinions, "norms" 	<ul style="list-style-type: none"> • SWAPA • Pesticide laws • Wetland • Nutrient management • Lake • Uncapped abandoned well • Hi-lo creek • Conservation plan (MCS) • Conservation reserve field • Predators 	<ul style="list-style-type: none"> • Great-granddads log cabin • Oregon Trail • Electric Power line • Inter-state highway • sacred site • inheritance taxes • conservation compliance

Instructor Note

Entertain discussion on these questions. Then address how items are linked. Did any related items get listed more than once, but under different categories? If so point this out. It shows that things on the farm are linked—that one part of a system is connected to other parts, and an action that affects one part almost always affects others. It may also show that different people have different perspectives on the same thing. Following are some linked items suggested by the course development team: (1) pesticide as a business cost and as an environmental regulation, (2) predators as an environmental issue and as a business cost (death loss), and (3) money for home, college, and retirement as a family issue and paying the farm loan and operating costs as a business item. These are listed on the bottom of Overhead 4-7.

Conservation Planning Environment—Components and Interrelationships

Instructor Note

Write the linked items suggested by the course participants on the overhead provided (Overhead 4-7). List your items from the above dialogue first and then others suggested by participants. You will show participants the items listed by the design team after the class has identified their items.

You will need to identify some items from the participants' list that you think are linked so you can fill in the blanks in the following dialogue.

Overhead #4-7

I noticed that someone listed ANS1 under CATEGORY1. Someone else suggested ANS2 which is almost the same as ANS1 but listed it under CATEGORY2. This shows that common things we think about the family farm are linked—business to family; family to community; and business, family, and community to environment. None of these items we listed in a category exist independent of the others. This is an important point to keep in mind.

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Linked Components

Development Team's list:

- pesticides as a business cost and as an environmental regulation
- predators as an environmental issue and as a business cost (death loss)
- money for home, college, and retirement as a family issue and paying the farm loan and operating costs as a business item

Question

What other items on our list do you think are linked? Why and how?

The team that designed this course came up with some examples of how things are linked. They listed—

- pesticides as a business cost and as an environmental regulation,
- predators as an environmental issue, a business cost and a policy issue, and
- money for home, college, and retirement as a family issue and paying the farm loan and operating costs as a business item.

Comparing the “family farm” to the “farm family”

Instructor Note

You will now lead course participants through a comparison of the phrase “family farm” with the phrase “farm family.” We want to point out that using the same words in reverse order implies very different things and points us in different directions in our model of the “farm.” The phrase family farm generally causes people to think about the production and business side of agriculture while farm family causes people to think about the individuals involved with the farm and the community in which the individuals interact.

We have already brainstormed some ideas about the family farm, so let's focus on the concept of the farm family. Does this rearrangement of these two words have any meaning to us, and if so what? What contrasting ideas, if any, do the phrases family farm and farm family generate? I will record your answers. We should include all of the issues we identified in the previous exercise as either relating to farm family or to the family farm.

Conservation Planning Environment—Components and Interrelationships

Instructor Note

Wait for answers. You will write the answers on the blank overhead provided (Overhead 4-8). An overhead showing how the development team listed items is provided (Overhead 4-9) and should be shown after participants have provided their suggestions. If no one jumps in, call on a couple of people that you know like to philosophize. Continue to call on people to ensure that all participate—and that a few do not dominate. To ensure that diverse viewpoints are included be sure you hear from women, men, and minorities that are participants in the class.

Instructor Note

The suggestions you received during the previous discussion (completed Overheads 4-5 and 4-6) should go on Overhead 4-8. Items like “owner-operator,” “spouse,” “kids,” and “church” from Overhead 4-9 would likely go in the farm family column while “management,” “landlord”, “crops,” “livestock,” “expenses,” and “pesticides” would likely go under family farm.

Overhead #4-8

USDA CONSERVATION PLANNING	
Slide 8 What contrasting ideas do these two phrases generate?	
Farm Family	Family Farm

Conservation Planning Environment—Components and Interrelationships

Instructor Note

Some items will be difficult to list. For instance where should the “SWAPA” resources be listed? Where should some of the items listed as “other” be listed? You can use Overhead 4-9 for guidance. Something to remember is that it is not important that everything is in the right place. What is important is that we are able to take a comprehensive view of the farm or ranch.

Those are good answers. Lets look at the list developed by the course development team and compare our list with theirs.

Overhead #4-9



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What contrasting ideas do these two phrases generate?

Farm Family	Family Farm
<ul style="list-style-type: none">• Owner Operator• Kids• Healthy environment• Income-money for home• Homestead• School• Church• Parents• Neighbors• 4-H, FFA	<ul style="list-style-type: none">• Management• Farm loan• Land, crops, livestock• Markets• Costs, fuel, seed, fertilizer, death loss• Farm supply dealers• Landlord• Taxes• Equipment• Conservation plan• Cost share payments

Conservation Planning Environment—Components and Interrelationships

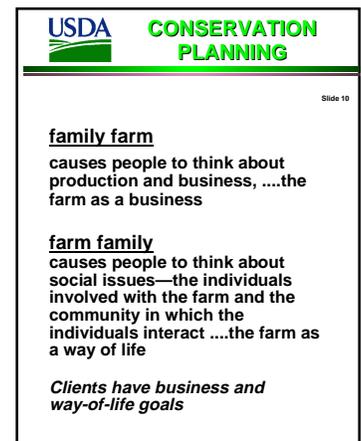
Question

Do you see any major differences?

Instructor Note

You will now lead a discussion of the comparison of the family farm and the farm family (Overhead 4-10). If you have volunteers, let 2-3 people talk about how items tended to divide between social and business. This discussion of family farm and the farm family will lead into a lecture on the economic and social considerations we routinely deal with as conservation planners.

Overhead #4-10



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family farm
causes people to think about production and business,the farm as a business

farm family
causes people to think about social issues—the individuals involved with the farm and the community in which the individuals interactthe farm as a way of life

Clients have business and way-of-life goals

Conservation Planning Environment—Components and Interrelationships

The purpose of this exercise was to illustrate that the farm or ranch can be thought of in at least two ways. Using the same words—farm (or ranch) and family—in reverse order implies very different things and points us in different directions in our model of the farm or ranch. The phrase family farm generally causes people to think about agricultural production and business—economics, while farm family causes people to think about the people involved with the farm and the community in which the individuals interact—social issues. Every client we work with is concerned about some issues that can be described as business or “economics” and others that can be described as “social.” In other words, farming and ranching are both a business and a way of life.

It is important to realize that the client will have goals for the farm or ranch as a business and as a way of life. Because the client is concerned with both economic and social issues, conservation planners must be concerned about them as well. Conservation planning and technical assistance are some of the ways that clients deal with some of the economic, social, cultural, and policy issues that are important to them. We should work with the client to identify those social and business issues that may be an opportunity, constraint, or problem relative to achieving natural resource conservation.

Question

Can any of you offer examples of how you have helped clients address “farming as a business” and “farming as a way of life” goals?

Instructor Note

Entertain three or four answers. In case you need to prime the pump, following are four examples provided by the course development team

- The clients want to minimize the cost of handling manure and wants their stream and well water to be clean so the family is healthy. The conservation plan we help the client develop must address proper application of the manure, proper management of the pasture or field where the manure is applied, an uncapped abandoned well, and ground water quality.
- The clients want to sustain current production from the cropland and they want to pass a productive farm on to the kids. The conservation plan we help the client develop must address current productivity and long term sustainability.
- The clients want to reduce wind erosion and want to send their oldest child to college. There is not enough money to purchase new equipment to implement a crop residue program and pay for college. The conservation plan we help the client develop must allow the client to use existing equipment to meet soil erosion goals.
- The clients want to water their cattle from the stream and want to fish in the stream with the kids. There is no other water on the place for the cattle, but fish habitat—and fishing—has declined. The conservation plan we help the client develop must address grazing management, livestock water, and fish habitat.

Instructor Note

Respond to the examples provided by participants, then this should be a good place in the module to take a break. Following the break you will lead a presentation of economic, social, and cultural issues that affect conservation planning. You will use the information listed on overheads 4-5, 4-6, 4-8, and 4-9 later in the course.

Those are good examples of how we have to work with multiple goals when we work with clients. Sometimes goals seem to be in conflict and we and the client have to work hard to develop resource management systems that resolve the conflicts and help the client meet the objectives the family has set for the business and for their way of life.

Economic and Social Issues

The next part of this module focuses on economic and social issues that influence a client's interest in, and ability to implement a conservation plan.

Economic Issues

We must consider economic issues when we help a client develop a conservation plan. We like to say that “conservation pays,” but it also costs. Conservation is an investment. Just like other investments, if conservation is done wisely, the costs are manageable. Often our hardest work is finding a resource management system that meets the client’s multiple objectives—affordable, solves the resource problems, compatible with desired way of life, and does not create conflict in the community. There are a number of economic issues that influence a client’s interest in conservation (**Overhead 4-11 and 4-12**). These have been summarized in the publication, Dollars and Sense in Conservation, which was published by the NRCS Resource Economics and Social Sciences Division. Important issues for us to be aware of include:

Factors that discourage conservation (Overhead 4-11):

- higher interest rates
- lower income
- heavy indebtedness
- greater uncertainty about future costs and prices
- an outlook for long-term lower prices
- indefinite rights to use resources (ground water, grazing permits)
- price supports
- insecure tenure
- wavering of public conservation policy

Overhead #4-11



Slide 11

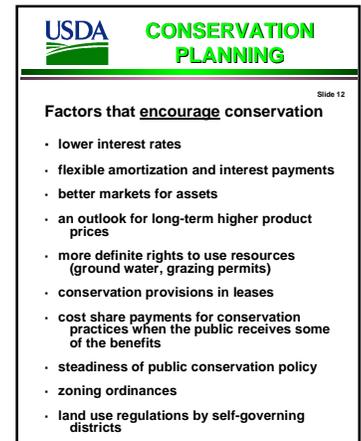
Factors that discourage conservation

- higher interest rates
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- an outlook for long-term lower prices
- indefinite rights to use resources (ground water, grazing permits)
- price supports
- insecure tenure
- wavering of public conservation policy

Overhead #4-12

Factors that encourage conservation (overhead 4-12):

- lower interest rates
- flexible amortization and interest payments
- better markets for assets
- an outlook for long-term higher product prices
- more definite rights to use resources (ground water, grazing permits)
- conservation provisions in leases
- cost share payments for conservation practices when the public receives some of the benefits
- steadiness of public conservation policy
- zoning ordinances
- land use regulations by self-governing districts



It is important to note that cost-share payments should not drive the planning process. Cost-share is a tool to help a land owner implement a good plan. A good, comprehensive, cost-effective conservation plan should be developed before cost-share or related programs are considered.

Instructor Note

Lead a brief discussion with participants about how these factors might encourage or discourage them from making a personal investment. Examples could be postponing purchasing a car or house because of high interest rates, or refinancing a previous purchase because interest rates moved lower. Another example could be how a decision was postponed because of some concern about job security which is equivalent to uncertainty about prices that may be received by a client for a product.

Question

Are you affected by these economic factors in the same way as our clients? Can some of you give examples of how you were influenced in purchase or investment decisions by these factors?

Instructor Note

Allow time for participant answers, then address the fact that policies sometimes force economic decisions. Examples of policies in the lists of factors that discourage (Overhead 11) or encourage (Overhead 12) conservation include rights to use resources, cost share payments, wavering or steadiness in public conservation policy, zoning ordinances, and land use regulations. This list is provided as Overhead 4-13.

Ask specifically if anyone can give an example of how a decision was modified by a policy (such as not doing something because of a zoning ordinance).

Conservation Planning Environment—Components and Interrelationships

Overhead #4-13

Note that some of the items listed for discouraging or encouraging conservation are policies that influence economic decisions. Examples include: rights to use resources, cost share payments, wavering or steadiness in public conservation policy, zoning ordinances, and land use regulations.



Slide 12

Policies That Influence Economic Decisions

- rights to use resources
- cost share payments
- wavering or steadiness in public conservation policy
- zoning ordinances
- land use regulations

Question

Do you have any examples of how one of your decisions was influenced by a policy (such as not doing something because of a zoning ordinance)?

Instructor Note

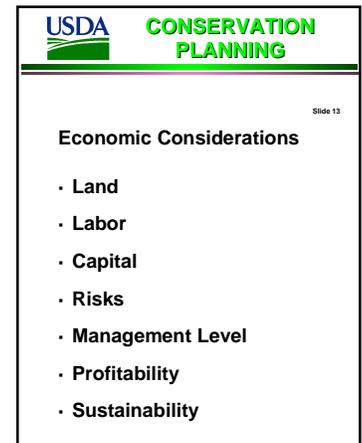
Entertain answers, then proceed with lecture.

Some of these are factors that we as conservation planners should have a general knowledge of: interest rates, crop and livestock prices, and regulations. We may not know about other factors—such as income, indebtedness, and lease arrangements—and we should not directly inquire about how these conditions affect the client. We need to know, however, how these issues relate to a client. We should develop and use interviewing, observation, and other skills that help us gain economic and social information that may affect a client's interest in and ability to implement a conservation plan. As was pointed out in Module 3, listening and observing are essential skills for the conservation planner.

Overhead #4-14

Following are examples of potentially important economic issues that we should be aware of as we help a client develop a conservation plan (**Overhead 4-14**). We should interpret these as to whether they may encourage or discourage a client to consider a conservation practice, system, or program.

- Land—What is the current land use? Does the proposed conservation plan depend on or require the client to change a land use? Do aspects of the plan reduce land available for agricultural production? Does the client have to get approval from a landlord or lender to implement a resource management system?
- Labor—Is there an adequate supply of permanent and part time labor available to implement, manage, and maintain the conservation plan? Does off-farm employment limit the availability of family labor for on-farm work?
- Capital—Does the client have the money to make the required investment in the resource management system? Does the client have the cash flow to finance annual operation and maintenance costs of conservation practices that will exceed benefits during the first years of operation? Is off-farm employment a required source of income for the family?
- Risks—Is the client willing to take risks, or are they for any reason risk adverse? Are yields highly variable because of climate or other factors beyond the control of the client? Are SWAPA resources difficult to manage because of inherent characteristic (shallow soil, deep sand, steep slopes, intensive rainfall, high winds)? Will disruptions in cash flow make it difficult for the client to maintain the viability of the business? Does the plan maintain or increase the client's eligibility for government agricultural programs?



Conservation Planning Environment—Components and Interrelationships

- Management Level—Does the client have the knowledge to manage the resource management system? Is the client willing to learn? Will the client make the effort to effectively implement and maintain a resource management system? Is the client available to make critical management decisions at appropriate times during the production cycle?
- Profitability—What level of profitability does the client want to achieve from the farm? How much of the client's income is from off-farm employment of one or more family members?
- Sustainability—How important is it that the property remain productive, profitable, and owned or managed by the client?

Thinking about these general questions about a client's economic situation will help the client and conservation planner think through conservation system options and opportunities. Answering these questions, however, does not provide the detailed economic analysis needed to make final decisions. Standard economic analysis tools will have to be used. If you are not proficient at using economic analysis tools, you should develop these skills. The "Economics of Conservation Planning" course offered by the National Employee Development Center is an excellent course.

Social Issues

We are going to focus during this next part of this module on social issues that may affect conservation planning. While there are many community issues we could consider in this section, we will focus on the individual. Note throughout this section that concerns about financial or economic factors are part of many social considerations.

Sociology is the study of relationships between individuals and between individuals and the larger society. These relationships are influenced by beliefs, opinions, attitudes, and values. While we do not need to become sociologists to do conservation planning, we need a working knowledge of the subject. Understanding individual and community beliefs, opinions, attitudes and values helps us understand why people do what they do, including why they may or may not be interested in a conservation plan.

Often when we think about social issues we feel like we are prying or we are trying to force our clients to do something the “public” wants. This may sometimes be the case, but not always and probably not often. Resource conservation should generally be of benefit to the client and to the public. We do not need to pry into things that are not our business or force an agenda on a client, but it would be beneficial.....

- to determine the client's concerns, problems, and needs, and use this knowledge to develop client ownership of the plan.
- to understand the client's decisionmaking process, and how this may influence the selection of conservation practices.
- to identify individual, group, and community sources of information and opinion leaders.

Conservation Planning Environment—Components and Interrelationships

All of these examples represent social issues that may influence a client's decision to work with us and choose a resource management system appropriate for the property. Social information is important to a conservation planner.

We will limit consideration of sociology in this module to information about individuals that influence a client's interest in conservation. We will include issues that relate to the immediate family in the discussion about individuals.

There are two very important values that we need to recognize about farmer and rancher clients (**Overhead 4-15**). First, we need to realize that farmers and ranchers place great value on the kind of work they do. They view this work—producing food, fiber, and other valuable products—as good and worthwhile for themselves and society. This work, which includes having some control on what they do next and setting their own schedule, reinforces farmers' and ranchers' feeling of independence.

Overhead #4-15

The slide features the USDA logo and the text 'CONSERVATION PLANNING' at the top. Below this, it is labeled 'Slide 15'. The main title is 'Values of Importance to most clients'. The content is a numbered list: '1. Kind of work' and '2. Place where they live and work'.

Kind of work is related to, but is not the same, as making a living. We all know farmers and ranchers that work long hours at an off-farm job, and then work a “second shift” on the farm or ranch. Some of you work on your farms or ranches in the morning before you spend the day working for NRCS, or one of the partner organizations, and then work several more hours on the farm or ranch in the evening. While income—or minimal loss—is important to every farmer or rancher, kind of work has as much to do with way of life goals as it does with business goals.

Conservation Planning Environment—Components and Interrelationships

Second, farmers and ranchers value the place where they live and work. This does not just mean the boundaries of the farm or ranch, but includes the locale where they can grow the crops and livestock with which they are familiar, and the community where they feel they (and often their parents and previous generations) have sunk roots. Familiar climate, land, crops, livestock, and neighbors—probably in that order—provide farmers a feeling of control and well being. Working with familiar things in known surroundings helps a farmer or rancher reduce risk.

Instructor Note

Take a few minutes for participants to answer the following question. Use the following two examples as necessary to generate discussion. Then proceed with the presentation.

Question

Can any of you relate stories—maybe your own—that illustrate how strong ties to kind and place of work have significantly affected someone's decision?

Instructor Note

Use these examples as needed to encourage participant thought and involvement, then continue with the presentation.

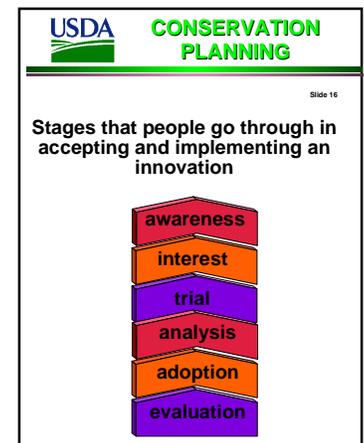
1. Resistance to being relocated when a reservoir will cover the farm. Farmers and ranchers have resisted such relocation even though they were paid well for the farm or ranch property. They wanted to keep farming and ranching where they were.
2. Resistance from those working in the timber industry in the Pacific Northwest to changing their work or location because of reduced timber cutting. Even though the government was willing to pay for training and relocation, these people wanted to continue working in the timber industry in the towns where they lived.

Conservation Planning Environment—Components and Interrelationships

A new resource management system represents change for a farmer. Change from the known to the uncertain represents risks. Some individuals are more willing to take risks than others. It is important to understand how new information reaches a client, and how the client goes about deciding to adopt or reject a new idea, such as a resource management system. Sociologists suggest that there are six stages that people frequently go through when deciding to accept or reject innovation. These stages are: **(Overhead 4-16)**:

Overhead #4-16

1. **awareness**—learning of the existence and possible application of an innovation.
2. **interest**—if people perceive that the innovation will fill a need they will take time to gather more information. When clients approach us to help solve problems or take advantage of an opportunity they have identified a need. They may or may not have an innovation in mind to fill this need. The innovation may be for the client to seek help from the partnership!
3. **trial**—during this stage the innovation is carefully compared with existing practices. This reduces the uncertainty inherent in any innovation. Since resource management systems—innovations—cannot be tested by every client in small plots, this stage relies on observing and assessing the results of demonstration projects and the experience of those that have already adopted the innovation. The field days organized by members of the conservation partnership help clients compare new innovations with their existing practices.



Conservation Planning Environment—Components and Interrelationships

Developing and comparing several alternative resource management systems can be considered part of the trial stage. During this stage the client will develop favorable or unfavorable attitudes toward the innovations and will answer the question, “Will any of the innovations meet my objectives?” Those ideas the client likes will receive more thorough analysis. An important role for the conservation planner is to lead the client through the trial stage.

4. **analysis**—during this stage the costs, benefits, applicability, and other characteristics of the favored innovations are considered. The Conservation Effects Worksheet that uses our accumulated knowledge to compare one or more alternative resource management systems with the existing system is also a way of analyzing the new ideas. In addition, the client will seek advice from peers, friends, family, and trusted advisors—including financial advisors and lenders. The result of this analysis will be a decision to proceed or not proceed.
5. **adoption**—at this stage, a commitment is made and resources are allocated to implement the innovation—the new or revised resource management system. An important role for NRCS and partnership staff is to help the client develop the necessary management skills and obtain needed resources. Cost share assistance should never be the reason an innovation is adopted, but cost share may be the difference between adoption and regretful rejection (the client wants to adopt but just does not have the resources to do so).
6. **evaluation**—during this stage the client seeks confirmation that the decision to adopt was correct—the new system must work as well and preferably better than the old system. Because innovations seldom work exactly as predicted continued assistance in this stage of adoption is critical. If follow-up assistance is not available to help the client “work the bugs out,” the innovation may be rejected (a costly decision) or inappropriately modified. Our assistance during the evaluation stage gives the specialist an opportunity to learn more about the innovation so that others can receive even more help.

Adoption of New Ideas or Innovations

Progressing through these six stages takes time, but some people—referred to as early adopters—often move very rapidly through the innovation adoption process. Others hang back. Sociologists have identified five groups to explain how rapidly our clients may adopt new ideas or innovations **(Overhead 4-17/18)**.

Overhead #4-17/18

1. **innovators**. These are the inventors that create new technology, quickly adapt technology developed for another purpose for their use, and simply are quick to learn about new innovations and see their potential to meet the client's needs. They can be described as “venturesome.”

2. **early adopters**. These people constantly look over the fence at the innovators, research plots, demonstration sites and their peer group. Early adopters will often be our target audience. It is important to understand their characteristics. Early adopters are usually:

- creative, imaginative
- highly motivated
- able to deal with abstraction, uncertainty, and risk
- favorable to change in general
- active in both formal and informal organizations
- well connected to communication networks both within and outside of their communities
- community opinion leaders

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Groups to explain how rapidly our clients may adopt new ideas or innovations

Innovators
Early adopters

- creative, imaginative
- highly motivated
- able to deal with abstraction, uncertainty, and risk
- favorable to change in general

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Groups to explain how rapidly our clients may adopt new ideas or innovations

- active in both formal and informal organizations
- well connected to communication networks both within and outside of their communities
- community opinion leaders
- early majority
- late majority
- traditionalists

Conservation Planning Environment—Components and Interrelationships

3. **early majority**. These people have many of the characteristics of early adopters. They are well aware of new technologies but they are more threatened by uncertainty and risk than the early adopter. They might be early adopters but do not have resources available to invest in an idea when it is new and possibly expensive. They have to wait until the cost comes down. This group will also be the target audience for much of our work.

4. **late majority**. These people are described by sociologists as skeptical. They are adverse to risk and uncertainty. Before these people will adopt a new innovation it must be proven beyond a reasonable doubt and be the accepted practice in the community.

5. **traditionalists**. These people are satisfied with what they are now doing. Sociologists have labeled this group as “laggards,” but that seems to be too harsh a term to describe this group. The term is certainly negative. Traditionalists see no need to change because their current methods work for them. They like the comfort and stability of the status quo.

Conservation Planning Environment—Components and Interrelationships

It is important to note that some respected thought leaders have characteristics of the traditionalists group as they relate to “technology,” but are innovators in thinking about the land. For instance, based on reading A Sand County Almanac, one would probably not classify Aldo Leopold as an innovator or early adopter of mechanical technology, but one does have to accept Leopold as a thought leader in agroecology—agriculture’s relationship to its environment. Organic farmers have been thought of as trying to go back to an earlier way of farming—traditionalists, yet we have gained valuable insight from the organic farming community about soil quality, fertility management, and integrated pest management. In fact, many organic farmers probably should be thought of as innovators.

An important point is that everyone is probably an innovator in something, and early adopters, early majority, late majority and traditionalists in others. It is important for us to know which of our clients are innovators, early adopters, and early majority with respect to conservation.

- We need to watch the innovators and early adopters. From them we get new ideas.
- We need to identify and work with the early adopters. They are the peer group leaders for much of the community.
- We should identify and work with the early majority. They are the ones that the early adopters and other opinion leaders will influence first and most.

Accepting Change

Accepting change—a new or revised resource management system—takes time. We must consider this as we work with clients to plan and implement conservation systems. If a Resource Management System plan is our ultimate goal, we must be prepared to work with the client—sometimes for years—in progressive planning and implementation. Developing and maintaining long term relationships with clients should be a goal of the conservation planner. A few good, fully implemented plans are better than a file drawer—or a computer disk—full of plans that are not being implemented.

Let me close this discussion on characteristics of the individual by returning to the discussion of an effective conservation planner and salesmanship from Module 3. Both of these discussions emphasized listening to and understanding the client. Thinking about how a client may be functioning in the adoption of technology model will give us useful insight about a client's interest in conservation. We do not have to be sociologists to gather and use this information. We simply have to be good observers and thinkers. We should develop and use interviewing and other skills that help us gain “social” information from the client. We should listen. Since these are characteristics of a good conservation planner, each of us should be able to develop a working knowledge of sociology, and apply our new insights to work more successfully with our clients.

Remember, when we help clients consider social issues, we are helping them deal with issues that are important to them.

Instructor Note

This will be a discussion of cultural resources. Remember from our opening notes to the instructors for this module that we will treat cultural resources as attributes of the landscape similar to soil, water, air, plants, and animals because (1) they can often be located on the land just like the other resources and (2) they need to be considered in our planning as do the other resources.

Consideration of Cultural Resources

Let's now turn our attention to the cultural resources that are part of our conservation planning environment. We are going to treat tangible cultural resources as features of the land just like soil, water, air, plants, and animals. Examples

(Overhead 4-19) of cultural resources, which a conservation planner may have to help a client evaluate, include archeological sites, historical sites or buildings, and landscape features with religious or other cultural significance. These are evidence of past human life in the planning area. Through study of cultural sites, we can determine how people lived in an area, or what factors may have caused them to abandon an area. Simply stated, cultural resources are all the past activities and accomplishments of people, usually being over 50 years old.

Overhead #4-19



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Examples of Real Cultural Resources

- Archeological sites
- Historical sites or buildings
- Landscape features with religious or other cultural significance

Conservation Planning Environment—Components and Interrelationships

Some might argue that cultural resources also exist as values, beliefs, morals, and ethics. This is also true for issues such as soil, water, and air quality. Some would say that cultural resources are different because there are legal mandates that apply to cultural resources that do not apply to other resources. That is true in that there are specific laws that apply to cultural resources, but there are laws that apply to the other SWAPA resources, and NEPA applies to all of our work. From a legal standpoint we must follow all applicable laws. The big differences in SWAPA and cultural resources are that (1) SWAPA resources occur everywhere while most cultural resources do not—they are more site specific and (2) we are more knowledgeable about SWAPA resources and, therefore, more comfortable in dealing with them.

There are many people concerned with cultural resources both locally, regionally, and nationally. These include many members of the general public, amateur and professional organizations (including historical societies, Native American groups, and amateur and professional archaeology organizations), and local, state, and federal agencies. Certain individuals and tribes claim and can demonstrate ties to cultural resources finds and are very concerned about their treatment. Some individuals only have a personal interest in seeing cultural resources protected, while others have a legal obligation to see that cultural resources are assessed and protected as required. NRCS is responsible for interacting with and answering to all of these groups.

The cultural resources that we deal with most often are referred to as historic properties or sacred sites. These may be prehistoric or historic districts, sites, buildings, structures, and features or objects or a place of religious importance. Remember in an earlier overhead the course development team listed “Great Grandfather’s log cabin” and the “Oregon Trail” as being part of the hypothetical family farm.

The type of cultural resource encountered most by conservation planners is an archeological site. These cultural resources are often non-structured and extend below the soil surface. They must be properly assessed and appropriately protected when conservation practices are applied, just as other resource values must be protected. Even a few pieces of chipped rock—created

Overhead #4-20

centuries ago by Native Americans, could contribute to a larger pattern of knowledge about our past and the conservation planning environment.

There are many reasons why we need to consider and protect cultural resources (**Overhead 4-20**).

- Cultural resources help us understand the relationship between people and the environment. They are important as clues to the history of those who have previously lived and worked in the conservation planning environment. By carefully studying and recording these clues we can learn how people lived in the environment, where they lived, what they did to survive or succeed, and what environmental factors they had to deal with. Often these are the same environmental factors that people have to deal with today—flood, drought, wildfire, soil erosion, and habitat depletion. Understanding the response of people who inhabited the land many years ago to these factors may help us plan responses to them today.
- Cultural resources are nonrenewable. There is no way to “grow” the same archeological site or historical building once it has been destroyed. Even the act of excavating an archeological site and recording its information is ultimately destructive. That is why detailed record keeping is such an important part of archeological excavations and our main reason for avoiding sites where possible.
- Cultural resources can give us information on conservation problems. By studying resource use in the past, we can learn which practices led to sustained use and which were destructive and resulted in the depletion of resources. Using this information, we can develop better conservation practices today.



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Reasons to consider and protect cultural resources

- Cultural resources help us understand the relationship between people and the environment
- Cultural resources are nonrenewable
- Cultural resources can give us information on conservation problems
- Cultural resources provide us information on environmental fluctuations

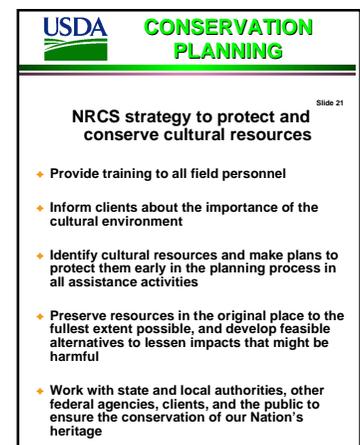
- Cultural resources provide us information on environmental fluctuations. Archeological sites provide us a much longer record of past climatic variations than do historical records. Information on rainfall and water flow fluctuations from pollen, plant, animal, and sediment studies can assist planners in designing irrigation systems, soil conservation treatments, and flood control structures.

NRCS Strategy

NRCS has developed a five part strategy to protect and conserve cultural resources **(Overhead 4-21)**

Overhead #4-21

1. Provide training to all field personnel.
2. Inform clients about the importance of the cultural environment.
3. Identify cultural resources and make plans to protect them early in the planning process in all assistance activities.
4. Preserve resources in the original place to the fullest extent possible, and, if necessary, develop feasible alternatives to reduce impacts that might be harmful.
5. Work with state and local authorities, other federal agencies, clients, and the public to ensure the conservation of our Nation's heritage.



Conservation Planning Environment—Components and Interrelationships

Overhead #4-22

A good way to summarize our responsibility is **(Overhead 4-22)**

If:

- (1) cultural resources are located on federal or Indian lands, or if
- (2) federal assistance is provided, or if
- (3) in any way the federal government is involved in any activity which may affect a cultural resource,

then cultural resource protection procedures must be followed.

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CONSERVATION PLANNING

To summarize our responsibility

IF CULTURAL RESOURCES ARE LOCATED ON FEDERAL OR INDIAN LANDS,

or if

FEDERAL ASSISTANCE IS PROVIDED,

or if

IN ANY WAY THE FEDERAL GOVERNMENT IS INVOLVED IN ANY ACTIVITY WHICH MAY AFFECT A CULTURAL RESOURCE,

then

CULTURAL RESOURCE PROTECTION PROCEDURES MUST BE FOLLOWED.

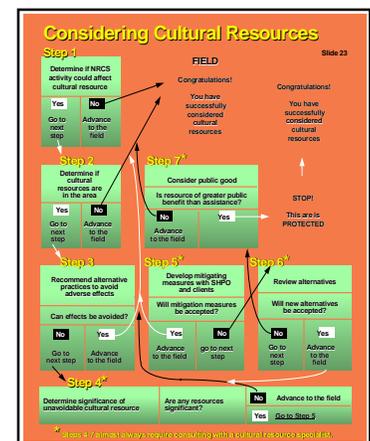
Instructor Note

NRCS has developed a model to help determine the level of analysis that must be given to cultural resources. The model is presented in Overhead 4-26. This model is taught in Cultural Resource Training materials that have been prepared by NRCS cultural resource specialists and the National Employee Development Center. Lead participants through the seven steps of the model.

NRCS Model

NRCS has developed a model to help us consider cultural resources **(Overhead 4-23)**. This model is presented in detail in the NRCS Cultural Resource Training materials. It is highly recommended that NRCS staff who work in areas where cultural resources are often found, complete this training. This model can be used to evaluate several possible NRCS conservation practice alternatives. Lets work through this model:

Overhead #4-23



Conservation Planning Environment—Components and Interrelationships

Step 1—Determine if the NRCS or conservation partnership activity could affect cultural resources. If it is likely that the resource management practice or system will not affect cultural resources, then proceed with the project. Aerial spraying of brush or weeds is an example of a practice that probably would not affect cultural resources. If it is likely that the resource management system will negatively affect the cultural resources, then do step 2 to determine if cultural resources are present. Plowing to control brush or weeds is an example of a practice that could affect cultural resources.

Step 2—If our actions will affect cultural resources, but such resources are not present, then the planning and implementation process can continue. If cultural resources are present, then the conservation planner and client should proceed to step 3 and consider an alternative resource management system.

Step 3—If an alternative resource management system that will not affect the cultural resources is available and acceptable to the client, then planning and implementation of the alternative should proceed.

Step 4—If an acceptable resource management system cannot be developed then the planner must determine the significance of the cultural resources. The planner should consult with the state cultural resource specialist. If the determination concludes that the cultural resources are not significant, then planning and implementation can continue.

Step 5—If the cultural resources are significant, then the client, planner, and other specialists should determine whether negative affects of the resource management system need to be mitigated. If the affects can be mitigated, planning and implementation can continue. These decisions must be well documented.

Conservation Planning Environment—Components and Interrelationships

Step 6—If the affects cannot be mitigated, then other alternatives should be considered. If a resource management system that is acceptable to the client can be developed, then planning and implementation can continue.

Step 7—If a resource management system that is acceptable to the client cannot be developed, then the state conservationist, with the advice from cultural resource specialists, must make the decision whether the public good is better served by continuing assistance and disturbing the cultural resources, or ending assistance.

Note that the result of following this model is the successful consideration of cultural resources. Note also that there are numerous ways that negative affects can be avoided and an acceptable resource management system can be implemented.

Instructor Note

A series of examples is given to illustrate how the model is used (Overhead 4-24). Have participants use the model to evaluate each example and discuss their answer. A reasonable answer is given in parenthesis for each example.

Overhead #4-24



USDA CONSERVATION PLANNING

Slide 24

Evaluating Cultural Resources

- Pasture fertilization and liming
- Pasture water development including buried pipeline
- Pasture weed control with herbicides or mowing
- Pasture brush control with individual tree removal with a crawler tractor
- Pasture brush control with root plowing

Conservation Planning Environment—Components and Interrelationships

Lets consider some possible conservation treatments that might be part of a resource management system for a pasture. Assume that significant prehistoric Native American home sites are known to be in the area.

1. Pasture fertilization and liming. Since this practice does not require disturbance of the soil surface, the evaluation would likely stop at Step 1 with a determination that the activity would not affect cultural resources. If the evaluation should conclude that if the practice may result in a chemical change in the soil that would damage cultural resources, then further analysis should be conducted.
2. Pasture water development including buried pipeline. Since this practice requires digging a trench and burying plastic pipe, it would disturb the soil and artifacts (Step 1). We will need to survey the desired layout of the pipeline for evidence of artifacts (Step 2). If artifacts are found then we need to work with the client to relocate the pipeline (Step 3). If the client agrees with the realignment of the pipeline we can proceed with installation. NOTE: since we know that artifacts are present in the area, we should ask the client and those that will install the pipeline to watch for evidence of artifacts that may be observed during installation. If such artifacts are found, the client should stop construction and notify the conservation planner. The planner should then work with the client to deal with mitigation (Step 5) of the disturbed site, and to see if another alternative route is possible for the pipeline. NOTE: in a situation like this you should consult with your supervisor and the NRCS state staff assigned as the cultural resource coordinator or specialist.
3. Pasture weed control with herbicides or mowing. Since this practice does not require disturbance of the soil surface, the evaluation would likely stop at Step 1 with a determination that the activity would not affect cultural resources. However, chemicals may damage some cultural resources, and mowing may destroy ceremonial plants on a sacred site.

4. Pasture brush control with individual tree removal with a crawler tractor. Since this practice involves soil and subsurface disturbance around individual trees, the site will have to be investigated. Each tree slated for removal should be inspected. If artifacts are found around some trees slated for removal (Step 2), then we must determine if we can avoid disturbance to the site by leaving those plants or by controlling them with herbicides which will not disturb the soil (Step 3). If the client accepts one of, or a combination of, these alternatives, then the practice can be applied. If the client does not want to take either of these alternatives and no other alternative can be found, then we must decline giving any further assistance.

NOTE: in a situation like this you should consult with your supervisor and the NRCS state staff assigned as the cultural resource coordinator or specialist.

5. Pasture brush control with root plowing. Since this practice involves soil disturbance over a large area (Step 1), there should be a thorough inspection for artifacts across the entire treatment area (Step 2). If artifacts are found, then plans to exclude treatment of some areas should be proposed to the land owner (Step 3). If this alternative is acceptable, the project can proceed. If this alternative is not acceptable, then the planner and client should work through Steps 4, 5, 6 and 7. If artifacts are found during implementation, then work should stop. Further planning to implement a workable project should proceed as should work to mitigate the area where the artifacts were found.

NOTE: If suitable alternatives are not found or some mitigation becomes required, the conservation planner should consult with their supervisor and the NRCS cultural resource specialist.

Question

Can any of you give examples of how you have had to deal with cultural resources in your work?

Use the model to explain what you did and the outcome. I think those examples give us some good ideas about how we can work with a client to successfully consider cultural resources during the conservation planning process. Cultural resources need not stop implementation of conservation plans, but they can cause us to modify plans to be more compatible with the resource. When we think about it, this is no different than how the presence or condition of any other resource can influence our work. Our plans need to sustain and conserve these resources just like they conserve and sustain the SWAPA resources and the business and life-style of the client. Achieving this goal is easier when we consider cultural resources at the beginning and throughout our planning process. If you want to learn more about considering cultural resources in conservation planning, then I encourage you to check out the self-paced “Cultural Resource Training” course that is available from the National Employee Development Center. Check with the state Cultural Resource Coordinator or Specialist to learn more about this course.

Consideration of SWAPA Resources

Instructor Note

During the next session you will have participants build on their basic knowledge of SWAPA resources. The first section focuses on participants developing a list of the SWAPA considerations that are included in the FOTG. Using Overheads 4-25/29 you will list SWAPA considerations and problems that participants suggest. You will use a different overhead to record the answers for each of the resources. You will prompt their discussion of problems by telling them the basic considerations for the resource. For instance the basic considerations for soil are erosion, condition, and deposition, and the problems under erosion are sheet and rill, wind, etc. You should try and get the participants to list all of the soil considerations and problems that are included in the Conservation Practice Physical Effects (CPPE) section of the FOTG. Include items that are not currently in the CPPE. Allow participants to go into considerable detail on the SWAPA resources. Allow them to teach each other through the discussion of each SWAPA resource.

The next thing we want to do is look at the SWAPA resources.

Question

Overhead #4-25

What are the conservation considerations and problems that we normally think about when we think about soil (Overhead 4-25)? Who wants to start?

USDA		CONSERVATION PLANNING	
Slide 25			
Soil Considerations			
Erosion	Condition	Deposition	

Conservation Planning Environment—Components and Interrelationships

These are good contributions. As a test of completeness, think a moment about soil considerations and problems contained in Section 5 of the FOTG.

Question

What factors are listed in that section that we have not listed here?

What factors have we listed that are not SWAPA considerations and problems in the FOTG?

Instructor Note

Record any additional answers. Be sure soil considerations and problems are well defined before moving on to discuss water considerations.

Question

What are the conservation considerations and problems that we normally think about when we think about water (Overhead 4-26)? Who wants to start?

Overhead #4-26

USDA CONSERVATION PLANNING	
Water Considerations	
Quantity	Quality

Conservation Planning Environment—Components and Interrelationships

These are good contributions. As a test of completeness, think a moment about water considerations and problems contained in Section 5 of the FOTG. What factors are listed in that section that we have not listed here?

Question

What factors have we listed that are not SWAPA considerations and problems in the FOTG?

Instructor Note

Record any additional answers. Be sure water considerations and problems are well defined before moving on to discuss air considerations.

Question

What are the conservation considerations and problems that we normally think about when we think about air (Overhead 4-27)? Who wants to start?

Overhead #4-27

USDA CONSERVATION PLANNING	
Air Considerations	
Quality	Condition

Conservation Planning Environment—Components and Interrelationships

These are good contributions. As a test of completeness, think a moment about air considerations and problems contained in Section 5 of the FOTG. What factors are listed in that section that we have not listed here?

Question

What factors have we listed that are not SWAPA considerations and problems in the FOTG?

Instructor Note

Record any additional answers. Be sure air considerations and problems are well defined before moving on to discuss plant considerations.

Question

What are the conservation considerations and problems that we normally think about when we think about plants (Overhead 4-28)? Who wants to start?

Overhead #4-28

USDA		CONSERVATION PLANNING	
<small>Slide 28</small>			
Plant Considerations			
Suitability	Condition	Management	

Conservation Planning Environment—Components and Interrelationships

These are good contributions. As a test of completeness, think a moment about plant considerations and problems contained in Section 5 of the FOTG. What factors are listed in that section that we have not listed here?

Question

What factors have we listed that are not SWAPA considerations in the FOTG?

Instructor Note

Record any additional answers. Be sure plant considerations and problems are well defined before moving on to discuss animal considerations.

Question

What are the conservation considerations and problems that we normally think about when we think about animals (Overhead 4-29)? Who wants to start?

Overhead #4-29

USDA CONSERVATION PLANNING	
<small>Slide 29</small>	
Animal Considerations	
Habitat	Management

Conservation Planning Environment—Components and Interrelationships

These are good contributions. As a test of completeness, think a moment about animal considerations and problems contained in Section 5 of the FOTG. What factors are listed in that section that we have not listed here?

Question

What factors have we listed that are not SWAPA considerations and problems in the FOTG?

Instructor Note

Record any additional answers. Be sure all SWAPA considerations and problems are well defined before moving on in the module. Overhead 4-30 is provided as a reference to the SWAPA Considerations and Problems included in the CPPE.

Overhead #4-30

As a quick reference, here is the list of SWAPA considerations provided by the course development team (Overhead 4-30).

Slide 30

USDA CONSERVATION PLANNING

Considerations that are included in SWAPA resources.

SOIL	WATER	AIR	PLANTS	ANIMALS
Erosion: wind, sheet, rill, concentrated flow (gullers), gulley and (class A gully) streambank, irrigation induced, mass movement, roadbanks, construction	Quantity: excess amounts (leaks, runoff) flooding (subsurface water), inadequate outlets, water management (irrigated and non-irrigated land), on- and off-site restricted capacity from or for soil deposition	Quality: excess particulates in suspension (smoke and dust causing safety, machinery, or health problems), odors, chemicals (natural or synthetic), pesticides, fuels, fung, molds, pollen, noise, (off-site and off-ski)	Suitability: on- and off-site suitability for intended use and purpose (erosion control, crop or timber production, adding biology, habitat for animals)	Habitat: quantity, quality and seasonality of food, shelter, water, air
Condition: pH, water infiltration, crusting, organic matter, microorganisms, soil contaminants (excess—chemical, pesticides, animal wastes, fertilizers, pathogens, sediment, heavy metals), aquatic habitat, low dissolved oxygen, temperature	Quality: groundwater and surface water contaminants (pesticides, herbicides, salinity, fecal matter), aquatic habitat, low dissolved oxygen, temperature	Condition: temperature, movement, visibility, humidity, moisture, atmospheric pressure	Condition: productivity (biomass, amount, distribution), health/vigor, (competitive-ness, above ground and below ground biomass)	Management: population resource balance (carrying capacity, numbers, kinds, distribution, and season of use to resource base), health, disease, parasites, nutrition, threatened or endangered
Deposition: on- off-site odors, damage and safety			Management: establishment, growth, harvest, pests (insects, weeds, diseases), nutrients, threatened or endangered	

Policy Considerations

We have discussed in this module many policies that may affect a client and his interest in a conservation plan. Examples include local, state, and federal laws that affect income taxes, farm loans, rental agreements, commodity programs and set-aside programs, conservation cost-share programs, conservation compliance, pesticides, water rights, land use, predator control, threatened and endangered species, and cultural resources. NRCS administers only a few of these, but our clients have to deal with them all—they are part of their conservation planning environment. Our best conservation plans will be those that help the client legally address the policy components of the planning environment, particularly policies that affect natural resource management and use.

Instructor Note

You have now lead the participants through a study of the family farm, the farm family, and the SWAPA resources. Attention has been given to cultural resources, and social and economic considerations. You will now work with participants to build a comprehensive model of the environment in which we and our clients live and work. This model will serve as the summary for this module. You will use Overheads 4-5, 4-6, 4-8, and 4-9 to build this module. Overhead 4-31 was created by the course development team as a model of a farm or ranch system. In this part of the module, you will be, through small group discussion and work, helping participants use what they have learned in this and earlier modules to create their own visual representation of the farm or ranch, the community, and the economic, social, resource, and policy environments.

Conservation Planning Environment—Components and Interrelationships

We are about to close this module. What I want you to do in small groups is to take the information we developed and recorded on overheads 4-5 and 4-8, along with the information provided by the course development team in overheads 4-6 and 4-9 and develop a picture or model of the conservation planning environment in which we and our clients live and work.

In developing this model, I want you to think of the family farm and farm family as the center of the model. Think of the area surrounding the property as being cut into three pie shaped pieces—business, social, and resources. These are not three separate entities, but one environment in which all parts are connected.

Now write in the words or phrases we used earlier to describe parts of this model. For instance, three of the phrases suggested by the course development team, (Overheads 4-6 and 4-9) are “kids,” “farm loan,” and “lake.” I would think you would record these on our model under social, economic, and resources, with which the client must deal.

Policies are embedded in all three parts of the planning environment. These regulate many things a client can do to manage the business (taxes, lending laws), live in the community (zoning regulations), and use the cultural and SWAPA resources (Historic Preservation, water or air quality, T&E species, conservation program eligibility). You should write the names or policies in the part of the conservation planning environment where you think they apply. For instance, you might put “conservation compliance” in the resources part of the model.

Class Exercise to Develop a Model Farm/Ranch

Let's simply divide the room into three groups. Each group develop a model. As you develop your models think about the way the different components interact with each other, and how a component recorded in one part of the model interacts with other parts. Realize that the farm, family, community, and economic, social, and resource environments—are artificial divisions of the system that humans create to help organize information. When we help a client develop a conservation plan we must help them put the parts together into a workable system.

After you have completed your models, we will have a representative from each group explain their model. Lets take about 15-20 minutes to complete your models.

Instructor Note

Following a short period of time for the groups to work on their models, call them back together and have each group describe their model. As a way to facilitate learning, but not to point out something you think is wrong, ask why certain parts of the system were located where they were. Ask about interactions between components. Remember, however, there is not a totally right way to illustrate the system. Nor is there a wrong way. No model should be judged more correct than another.

Example Model of a Farm/Ranch

Here is the model provided by the course development team (Overhead 4-31). Using this model, let's look at some ways these parts of the conservation planning environment work as a system.

Overhead #4-31



- Issues that start on the farm—such as initiating a confinement swine operation—obviously effect the family (labor requirements), the neighbors (odor), business (need for money), and the resources (waste water and nutrient management). Water quality and other policies may affect whether a family could add a confined swine operation.
- Things that happen to the family—such as a serious illness—affect the farm (lost labor, decreased income, and increased expense), the business (overdue loan leading to foreclosure), the resources (failure to maintain a conservation practice), and the community (one less family to support the school, church, stores).
- Issues that start in the community (such as a flood control project) affect the farm and business (less land to farm and less crop income because of a flood control structure), and the family and community (a place to swim and fish).

When we work with a client, we help them deal with a multitude of issues. It is not our responsibility to deal with all of the issues—some of them are none of our business. However, the more sensitive and knowledgeable we are about the total environment in which the client lives and works the better we can help the client deal with those parts of the environment that we have been asked by the client to address.

Conservation Planning Environment—Components and Interrelationships

Can you provide additional examples of how an action we might help a client take, would start in one of the environments and effect the others? I am particularly interested in other examples like this last one where our assistance was provided to a community or to someone other than the farm or ranch operator.

Instructor Note

Allow an opportunity for 3-4 participants to share examples.

Those are good examples. They illustrate that “everything really is connected to everything else.” We need to realize that when we help a client address a resource problem or opportunity that our recommendations will affect other resources and the social and business environments. The client has goals for all aspects of his work and life—social goals, business goals, and resource goals. We can serve the client better if we help the client take a comprehensive, integrated systems approach to conservation planning. Such an approach helps the client resolve conflicting goals and make real progress in obtaining the desired quality of life.

Each of you brings knowledge and experience to the planning process. Those of you with lots of experience in helping clients develop comprehensive, integrated conservation plans have developed a feel for many of the interactions that we have discussed. After working with a client for several years you know something about the family situation, you have a feel for family goals, you have a feeling about the client’s business and financial situation, you know how the client looks at resource problems and opportunities. You use this information to develop better conservation plans.

Conservation Planning Environment—Components and Interrelationships

Some of you do not have this experience. Neither did these others when they started. Helping clients develop conservation plans is how we learn much of what we know about our clients and their resources, social settings, and economic conditions.

I hope this module has helped each of us develop new knowledge and ideas about people and the resources we work with, and has prepared us to do a more complete and comprehensive job of conservation planning



CONSERVATION PLANNING

Slide 4 - 5

What images or ideas come to your mind when you hear the phrase Family Farm or Ranch?

Economics/ Business	Social Issues		Resources/ Environment	Policy/ Other
	Family	Community		

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CONSERVATION PLANNING

Slide 4 - 6

What images or ideas come to your mind when you hear the phrase Family Farm or Ranch?

Economics/ Business	Social Issues		Resources/ Environment	Policy/ Other
	Family	Community		
<ul style="list-style-type: none"> • Management • Costs, fuel seed, fertilizer • Income • Farm loan • Landlord • Equipment • Comm. program payments • Cost share payment • Taxes • Crops, livestock • Markets 	<ul style="list-style-type: none"> • Owner-operator • Spouse • Kids • Labor • Parents • In-laws • Healthy environment • Recreation swimming, fishing, • Money for retirement • Off-farm job 	<ul style="list-style-type: none"> • School • Church • Neighbors • 4H, FFA, Farm Bureau, Extension, Homemakers, Little League • Stores • Community Park • Opinions, "norms" 	<ul style="list-style-type: none"> • SWAPA • Pesticide laws • Wetland • Nutrient management • Lake • Uncapped abandoned well • Hi-lo creek • Conservation plan (NRCS) • Conservation reserve field • Predators 	<ul style="list-style-type: none"> • Great-granddads log cabin • Oregon Trail • Electric Power line • Inter-state highway • Sacred site • Inheritance taxes • Conservation compliance



CONSERVATION PLANNING

Slide 8

**What contrasting ideas do these
two phrases generate?**

Farm Family	Family Farm



CONSERVATION PLANNING

Slide 9

What contrasting ideas do these two phrases generate?

Farm Family	Family Farm
<ul style="list-style-type: none">◆ Owner Operator◆ Kids◆ Healthy environment◆ Income-money for home◆ Homestead◆ School◆ Church◆ Parents◆ Neighbors◆ 4-H, FFA	<ul style="list-style-type: none">◆ Management◆ Farm loan/rental agreement◆ Land, crops, livestock◆ Markets◆ Costs, fuel, seed, fertilizer, death loss◆ Farm supply dealers◆ Landlord◆ Taxes◆ Equipment◆ Conservation plan◆ Cost share payments



CONSERVATION PLANNING

Slide 25

Soil Considerations

Erosion	Condition	Deposition



CONSERVATION PLANNING

Slide 26

Water Considerations

Quantity	Quality



CONSERVATION PLANNING

Slide 27

Air Considerations

Quality	Condition



CONSERVATION PLANNING

Slide 28

Plant Considerations

Suitability	Condition	Management



CONSERVATION PLANNING

Slide 29

Animal Considerations

Habitat	Management



CONSERVATION PLANNING

Slide 30

Considerations that are included in SWAPA resources.

SOIL	WATER	AIR	PLANTS	ANIMALS
<p><u>Erosion--</u> wind, sheet, rill, concentrated flow (ephemeral gully and classic gully) streambank, irrigation induced, mass movement, roadbanks, construction</p> <p><u>Condition--</u> tilth, water infiltration, crusting, organic matter, microorganisms, soil contaminants (excess--chemical content, animal wastes, fertilizers, pesticides)</p> <p><u>Deposition--</u> on-, off-site damage and safety</p>	<p><u>Quantity--</u> excess amounts (seeps, runoff / flooding subsurface water), inadequate outlets, water management (irrigated and non-irrigated land), on- and off-site restricted capacity from or for soil deposition</p> <p><u>Quality--</u> groundwater and surface water contaminants (pesticides, nutrients, organics, salinity, fecal material pathogens, sediment, heavy metals), aquatic habitat, low dissolved oxygen, temperature</p>	<p><u>Quality--</u> on- and off-site particulates in suspension (smoke and dust causing safety, machinery, or health problems), odors, chemicals (natural or pollutants--pesticides, fungi, molds, pollen, noise, (on-site and off-site)</p> <p><u>Condition--</u> temperature, movement visibility, humidity, moisture, atmospheric pressure</p>	<p><u>Suitability--</u> adaptability to soils and climate, suitability for intended use and purpose (erosion control, crop or timber production, adding beauty, habitat for animals</p> <p><u>Condition--</u> productivity (kinds, amounts, distribution), health-vigor, (competitive-ness, above ground and below ground biomass)</p> <p><u>Management--</u> establishment , growth, harvest, pests (insects, weeds, diseases), nutrients, threatened or endangered</p>	<p><u>Habitat--</u> quantity, quality, and seasonality of food, shelter, water, air</p> <p><u>Management--</u> population resource balance (carrying capacity, numbers, kinds, distribution, and season of use to resource base), health (disease, parasites, insects, nutrition), threatened or endangered</p>



Conservation Planning Environment—Components and Interrelationships

 **CONSERVATION PLANNING**

Slide 1b

Objectives

1. Explain what is meant by the phrase “conservation planning environment” and list the components of this environment.
2. Describe typical planning environment components of a farm or ranch, and categorize the components as relating to either the “family farm” or the “farm family.”

 **CONSERVATION PLANNING**

Slide 4 - 1e

Objectives cont.

7. Explain the SWAPA considerations included in the Conservation Practice Physical Effects (CPPE) section of the FOTG.
8. Describe how the interactions of SWAPA resources influence the conservation effects that might result from a resource management system.

 **CONSERVATION PLANNING**

Slide 1c

Objectives cont.

3. Identify components of a farm or ranch that are related or linked and explain why data analysis cannot focus just on individual components, but must also include analysis of interactions between components.
4. Describe key resource, social, economic, and policy components that must be considered in a comprehensive, integrated conservation plan.

 **CONSERVATION PLANNING**

Slide 1d

Objectives cont.

9. Describe a model of a typical family farm or ranch that includes (a) business or economics; (b) family, community, and social; (c) resources or cultural environment; and (d) policy components.

 **CONSERVATION PLANNING**

Slide 4 - 1d

Objectives cont.

5. Describe the use of economic and social information to increase understanding of a client's interest in conservation and ability to implement the planned resource management system.
6. Describe the use of the cultural resources model to evaluate whether the presence of a cultural resource creates a need to modify the conservation plan.