

2006 Conservation Security Program

Enhancements

Enhancements are actions other than a conservation practice which show activity above the quality criteria for soil, water, air, nutrient management, pest management, irrigation management, habitat management, grazing and energy.

Read through each enhancement section and identify the enhancements you are currently applying. This will assist in determining the benchmark condition of your CSP agriculture operation.

CSP Enhancements for
the Naches Watershed.



This enhancement activity packet is designed to assist you in determining which enhancement activities you are currently applying on your agricultural operation for CSP.

This packet contains enhancement components for the following resource categories in the Naches watershed:

Enhancement Group	# of Enhancement Components
Energy Management	Worksheets E 1-7
Grazing land Management	EGM Worksheets 1-6
Habitat Management	EHM Worksheets 1-10
Nutrient Management	ENM Worksheets 1-10
Pest Management	EPM Worksheets 1-5
Air Resource Management	EAM Worksheet 1-6
Water Management	EWM Worksheet 1
Soil Management	ESM Worksheet 1

Each enhancement group will include:

- a **Job Sheet** (or Activity Task Sheet) which describes the enhancement.
Example: Energy Enhancement Activities – CSP Energy Job Sheet
- followed by **individual enhancement worksheets** (components)
Example: CSP Worksheet E-01 describing Energy Audits of Agricultural Operations

All of the individual enhancement worksheets will provide:

- a payment rate for the activity,
- a description of that activity and
- activity requirements.

Review the material in this packet and identify those enhancement activities which you feel you are currently applying within your CSP designated agricultural operation. During the interview process, you will be asked to certify these activities and may have to supply documentation for proof of enhancement application.

A Benchmark Enhancement certification worksheet, (last sheet in the packet) will be used to summarize and document each enhancement selected that will be applied through your Conservation Stewardship Plan.

It is suggested that you use the same field numbers as you provided in the Applicant Eligibility workbook on pages 6-9 to complete this worksheet.



United States Department of Agriculture
Natural Resources Conservation Service

CSP Energy Job Sheet

February 2006

Energy Enhancement Activities



For 2005, the Conservation Security Program (CSP) offers a limited number of enhancement payments as incentives to reward or encourage on-farm energy conservation and management. These enhancements are available once the applicant qualifies for CSP by meeting the program's entry requirements for soil and water quality. Through CSP, NRCS is encouraging farmers and ranchers to review how they treat waste lubricants in their operations, look for ways to reduce dependence on fossil fuels, and reduce potential impacts on the environment. Payments are offered for several of these activities through the program

This job sheet will help landowners and managers determine if they are eligible for the offered payment(s) for energy enhancement activities.

In 2005 CSP offers payments for the following energy enhancements. Each is described in more detail in subsequent pages of this job sheet:

- Performing a professional energy audit of farm/ranch operations
- Recycling of all farm equipment lubricants
- Maintaining a Soil Tillage Intensity Rating (STIR) of less than 60, 30, or 15
- Using annual or perennial legumes in the rotation
- Supplying 90% of crop nitrogen needs with legumes, manures, and/or other organic sources
- Purchasing bio-fuels (bio-diesel and or ethanol) for farm operations
- Producing renewable energy
- Reducing farm or ranch energy consumption by 5, 10 or 15% below an established baseline level (baseline may be established during an energy audit)

**CSP Enhancement Activity Task Sheet, Energy:
Acknowledgement Statement:**

I have elected to use the following Energy Enhancement activities and understand the requirements of the selected activities:

- | Existing | Proposed |
|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> Perform a professional energy audit of agricultural operations (Worksheet E-01) |
| <input type="checkbox"/> | <input type="checkbox"/> Recycle all farm equipment lubricants (Worksheet E-02) |
| <input type="checkbox"/> | <input type="checkbox"/> Maintain STIR of less than 60 (Worksheet E-03) |
| <input type="checkbox"/> | <input type="checkbox"/> Maintain STIR of less than 30 (Worksheet E-03) |
| <input type="checkbox"/> | <input type="checkbox"/> Maintain STIR of less than 15 (Worksheet E-03) |
| <input type="checkbox"/> | <input type="checkbox"/> Include annual legumes in the rotation (Worksheet E-04) |
| <input type="checkbox"/> | <input type="checkbox"/> Include perennial legumes in the rotation (Worksheet E-04) |
| <input type="checkbox"/> | <input type="checkbox"/> Supply 90% of crop nutrient needs with legumes, manures and/or other organic sources (Worksheet-04) |
| <input type="checkbox"/> | <input type="checkbox"/> Purchase at least 25 gallons of actual bio-diesel (Worksheet E-05) |
| <input type="checkbox"/> | <input type="checkbox"/> Purchase at least 100 gallons of actual ethanol fuel (Worksheet E-05) |
| <input type="checkbox"/> | <input type="checkbox"/> Produce at least 100 kWh of measured, renewable energy (Worksheet E-06) |
| <input type="checkbox"/> | <input type="checkbox"/> Demonstrate reduced energy consumption by at least 5% below average baseline consumption (Worksheet E-07) |
| <input type="checkbox"/> | <input type="checkbox"/> Demonstrate reduced energy consumption by at least 10% below average baseline consumption (Worksheet E-07) |
| <input type="checkbox"/> | <input type="checkbox"/> Demonstrate reduced energy consumption by at least 20% below average baseline consumption (Worksheet E-07) |

I agree that the following information will be provided to NRCS upon request: Written documentation of the activity performed (as described in the attached worksheets). Copies of dated receipts for equipment or services purchased.

I understand that CSP Enhancements earnings are subject to payment caps and that my actual payments will depend on my CSP Tier level, the land area affected and the number of activities I undertake.

I understand it is my responsibility to obtain all necessary permits to comply with all laws, regulations and ordinances pertaining to the application of these activities.

Accepted by: _____ Date: _____

USDA Nondiscrimination Statement

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Energy Audits of Agricultural Operations

Agriculture faces rising energy costs, regardless of whether the energy is direct (energy derived directly from a power source, such as electricity or diesel, and consumed for a particular use such as heating, lighting, or transportation) or embedded (energy used for production, packaging, and transportation that is 'captured' in fertilizers and pesticides). Through CSP, USDA's Natural Resources Conservation Service (NRCS) is encouraging farmers and ranchers to review how they use energy in their operations and look for ways to reduce costs, improve energy efficiency, and reduce impacts on the environment. An energy audit is the first step in energy management. Operators need to know how much energy is being used and where it is being used before changes in efficiency can be measured. Once energy consumption and costs have been measured, users can perform a variety of analyses to determine which actions are most efficient, and take steps to make



changes where necessary.

Definition – An energy audit identifies and evaluates energy management opportunities on the farm or ranch. During an audit, a baseline is developed to characterize and record on-farm energy use. Individual unit operations, processes, and major energy-consuming equipment are evaluated to identify energy management opportunities and high-return-on-investment projects. An action report is produced that describes the baseline, each major conservation opportunity area, an estimate of the cost to implement the changes, the potential savings that will be generated, and an estimation of the payback period. Additional information on farm energy audits is covered in the CSP Information Sheet, **Energy Audit Guidance**. At a minimum, farm energy audits for CSP must identify baseline usage for non-residential structures and all stationary equipment used in farming operations. Vehicles and the farmstead are currently excluded.

Who Performs Energy Audits? – Farmers and ranchers interested in receiving an enhancement payment for an energy audit may hire a professional contractor or utility of their choice to conduct the audit. Operators should ensure that the contractor has relevant educational and professional experience, has a successful track record, can provide objective advice, has declared any financial relationships with equipment vendors or service companies, and has qualified staff.

Baseline Self Assessments – In some areas contractors or utilities are not readily available to perform energy audits on farms. A self-assessment worksheet is being developed for areas with limited access to energy audits. The worksheet will help producers establish a baseline energy usage and identify proposed energy savings activities. The baseline self-assessment documents current energy use and may be used to document energy savings over the life of the CSP contract. Payments will **not** be made for baseline self assessments, themselves, however. Additional guidance on the baseline self-assessment is covered in the **CSP Energy Enhancement Energy Assessment Work Sheet**.

CSP Payment: A one-time CSP Enhancement payment is offered for farmers who obtain a professional farm energy audit.

Documentation Required: A receipt from the professional energy auditor is required prior for payment approval for the farm energy audit enhancement. To establish a baseline assessment, a summary page from the farm energy audit or a signed copy of the baseline self-assessment worksheet will be required.

Payment = \$500 per audit

Recycle 100 Percent of On-Farm Lubricants



Lubricants are widely used on farms and ranches to reduce friction in a variety of machinery and equipment. Without proper disposal, lubricants enter the environment; especially groundwater or surface water. Good management of these wastes can help protect the quality of the groundwater and of drinking water supplies furnished by the watershed. By allowing these lubricants to be reused, the land manager is also saving energy.

The first step in reducing potential associated water quality degradation is to carefully purchase and use only essential products, reuse them when possible, and recycle them at a recycling depot.

Definitions – For purposes of CSP, farm lubricants are defined as oils, fluids, or greases, including all mineral-based oils, synthetic oils, or semi-synthetic oils used to reduce friction in equipment and machinery. Recycling involves disposal of lubricants through a recycling company or depot. Because of air quality concerns, burning is not considered recycling.

CSP Payment: CSP offers an annual payment to qualified farmers who regularly recycle all their farm lubricants.

Documentation Required: Receipts from the receiving recycling company or depot are required prior to payment approval.

Payment = \$200 per year



Reduced Soil Tillage Intensity and Frequency

STIR Ratings (Less Than 60, 30, & 15)

The energy required to till a soil, while influenced by soil type, moisture content



and other environmental factors, is directly related to the depth of the tillage, the speed of the operation, and the number of tillage passes. Soil Tillage Intensity Rating (STIR) is an index used to evaluate the impact of kind, severity, and number of ground-disturbing tillage passes on soil quality. The STIR calculation is based on the location of cropland and the Crop Management System that the producer employs on that

land. Higher numbers indicate greater disturbance; lower numbers indicate less disturbance.

The components of STIR are: operating speed of tillage equipment, tillage type, tillage depth, and the percent of surface area disturbed. Weights are assigned to each component to calculate a rating. This rating is useful in making residue management decisions. It is one of three outputs from the Revised Universal Soil Loss Equation Version 2.0. (RUSLE2). The other outputs are a soil loss estimate and a soil organic matter trend estimate from the Soil Conditioning Index.

CSP Payment: CSP offers a small annual payment per acre for eligible acres that sustain a STIR rating of less than 60, a higher payment for those eligible acres with a STIR less than 30 and a still higher payment for those acres with a STIR less than 15.

Documentation Required: STIR ratings from RUSLE2.

Payment = STIR Rating < 60 \$.50 per acre
 STIR Rating < 30 \$.70 per acre
 STIR Rating < 15 \$.90 per acre

Use of Manure, Legumes and Other Nutrient Sources



Nutrients, such as nitrogen used in crop production, often are applied in large quantities to supplement soil supplies. Nitrogen typically is supplied to crops as ammonium nitrate, diammonium phosphate (DAP), ammonium sulfate, cal-nitro (ammonium nitrate + limestone) or other inorganic form.

The amount of energy needed to produce the nitrogen portion of the fertilizers is massive, almost 18,000 kilocalories of energy per one kilogram of nitrogen, and requires large quantities of fossil fuels. This compares to 3,000 and 2,300 kilocalories per kilogram to produce phosphate and potassium fertilizer components, respectively¹. There is a clear opportunity to save energy by reducing unneeded nitrogen applications. These can be made by crediting nitrogen produced on-site by cover crops and legume crops, and by utilizing other readily available organic sources of nutrients (such as manures) as fertilizer for crops in rotation. The producer must closely evaluate the requirements for each crop rotation, soil, and climate.

Nutrient use efficiency can be improved by carefully accounting for all sources of nutrients before determining how much additional fertilizer to apply. Additional efficiencies can be gained by calibrating applicators, applying fertilizer products and manure accurately, and using the correct method and placement to avoid losses and spillage.

CSP offers three different enhancement payments for practices that save energy by reducing inorganic fertilizer applications.

Use of Manure and/or Legumes to Supply 90% of Crop Nutrient Needs

Livestock manure and legumes (or other green manures) are excellent fertilizer for the soil, providing such nutrients as nitrogen, phosphorus, calcium, magnesium, micronutrients, potassium, and organic matter. Using alternative fertilizers to inorganic compounds will benefit the soil's water-holding capacity and tilth. Additionally, this approach can reduce the consumption of fossil fuels and minerals used in the production of inorganic fertilizer, conserving energy in

the process. However, when using these alternative sources, it is still essential to follow good management practices in order to avoid damage to the crop and hazards to the environment. Because the ratios of nitrogen to phosphorus and potassium in manure is lower than this ratio in the crop, use of manure alone to supply 90 percent of the crop nutrients needs will result in an over application of phosphorus and potassium. Therefore, good agronomic practice would indicate use of more than one organic source to achieve this energy enhancement. Some of the alternative nutrient sources are listed below:

Manure – Animal waste is an excellent source for nutrients; however, manure nutrient content varies among operations and over time. Manure applications should be based strictly on the nutrient requirement of the crop to avoid over-application and reduce the potential of nitrate-nitrogen leaching into groundwater and phosphorus being transported into streams. The following steps will assure the correct amount (agronomic rate) of manure is applied.

1. Determine crop nutrient requirements, based on a realistic yield goal.
2. Determine the nutrient content of the manure.
3. Determine the fraction of manure nutrients available to the crop in the first year of application.
4. Calculate the application rate to supply crop nutrient needs.
5. Deduct nutrients supplied from other sources.
 - a. Determine the nutrient content of the other sources.
 - b. Determine the fraction of nutrients in alternative sources available to the crop in the first year of application.
6. Determine supplemental nutrients needed for optimum crop growth. (Using Stockpiled Feedlot Manure as Fertilizer, Oklahoma Cooperative Extension Service, Division of Agricultural Sciences and Natural Resources, 200).

Legumes and Green Leaf Manures – Legumes and green leaf manures can perform a multitude of functions on the farm. Nutrients absorbed by green manure crops or those retained within crop residues after harvest, are gradually released or "mineralized" when the crop is incorporated into the soil and subsequently decompose. Many factors govern when the nutrients will be released, including the carbon/nitrogen ratio, moisture content, particle size of the soil, method of incorporation, soil nitrogen levels, and temperature. Legumes and green manures, like animal-based manure, can reduce the consumption of fossil fuels as inputs needed to produce inorganic fertilizers.

Legumes are the most important of the green manures. There are several categories of legumes and green manures that are used in conservation farming.

Cover crops – Cover crops form a mulch that protects the soil from wind and water erosion and greatly reduce annual weeds in the next growing season. Examples of annual legumes include red and sweet clover, hairy vetch, winter cereals, and buckwheat.

Catch crops / nutrient conserving crops – A catch crop only grows briefly and is either worked in after the main crop has been harvested or planted between two main crops. The catch crop protects the soil from erosion and minimizes nutrient loss from the soil through leaching. It can also enrich the soil by adding organic matter, nitrogen, or other nutrients. Examples of annual legumes used as catch crops are oilradish, red clover, and buckwheat.

Smother crops – A smother crop is a green manure crop grown primarily to control weeds. It is characterized by extremely dense, vigorous, and rapid growth. Smother crop species usually are selected with specific weeds in mind. For example, in some regions, fall rye is used against quack grass because its vigorous growth in spring coincides with the growth cycle of quack grass.

CSP Payment: CSP offers an annual, per acre payment for those qualifying acres in which 90 per cent of the crop nutrient requirements are supplied from green leaf manures, animal manures, cover crops and/or other organic sources.

Documentation Required: Farmer or crop consultant certification of appropriate fertilizer applications.

Payment = \$1.10 per acre

Annual or Perennial Legumes in Crop Rotation

Legumes in rotations form symbiotic associations with nitrogen-fixing bacteria. Through these associations they are able to supply not only the nitrogen for their own needs but a portion of the nitrogen used by the following crop. The actual amount of nitrogen supplied depends on the species grown as well as soil and climatic conditions. In general, however, the longer the legume is allowed to grow, the greater the amount of nitrogen produced. Perennial legumes tend to provide a far greater nitrogen savings than their annual counterparts. Not only are nitrogen inputs not required while the legume is growing, the additional nitrogen available to the following crop is significantly greater for perennial legumes than the nitrogen from annual legumes.

CSP Payment: CSP offers a small annual, per-acre payment for those qualifying acres in which annual legumes are included as part of the crop rotation, and a larger annual, per-acre payment for those qualifying acres in which perennial legumes are included in the crop rotation.

Documentation Required: Farmer or crop consultant certification.

Payment = \$.70 per acre for perennial legumes
 \$.10 per acre for annual legumes

¹ Living Landscapes, Thompson/Okonagan, Ministry of Employment and Investment, Province of British Columbia, CA, 2002

Renewable Fuel

Renewable Energy Fuel Uses

Renewable fuel is defined as “fuel grade ethanol and biodiesel.” USDA supports the conversion and use of biomass (plant-derived material) as an important energy resource for on-farm use to



reduce dependence on petroleum-based fuels. At this time, biomass and its fuel derivatives represent the only renewable alternative for liquid transportation fuel. Using renewable energy fuels can eliminate the use of toxic fuel additives, such as MTBE (Methyl Tertiary Butyl Ether); reduce air and water pollution; and reduce greenhouse gas emissions.

A companion Job Sheet, “Renewable Fuel Records,” is also available from NRCS field offices to assist with record keeping and converting fuel blends into components that may be eligible for payment as CSP enhancements.

Ethanol – Ethanol is also known as ethyl alcohol or grain alcohol. Ethanol is used as an alternative fuel and as an octane-boosting additive to gasoline. The U.S. ethanol industry produced more than 2.81 billion gallons in 2003, up 32 percent from 2002’s annual production of 2.13 billion gallons¹. Although this number is small compared to fossil fuel use for transportation, ethanol consumption continues to increase dramatically. Ethanol can be made from starch or cellulose. Bio-ethanol technology turns low-value plant material, such as corn stalks, sawdust, or waste paper into fuel ethanol.

Biodiesel – Biodiesel is a clean burning alternative fuel produced from oils and fats derived from a variety of renewable resources, including oils derived from canola seeds, corn seeds, sunflower seeds, flax seeds, and, most commonly, soybeans. Raw biodiesel contains no petroleum, but it is usually blended with petroleum diesel to create a biodiesel blend. Biodiesel fuel is made from oils or fats – both hydrocarbons. The hydrocarbons are filtered, then mixed with an alcohol (typically methanol) and a catalyst (sodium or potassium hydroxide). The major products from this reaction are biodiesel fuel, which is an ester, and glycerol, which has commercial uses, such as in cosmetics, soap, and other products. Biodiesel is simple to use, biodegradable, nontoxic, and essentially free of sulfur and aromatics. It can be used in compression-ignition (diesel) engines with little or no modification. Farm machinery is largely diesel powered.

CSP Payment: Under CSP, payments will be made to qualifying producers for the *bio-based portion* of eligible blended fuels in 500-gallon increments. A payment is offered each 500 gallons of actual ethanol used in farm machinery. A payment is offered for the first 125-500 gallons of biodiesel used, and for each subsequent 500 gallons of biodiesel used on the farm for the duration of the contract.

Documentation Required: Receipts documenting the annual purchases of renewable fuels, such as ethanol and biodiesel.

Payment = \$25 per 100 gallons used per year (500 gallon minimum)

Renewable Energy Generation

Cost-conscious and conservation-minded farmers and ranchers have become increasingly aware of the impact that energy has on their ability to sustain their operations. The rising cost of electricity alone can determine whether some farmers are able to stay in business, especially dairy farmers and operations that



rely on pumping irrigation water. While gaining efficiency and practicing conservation can create significant savings, farmers and ranchers can add energy generation to their operations. For many farmers and ranchers, solar, wind, biogas (methane generation), and, in some instances, geothermal or hydropower energy, can be generated and used on the farm to conserve energy and increase energy independence. Currently, only 2 percent of the total energy consumption in the United States comes

from clean, renewable resources, but the potential power output of renewable energy resources is great.

CSP Payment: In order to encourage increased energy production from renewable sources, USDA, through the CSP, will provide payments to qualified agricultural producers for the first 100 kilowatt hour and each subsequent kilowatt hour equivalent of electricity they generate. The energy generated must be documented by metering or other approved protocol.

Documentation Required: Energy generation/savings must be verified by a State Public Utilities Commission, local electric utility (when connected to the grid), or another verification protocol.

Payment = \$2.50 per 100 kWh



United States Department of Agriculture
Natural Resources Conservation Service

CSP Worksheet E-07

February 2006

Energy Use Reduction (5%, 10%, & 20%)

Energy consumption in agriculture grew steadily during the 1960s and 1970s, peaking in 1978, due to increased mechanization, use of confinement housing and expanding farm size. High energy prices during the 1970s and 1990s caused farmers and ranchers to find ways to reduce their energy costs—agricultural consumption was reduced by 41 percent from 1978 to 1998. This was primarily accomplished by reducing energy use or taking actions to use energy more efficiently while still achieving the same outcome. The following are examples of ways energy use was reduced (not including modifying tillage operations and fertilizer use):

- Switching from gasoline powered to more fuel efficient diesel powered engines
- Shifting to larger multiprocessor machines
- Using energy saving methods for drying and irrigating crops
- Replacing old machinery with more energy-efficient equipment
- Using new seed varieties to reduce energy-intensive chemical requirements
- Insulating farm buildings
- Using energy efficient irrigation systems

Opportunities for energy conservation are available in almost every application or operation on the farm or ranch. Energy conservation can be achieved from simple management changes, such as shifting energy consuming irrigation to hours of low evapotranspiration or conscientiously completing scheduled maintenance so that systems work at optimal levels¹.

The advantages of energy conservation include reducing air pollutants, reducing global greenhouse gas emissions, reducing dependence on petroleum based products, and slowing escalation of energy costs due to lower demand. The USDA is promoting energy efficiency and conservation through the CSP so that farmers and ranchers can effectively respond to energy price and availability fluctuations and achieve environmental benefits.

CSP Payment CSP offers an annual payment for energy reduction to qualified applicants who enroll in the program. The payment is based on reduction rates of 5 percent, 10 percent, and 20 percent of total British Thermal Units (Btu's)² consumed by stationary equipment on the farm or ranch. A baseline energy usage must be established prior to claiming this enhancement. The energy audit enhancement or baseline self-assessment will serve this purpose (**Worksheet E-01**). A companion Worksheet, **Btu Conversion Worksheet** is also available from NRCS field offices to assist with converting a variety of energy measurement units into Btu's.

Documentation Required: Documented baseline energy use based on a professional farm energy audit or baseline self-assessment. Itemization of management changes adopted to accomplish energy reduction. Receipts documenting average annual energy reduction compared with the established baseline.

Payment = \$100 per 5% reduction in BTUs
\$200 per 10% reduction in BTUs
\$500 per 20% reduction in BTUs

¹ Reliable, Affordable, and Environmentally Sound Energy for America's Future, Report of the National Energy Policy Development Group, Office of the White House, 2002

² A British thermal unit is the amount of heat required to raise the temperature of one pound of water one degree Fahrenheit at sea level.

GRAZING MANAGEMENT (CSP Enhancements) February 2006

Enhancement Activity Task Sheet

WA-CSP - EGM


Photo courtesy of NRCS

Enhancement Activities

Enhancements activities refer to actions that provide resource benefits beyond the level prescribed by NRCS Conservation Practice Standards. Once implemented Enhancement Activities should result in an observable or measurable improvement to the condition of one or more of the soil, water, air, plant, or animal resources, or provide for more efficient resource utilization and/or energy conservation

Enhancement Activity Benefits

Enhancement activities associated with Grazing Management such as increasing the intensity of rotational grazing, providing special protection to riparian areas, or estimating forage quality and animal performance can result in the following benefits to the producer and the environment:

- Reduced risks to ground and surface water quality
- Increased ecosystem health for better water cycling, mineral cycling, and biologic integrity
- Lower costs by increasing efficiency of your operation

CSP Payments

You can earn payments by participating in any of the following activities:

- Improve grazing management by applying annual results from monitoring
- Rotation of salt, mineral, and supplemental feeding areas.
- Manage grazing in riparian areas to improve riparian health
- Manage off-site water sources to improve riparian health
- Manage and control timing of grazing to promote native bunchgrasses
- Use Nutritional Balance Analyzer (NUTBAL) to apply recommendations on an annual basis to improve grazing management

CSP Enhancements earnings are subject to payment caps. Your actual payment will depend on your CSP Tier level and the number of acres enrolled.



GRAZING MANAGEMENT (CSP Enhancements) February 2006
Enhancement Activity Task Sheet WA-CSP - EGM

Client’s Acknowledgement Statement:

I have elected to use the following Grazing Management activities and understand the requirements of the selected activities:

Existing	Proposed	
<input type="checkbox"/>	<input type="checkbox"/>	Improve grazing management by applying annual results from monitoring (Worksheet 1)
<input type="checkbox"/>	<input type="checkbox"/>	Rotation of salt, mineral, and supplemental feeding areas. (Worksheet 2)
<input type="checkbox"/>	<input type="checkbox"/>	Manage grazing in riparian areas to improve riparian health (Worksheet 3)
<input type="checkbox"/>	<input type="checkbox"/>	Manage off-site water sources to improve riparian health (Worksheet 4)
<input type="checkbox"/>	<input type="checkbox"/>	Manage and control timing of grazing to promote native bunchgrasses (Worksheet 5)
<input type="checkbox"/>	<input type="checkbox"/>	Use Nutritional Balance Analyzer (NUTBAL) to apply recommendations on an annual basis to improve grazing management (Worksheet 6)

I agree that the following information will be provided to NRCS upon request:

- Documentation of the activity performed as required (use attached worksheets or equivalent).
- Copies of dated receipts for equipment or services purchased.

I understand that CSP Enhancements earnings are subject to payment caps and that my actual payments will depend on my CSP Tier level and the number of acres enrolled.

Accepted by: _____ Date: _____

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GRAZING MANAGEMENT (CSP Enhancements) February 2006

Enhancement Activity Task Sheet WA-CSP - EGM

Worksheet 1: Improve grazing management by applying annual results from monitoring.

Monitoring plan developed with appropriate records to assess whether the grazing strategy on pastureland is meeting objectives, utilization of species composition improvement. Identify the key areas and key plants that the manager should evaluate in making grazing management decisions. The monitoring will be carried out on an annual basis for each unit and include at least 5 plots using the selected techniques.

The monitoring will be carried out using any of the following appropriate methods.

1. Pasture Utilization Photo points: Fact sheet by the University of California - Davis:
http://animalscience.ucdavis.edu/extension/Factsheets/RangelandResources/pdfs/Utilization_of_Forage2.PDF
2. Range Monitoring with Photo-points By: Allan McGinty and Larry D. White. The document can be accessed and purchased at the following url: <http://tcebookstore.org/pubinfo.cfm?pubid=983>. Photo points provide a way for owners/managers to monitor rangeland health with a minimum of time and expense. This publication explains when, where and how often to photograph rangeland points, how to set up a photo point, and how to interpret the photographs. (6 pp., 2 photos)
3. Forage Monitoring Enclosures: Appendix E of - 'Utilization Studies and Residual Measurements', Interagency Technical Reference, 1996 BLM/RS/ST-96/004+ 1730 contains several alternative designs for monitoring cages. This reference is a part of the NRCS National Range and Pasture Handbook available in the local field office. The document may also be downloaded at the following location: <http://www.blm.gov/nstc/library/pdf/utilstudies.pdf>
4. Key Area Transects: Recommended procedures are in 'Utilization Studies and Residual Measurements', Interagency Technical Reference, Date 1996, pages 89-102, Height-Weight Method. The reference is an appendix of NRCS National Range and Pasture Handbook available in the local field office or the following url: <http://www.blm.gov/nstc/library/pdf/utilstudies.pdf>

Accompanying documentation may include: Photographs, Description of the location including a map, Historical information, Objective of monitoring and method selected, Planned dates to, Actual Collection date, Unusual events, and/or Comments relevant to photo

Payment = \$500 per year



GRAZING MANAGEMENT (CSP Enhancements) February 2006
Enhancement Activity Task Sheet WA-CSP - EGM

Worksheet 2: Rotation of salt, mineral, and supplemental feeding areas.

Annual rotation of salt, mineral, and supplemental feeding areas to affect livestock distribution for increased ecological health.

Moving the location of salt, mineral, and protein supplements (e.g. low moisture blocks, range cake, etc.) annually can aid livestock distribution, result in more uniform utilization patterns, and enhance soil and water quality.

Protect meadows and riparian areas. Do not place salt in or within 0.25 miles on rangeland or 300 feet on pastureland.

Payment = \$1/acre

Attach map showing old and new locations of salt, mineral, and supplemental feeding areas.

Worksheet 3: Manage grazing in riparian areas to improve riparian health.

Prevent domestic livestock from grazing riparian areas by barring access (fencing, herding, etc.) or for using “flash grazing” or short duration rotational grazing in order to improve riparian conditions and health (hydrologic, soil, and biotic).

Riparian areas need to be evaluated prior to and during exclusion to determine if desired ecological changes are occurring. Weed control and other maintenance will be performed as needed.

Payment = \$10/acre for riparian area.

Attach field worksheets, photos, and other documentation.

Location	Acres	Method (fence, herding, other)	Dates Excluded	
			Begin	End
Turner Creek <i>Example</i>	113	Fence & natural barriers (rock outcrop)	1/1/2004	12/31/2004



GRAZING MANAGEMENT (CSP Enhancements) February 2006
Enhancement Activity Task Sheet WA-CSP - EGM

Worksheet 4: Manage off-site water sources to improve riparian health.

Provide off-site watering facility and exclude domestic livestock from grazing riparian areas, springs and seeps to enhance soil and water quality. This applies to new or existing watering facilities that must be repaired, replaced, or relocated.

Attach map and applicable drawings, plans, photos, or other documentation. The water source and riparian exclusion must be maintained for the life of the contract.

Payment = \$250/year

Management Units	Number & Type of Water Development	Year
Jones Pasture <i>Example</i>	1 - Spring development, pipe, & tank	2004

Attach designs, specifications, location maps, and photographs.



GRAZING MANAGEMENT (CSP Enhancements) February 2006

Enhancement Activity Task Sheet WA-CSP - EGM

Worksheet 5: Manage and control timing of grazing to promote native bunchgrasses

Management units on the agricultural operation are in a grazing system that meets the grazing management guidelines for native bunchgrasses (jointed species) - NRCS-WA Range Technical Note 34, 8 on page 7

The unit should contain at least three management units. Include documentation of utilization, on/off dates, stocking, etc. on the other units in the system. Keep actual use records and take before and after photos at key areas. Attach grazing records and photos for the unit for each year. This enhancement should be supported by monitoring enhancement: Worksheet 1 - Improve grazing management by applying annual results from monitoring

NRCS-WA Range Technical Note 34 is available on the eFOTG at:
<http://efotg.nrcs.usda.gov/references/public/WA/WA-RANGE-TN34.pdf>

Payment = \$1.50/acre units under grazing system for native bunchgrasses.



GRAZING MANAGEMENT (CSP Enhancements) February 2006

Enhancement Activity Task Sheet

WA-CSP - EGM

Worksheet 6: Use Nutritional Balance Analyzer (NUTBAL) to apply recommendations on an annual basis to improve grazing management.

The GAN Lab's NIRS/NUTBAL PRO SYSTEM

A Rancher's Tool for Monitoring Livestock Nutrition and Forage Quality

In recent years, the analysis of fecal samples, a.k.a. manure, has proven to be a useful and effective diagnostic and management tool. A fecal sample collected out in the pasture can be sent to the Grazingland Animal Nutrition Lab. The GAN Lab analyzes the fecal sample using near infrared reflectance spectroscopy (NIRS) to determine the quality of the forage the animals were consuming 36 hours prior to defecating.

WHAT CAN A FECAL SAMPLE TELL YOU

The GAN Lab offers an analysis package that includes percent crude protein (CP) and percent digestible organic matter (DOM). Digestible organic matter is a measure of energy as is TDN or total digestible nutrients. Fecal samples are also analyzed for percent fecal nitrogen (FN) and percent fecal phosphorus (FP). FN and FP refers to the proportion of these minerals in the manure deposited on the ground. All four analyses are predicted for a cost of \$25 per fecal sample. One composite fecal sample can represent an entire herd.

WHAT IS NUTBAL PRO & WHAT CAN NUTBAL PRO TELL YOU

The second component of the system, NUTBAL Pro, is a decision support software developed at Texas A&M University by Dr. Jerry Stuth and the GAN Lab team. An update of the DOS-based version, NUTBAL Pro employs many new tools and the latest scientific knowledge on grazing animal nutrition. The software asks you for information regarding animal attributes, environmental conditions, pasture conditions, feeding program, and metabolic modifiers as well as incorporates GAN Lab results (CP, DOM, FN and FP) as forage quality values. The Nutritional Balance Analyzer software determines: 1) if animals are on a positive or negative nutritional plane, 2) daily weight gain/loss, and 3) the most cost effective feeding option if supplementation is needed from the information you supply.

NUTBAL Pro produces two reports. The Standard NUTBAL Report describes nutritional intake, requirements, and balance for the following: protein, net energy for maintenance and net energy for gain. This report also estimates average daily gain, identifies the limiting nutrient (energy or protein), and reports dry matter intake, milk production, and fecal output. The Mediation Report selects the most cost efficient feed alternative. The user identifies one or more protein or energy supplements available to use. The program evaluates the feeds' value with regards to the animal's nutrient deficiency or desired gain. The Mediation report then identifies the cost efficient option, amount to be fed, and cost per day. The report also calculates the price per ton required for other selected supplements to be competitive with the best choice. NUTBAL Pro is available on CD-Rom only. The CD also includes electronic copies of training materials, sampling instructions and other helpful information.

WHAT IS THE NIRS/NUTBAL PRO SYSTEM

The combined NIRS/NUTBAL Pro System is a diagnostic and management tool that enables you to monitor the changes in forage quality over time, estimate animal performance and supplement more efficiently. A regular monitoring program such as a monthly fecal sampling schedule provides a wealth of information that brings a new level of confidence to your decision making process.



GRAZING MANAGEMENT (CSP Enhancements) February 2006
Enhancement Activity Task Sheet WA-CSP - EGM

Worksheet 6: Use Nutritional Balance Analyzer (NUTBAL) to apply recommendations on an annual basis to improve grazing management.

HOW CAN I USE THIS INFORMATION

The NIRS/NUTBAL Pro System generates a vast amount of data that may be applied numerous ways, especially when you use the system as a nutritional monitoring program sampling on a regular basis. The following are just a few brief highlights. A downward trend in nutritional status may indicate it is time to move the animals to new pasture. The estimated gain or loss per day may help you decide when to start feeding or moving stockers. Dry matter intake can be used to determine if forage will be sufficient for grazing period. Fecal phosphorous and nitrogen output reported in lbs/day provides actual data with which to manage nutrient-loading concerns.

CONTACT THE GAN LAB

First, contact the GAN Lab or visit the web site. The GAN Lab will mail you a starter kit that includes a Styrofoam box with ice substitute, sample sheets, instructions for collecting the fecal sample and completing the sample sheet, and additional articles that you may find informative. Additional kits or boxes are available upon request.

Grazingland Animal Nutrition Lab
 Texas A&M University, Rangeland Ecology & Management
 2126 TAMU
 College Station, TX 77843-2126
 979-845-5838 Phone, 979-845-2542 Fax
ganlab@cnrit.tamu.edu, <http://cnrit.tamu.edu/ganlab>

SUPPLIES NEEDED

The GAN Lab supplies Styrofoam boxes, ice substitute, and original sample sheet that can be copied for future samples. You will need to have on hand plastic bags that seal, mailing labels, tape, permanent marker or labels, and disposable spoons or gloves for picking up the sample. Please do not use fold over baggies. As you can imagine, they leak.

COLLECTING A FECAL SAMPLE

Now that you have the GAN Lab starter kit and have read the instructions, you are ready to begin.

Payment = \$100/year for collecting and submitting a sample set and using analysis. A set is 2 fecal samples. The number of sets that can be contracted is not limited.

Attach copies of GAN lab Results. The technical reference is available at <ftp://ftp-fc.sc.egov.usda.gov/GLTI/technical/publications/nutbal-tech-support.pdf>

Location	Livestock			Date Sampled
	Type	Weight	BCS	
Hall Pasture <i>Example</i>	Pairs	1135	5.5	5/11/2004

HABITAT MANAGEMENT (CSP Enhancements)

Enhancement Activity Task Sheet

February 2006

WA-CSP - EHM



Enhancement Activities

Enhancement activities refer to actions that provide resource benefits beyond the level prescribed by NRCS Conservation Practice Standards. Once implemented, enhancement activities should result in an observable or measurable improvement to the condition of one or more of the soil, water, air, plant, or animal resources, or provide for more efficient resource utilization and/or energy conservation.

Enhancement Activity Benefits

Enhancement activities associated with Habitat Management, such as interseeding native forbs or adding large organic matter to wetlands, can result in benefits to the producer and the environment:

- Increased biological diversity
- Reconnection of wildlife corridors
- Improved habitat for threatened and endangered species
- Restoration of aquatic habitat and improvement in water quality

CSP Payments

You can earn payments by participating in any of the following management activities:

- Manage field borders to improve wildlife habitat and filtering capacity. (up to twice the minimum width)
- Manage winter food plot – cover crop. (five percent maximum cropland acres)
- Manage livestock grazing for nesting improvement. (minimum one hundred continuous acres)
- Restoration of declining habitat
- Manage incidental woodlands for wildlife.
- Manage herbaceous vegetation to maximize aquatic habitat.
- Manage riparian habitat for wildlife by increasing average width.
- Maintain 12 inch stubble height on small grains until March 1.
- Management of streams for fish passage.
- Maintain permanent natural vegetative cover adjacent to wildlife water.

CSP Enhancement earnings are subject to payment caps. Your actual payment will depend on your CSP Tier level and the number of acres enrolled.





HABITAT MANAGEMENT (CSP Enhancements)

February 2006

Enhancement Activity Task Sheet

WA-CSP- EHM

Client's Acknowledgement Statement:

I am currently applying or agree to apply the following Habitat Management activities and understand the requirements of the selected activities (Check all that apply):

Existing

Proposed

- | | | |
|--------------------------|--------------------------|--|
| <input type="checkbox"/> | <input type="checkbox"/> | Manage field borders to improve wildlife habitat (Worksheet 1) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage livestock grazing for wildlife nesting cover (Worksheet 2) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage riparian habitat by increasing the width for wildlife (Worksheet 3) |
| <input type="checkbox"/> | <input type="checkbox"/> | Restoration of declining habitats (Worksheet 4) |
| <input type="checkbox"/> | <input type="checkbox"/> | Maintain permanent vegetative cover adjacent to wildlife water (Worksheet 5) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage incidental woodlands for wildlife (Worksheet 6) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage annual winter food plots (Worksheet 7) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage herbaceous vegetation to maximize aquatic habitat (Worksheet 8) |
| <input type="checkbox"/> | <input type="checkbox"/> | Management of streams for fish passage (Worksheet 9) |
| <input type="checkbox"/> | <input type="checkbox"/> | Maintain stubble height on small grain residue (Worksheet 10) |

I agree that the following information will be provided to NRCS upon request:

- Written documentation of the activity performed (use attached worksheets or equivalent).
- Copies of dated receipts for equipment or services purchased.

I understand that CSP Enhancement earnings are subject to payment caps and that my actual payments will depend on my CSP Tier level and the number of acres enrolled.

I understand that it is my responsibility to obtain all necessary permits and to comply with all ordinances and laws pertaining to the application of these activities.

Accepted by: _____ Date: _____

USDA Nondiscrimination Statement

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.)

Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's [TARGET Center](#) at 202-720-2600 (voice and TDD).

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

**HABITAT MANAGEMENT (CSP Enhancements)**

February 2006

Enhancement Activity Task Sheet

WA-CSP- EHM

Worksheet 1: Manage Field Borders to improve wildlife habitat by increasing up to twice the minimum width.

Definition: Widening of field borders will increase and improve cover for wildlife, and create a travel corridor.

Purpose: To increase the amount of cover available to wildlife for nesting. Wider field borders reduce predator success while increasing the area available for the brooding of young birds. Wider field borders also provide travel lanes for wildlife moving between feeding areas and bedding or roosting areas, or watering areas.

Where Used: Use on cropland around the 50% of the field.

Operation and Maintenance: Annual mowing in late summer after August 1st, but before September 15th. Landowner is to control noxious weeds.

Payment = \$150 per acre

Worksheet 2: Managed Grazing to Improve Nesting Habitat for Wildlife

Definition: Manage grazing on grassland and shrub-steppe habitat leaving understory (herbaceous) vegetation with a 7" or taller stubble height over winter through July 1.

Purpose: Ground-nesting birds utilize herbaceous vegetation for nesting cover during the breeding season. Grass vegetation, either residual from last year, or actively growing in the spring, is needed for nesting cover.

Where Used: On rangeland and pasture where the height of vegetation is important to the identified wildlife species. Operator will follow a prescribed grazing plan which meets the NRCS standard for Prescribed Grazing. Another practice to meet criteria could be Use Exclusion. NRCS will complete a wildlife habitat assessment (i.e. Biology TN-14) or suitable species habitat assessment on the operation. Operators currently practicing this habitat management are eligible for enhancement payments.

Operation and Maintenance: A prescribed grazing system will be followed. The target wildlife species needs to be identified. The primary resource concern will be the target wildlife species habitat requirement; the secondary resource concern will be production grazing.

Payment = \$10 per acre



HABITAT MANAGEMENT (CSP Enhancements)

February 2006

Enhancement Activity Task Sheet

WA-CSP- EHM

Worksheet 3: Manage Riparian Habitat by Increasing the Width for Wildlife

Definition: Riparian habitat is an area predominated by trees and/or shrubs adjacent to and up gradient from watercourses or water bodies.

Purpose: Riparian areas serve a number of functions beneficial to fish and wildlife. Wider riparian areas tend to be cooler than narrower buffers, thereby reducing water quality problems associated with temperature. Wider riparian areas are also better at filtering nutrients and sediment, which also increases water quality. Riparian areas are not only important for the benefits they provide stream habitat, they also are valuable to terrestrial species with over 85 percent of Washington's wildlife dependent on riparian areas for at least a part of their life-cycle. Riparian habitat also functions as a corridor for wildlife to move from one block of habitat to another. Larger wildlife species need larger (wider and taller) corridors to successfully travel between habitat blocks.

Where Used: Along streams, creeks and rivers.

Operation and Maintenance: The target wildlife species needs to be identified. The riparian area needs to be populated with adequate numbers of native trees and shrubs to be effective. Refer also to the Riparian Forest Buffer Practice Standard (391).

Payment = \$100 per acre

Worksheet 4: Restoration of Declining Habitat

Definition: Restoring and managing communities of rare or declining native vegetation and associated wildlife species. Some examples of declining habitats include, but are not limited to, Shrub-Steppe, Garry or Oregon White Oak, Western Washington Prairie, Palouse Prairie and Riparian Habitat.

Purpose: Many species of wildlife are dependent upon habitat which is declining in Washington State. Management of these habitats will require protection from invasive plant and animal species. These sites will require specific management plans to create traditional and non-traditional disturbance allowing the release of the desirable plant species. In some cases re-introduction of plants may be required.

Where Used: On sites where declining or threatened habitats are known to occur or to have occurred and restoration opportunities exist.

Operation and Maintenance: The target wildlife species needs to be identified. An operation and maintenance plan needs to be developed on a site-specific basis.

Payment = \$50 per acre

**HABITAT MANAGEMENT (CSP Enhancements)**

February 2006

Enhancement Activity Task Sheet

WA-CSP- EHM

Worksheet 5: Maintain permanent vegetative cover adjacent to wildlife water

Definition: Manage area around wildlife water to provide protection from weather and predators, and to improve water quality and quantity by establishing and maintaining native permanent vegetative cover.

Purpose: To improve water use, accessibility, availability, quality and quantity, by creating and maintaining a vegetative buffer around water sources utilized by wildlife.

Where Used: On sites where water is poorly or improperly developed for native wildlife populations.

These sites should also contain adequate soil moisture to support woody vegetation.

Operation and Maintenance: Natural watering sources are the most desirable sources of water for native wildlife. These sites can be improved by establishing vegetation around the water source and excluding livestock. Water quantity and quality must be adequate for wildlife use and availability. Developed watering sources must not have predators denning within 100 feet of the structure. Developed watering facilities must be free of toxic aquatic vegetation such as algae and shall not contain mosquito larvae.

Payment = \$150 per acre

Worksheet 6: Manage Incidental Woodlands for Wildlife

Definition: On working lands, incidental woodlands can include, but are not limited to, hedgerows, fence lines, windbreaks, small woodlots, riparian buffers, and wildlife corridors. Incidental woodlands must be dominated by native woody vegetation.

Purpose: To improve incidental woodlands as sources of habitat for wildlife to use. When adjacent to working lands, incidental woodlands can increase the diversity of food, cover and water available to a broad variety of wildlife species. Management of incidental woodlands can further increase the value to wildlife by promoting a healthy vegetative community that is appropriately positioned on the landscape.

Where Used: Use for incidental woodlands on working lands where management can improve the land use as a value to wildlife.

Operation and Maintenance: Any management action including spraying, grazing or mowing will be evaluated on a site by site basis, addressing fully the target wildlife species and needs to be concurred by NRCS before the management action occurs.

Payment - \$15 per acre

HABITAT MANAGEMENT (CSP Enhancements)

Enhancement Activity Task Sheet

February 2006
WA-CSP- EHM

Worksheet 7: Annual Winter Food Plots

Definition: Establishment of annual food plots that are left over winter for wildlife.

Purpose: To provide winter food for bird and mammal species in areas with limited winter food.

Where Used: The enhancement will be used in or adjacent to annually tilled crop fields, hayland or pastures. Site locations should be adjacent to adequate winter cover (woody or tall erect herbaceous vegetation) where possible. Proximity to permanent cover provides escape routes for feeding animals when predators are in the area. Landowners can meet this enhancement by leaving portions of their crop fields unharvested. A target species will be identified in the conservation plan. Annual food plots currently established by operators are eligible for the enhancement payment.

Operation and Maintenance: Tuber crops will be left on the surface. Annual food plots will be left over winter undisturbed for wildlife use. Food plots can be disturbed in the spring for reestablishment. Annual food plot sizes and seeding rates will be established as follows:

Number – maximum 1 food plot per 160 acres

Size – minimum size 1 acre per 160 acres not to exceed 5 % of the field

Minimum width – 25ft.

Payment = \$85 per acre

SEEDING RATES

Pounds of Pure Live Seed per Acre

Location for Use	Eastern Washington		Western Washington
	Dry land	Irrigated	Non-irrigated
Barley/Oats/Wheat	40-60	50-80	80-100
Corn		10-15	15
Millet (foxtail/proso/Japanese)*		15-20	20
Smartweed			10

- Do not use in floodprone areas

**HABITAT MANAGEMENT (CSP Enhancements)**

February 2006

Enhancement Activity Task Sheet

WA-CSP- EHM

Worksheet 8: Manage Herbaceous Vegetation to Maximize Aquatic Habitat

Definition: Improve herbaceous vegetation by managing for native species of value to aquatic-dependent wildlife.

Purpose: Many wildlife species are dependent on specific aquatic plant communities which require management for traditional and non-traditional disturbance events. When left unmanaged, plant communities may succeed to large, monotypic stands of plants with limited value to wildlife. These stands can be managed to shift to habitats with greater diversity and wildlife values.

Where Used: In wetlands and aquatic habitats where a shift in the herbaceous plant community is desired in order to improve wildlife habitat.

Operation and Maintenance: Wetlands and other aquatic habitat will be managed to promote diverse plant communities that are beneficial to wildlife. Any management action including disking, flooding, spraying, grazing or mowing will be evaluated on a site by site basis, addressing fully the target wildlife species and needs to be concurred by NRCS before the management action occurs.

Payment = \$50 per acre

Worksheet 9: Management of streams for fish passage

Definition: Management and maintenance of streams or reaches of streams to allow fish to move or migrate up and down gradient without impediments or barriers.

Purpose: To allow upstream and downstream movement of fish past barriers where feasible or desirable.

Where Used: All rivers, streams, and outlets of ponds, lakes or wetlands where barriers could impede desired fish passage unless managed.

Operation and Maintenance: An operation and maintenance plan shall be developed for all applications. The plan shall provide for periodic inspection and prompt repair should fish passage become impaired or inoperable at the structure or site.

Payment = \$150 per year



HABITAT MANAGEMENT (CSP Enhancements)

Enhancement Activity Task Sheet

February 2006
WA-CSP- EHM

Worksheet 10 – Manage stubble height on small grain residue

Definition: Stubble following the harvest of a small grain crop is left through the winter months at a minimum height of 12 inches.

Purpose: Stubble following the harvest of a small grain crop is left through the winter months at a minimum height of 12 inches for wildlife to use as cover and to ensure any waste grain left on the ground after harvesting remains available as food. Additionally, any snow trapped by the stubble will increase available moisture for emerging spring vegetation and may increase moisture available to wildlife.

Where Used: Any cropland where a small grain crop has been harvested leaving stubble at least 12 inches in height. Stubble must be left undisturbed during the winter months until March 1.

Operation and Maintenance: None. Site should be left undisturbed.

Payment = \$3 per acre



NUTRIENT & WASTE MANAGEMENT (CSP Enhancements)

February 2006

Enhancement Activity Task Sheet

WA-CSP - ENM



Photo courtesy of NRCS

Enhancement Activities

Enhancements activities refer to actions that exceed the requirements of the Nutrient Management Practice Standard 590. Once implemented on a field specific basis, these activities should result in a measurable improvement to the condition of soil, water, air, plant, and/or animal resources, or provide for more efficient resource utilization and/or energy conservation.

Enhancement Activity Benefits

Enhancement activities associated with Nutrient & Waste Management such as using precision agriculture techniques, managing setbacks and filter strips, and/or using controlled release fertilizer materials can provide the following benefits to the producer and the environment:

- Cleaner ground and surface water
- Reduced costs
- Improved soil health

CSP Payments

You can earn enhancement payments by conducting any of the following activities:

- Manage nutrient requirements through use of Precision Ag techniques.
- Manage nutrients and pH by applying annual results of complete soil tests.
- Manage timing and application of nutrients through tissue testing.
- Manage nitrogen application by using split application according to crop needs.
- Utilize nitrification inhibitors and controlled release fertilizer to improve nutrient use efficiency.
- Manage setbacks for nutrient applications to exceed recommended minimum distance from ditches or streams.
- Manage crop inputs to meet organic crop certification requirements of WSDA.
- Manage herbaceous cover to utilize excess nutrients and reduce erosion.
- Manage yield variability by using yield monitoring techniques.
- Manage soil quality by applying compost.

CSP Enhancement earnings are subject to payment caps. Your actual payment will depend on your CSP Tier level and the number of acres enrolled.



NUTRIENT & WASTE MANAGEMENT (CSP Enhancements)

February 2006

Enhancement Activity Task Sheet

WA-CSP - ENM

Client's Acknowledgement Statement:

I am currently applying or agree to apply the following Nutrient Management activities and understand the requirements of the selected activities (Check all that apply):

Existing

Proposed

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Manage nutrient requirements through the use of precision agriculture techniques. (Worksheet 1) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage nutrients and pH by applying annual results of complete soil tests. (Worksheet 2) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage timing and application of nutrients through tissue testing. (Worksheet 3) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage nitrogen application by using split application according to crop needs. (Worksheet 4) |
| <input type="checkbox"/> | <input type="checkbox"/> | Utilize nitrification inhibitors and controlled release fertilizer to improve nitrogen use efficiency. (Worksheet 5) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage setbacks for nutrient applications to exceed recommended minimum distance from ditches or streams. (Worksheet 6) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage crop inputs to meet organic crop certification requirements of WSDA. (Worksheet 7) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage herbaceous cover to utilize excess nutrients and reduce erosion. (Worksheet 8) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage yield variability by using yield monitoring techniques. (Worksheet 9) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage soil quality by applying compost. (Worksheet 10) |

I agree that the following information will be provided to NRCS upon request:

- Documentation of the activity performed as required (use attached worksheets or equivalent).
- Copies of dated receipts for equipment or services purchased.

I understand that CSP Enhancements earnings are subject to payment caps and that my actual payments will depend on my CSP Tier level and the number of acres enrolled.

Accepted by: _____ Date: _____

USDA Nondiscrimination Statement

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's [TARGET Center](#) at 202-720-2600 (voice and TDD).

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.



NUTRIENT & WASTE MANAGEMENT (CSP Enhancements) February 2006
Enhancement Activity Task Sheet WA-CSP - ENM

Worksheet 1: Manage nutrient requirements through the use of precision agriculture techniques.

Description: Collect soil samples using grid and/or zone sampling techniques to document soil variability within an individual field boundary. Use sample results to create nutrient recommendations for each sampling area. Use an electronic map of nutrient recommendations to control GPS guided variable application of nutrients.

Requirements: The number of samples taken, method of variable rate application and application date. Provide a field map showing sample locations and site specific nutrient recommendation within each field. Provide nutrient (N, P, K) application maps using operator's mapping/application software.

Payment = \$7.00/acre

Worksheet 2: Manage nutrients and pH by applying annual results of complete soil tests.

Description: Soil salinity, alkalinity and acidity can have a dramatic influence on the availability and nutrient use efficiency for crops. Soil biology and physical characteristics that affect crop growth are also affected. Soil amendments such as gypsum, lime materials and sulfur products can be used to improve soil conditions affecting pH and crop growth. Complete soil samples can provide an indication that a response to applied micro nutrients may be beneficial to crop growth.

Annually monitor soil test values for nutrients and pH that impact crop growth, but are seldom evaluated. Apply micronutrients and/or soil amendments as recommended by the soil test results and land grant university guidance.

Requirements: Document the tract and field, date and depth of sampling, and sample results including pH, Cl, Ca, Mg, Mn, Fe, B and Cu as a minimum. Attach the soil test results and a record of any micro-nutrient or soil amendment application made to the field.

Payment: = \$3.00 / acre

**NUTRIENT & WASTE MANAGEMENT (CSP Enhancements)**

February 2006

Enhancement Activity Task Sheet**WA-CSP - ENM****Worksheet 3: Manage timing and application of nutrients through tissue testing.**

Description: Utilize tissue sampling from representative plants in the growing crop. Information is used to adjust timing and rate of nutrient applications to match crop uptake requirements for the nutrients of concern. Tissue tests can also be used to diagnose deficiencies and/or toxicities that can provide information concerning harvested crop usage, nutrient imbalances and adjustments in nutrient management for the next crop in the rotation.

Requirements: Tissue samples represent areas in a field that have similar soils and management. A minimum of 3 tissue samples will be collected and analyzed per field per year. The 3 samples can be from different areas in the field on the same date or a composite test for the field taken on 3 different dates. Recommendations of rate and timing of nutrient application will be based on current land grant university guidelines. Document the sampling date (s). **Attach tissue sample results and map of sample locations.**

Payment = \$ 6.00 / acre

Worksheet 4: Manage nitrogen application by using split application according to crop needs.

Description: Split application of nitrogen provides sufficient nutrients for establishment of fall and spring seeded crops. Split application reduces loss from runoff or leaching of nutrients. The recommendation of split application timing and the rates for each application is intended to apply nutrients as close to the time of crop uptake as possible. This reduces the potential for off-site loss of nutrients and improves nutrient use efficiency if timed properly.

Requirements: Document crop, application dates, rate of actual N applied and method of applications.

Payment = \$ 4.00 / acre

Worksheet 5: Utilize nitrification inhibitors and controlled release fertilizer materials to improve nutrient use efficiency.

Description: Use a nitrification inhibitor with commercial and/or organic materials to reduce potential loss of Nitrogen to volatilization and leaching. Controlled release fertilizer materials with polymer and/or sulfur based coatings on dry fertilizer provides nutrients at a rate that is closer to crop growth rates. Controlled release materials improve nutrient use efficiency and reduce the risk to water quality.

Requirements: For controlled release materials and nitrification inhibitors, record the crop, date of application, product used and rate. Incorporate these efficiency materials into the total soil/crop nutrient budget created from yield goals and soil test nutrient levels. Attach receipts for nitrification inhibitor or controlled release material.

Payment = \$4.00 / acre


NUTRIENT & WASTE MANAGEMENT (CSP Enhancements)

February 2006

Enhancement Activity Task Sheet
WA-CSP - ENM
Worksheet 6: Manage setbacks for nutrient applications to exceed recommended minimum distance from ditches or streams.

Description: To reduce the potential for off site movement of applied nutrients to surface water and ground water, application setbacks are often used. Setbacks can be installed for voluntary practices such as Filter strips, Riparian Forest buffers or Field Borders. Some application setbacks are required by Federal, State, local or Tribal laws. Increasing the width of existing nutrient application setbacks can further reduce the risk of applied nutrients reaching water resources.

Requirements: Attach a map which shows the fields and location of existing application setbacks and the new application setbacks. Describe the existing nutrient setback and document the normal setback width and the increased setback width.

Payment: \$ 100 / acre

Worksheet 7: Manage crop inputs to meet organic crop certification requirements of WSDA

Description: Certified organic is a goal for many producers. The requirements to achieve this certification and maintain it in an economical manner is difficult. Challenges include the exclusive use of natural nutrient products within a nutrient management system designed to improve soil quality and productivity over time. A systems approach to management is needed which includes pest management, crop rotation, herbaceous cover, etc.

Requirement: Document the tract and field, acres and the dates of organic certification by Washington State Department of Agriculture. Certification for each field is documented on an annual basis.

Payment = \$10/acre

Worksheet 8: Manage herbaceous cover to utilize excess nutrients and reduce erosion.

Description: Herbaceous cover crops are used in rotations to remove excess nutrients, reduce erosion due to wind and water or provide pest management functions. Generally the cover crop is grown through the fall and winter then harvested as hay, tilled under or killed chemically in the spring prior to seedbed preparation of the next crop. Green manure crops such as legumes in the rotation can improve soil fertility and soil quality.

Requirements: Tract and Field, Acres, Previous crop, Cover crop used, Date cover crop is planted and Date the cover crop is removed.

Payment = \$10/Acre for the year in which a cover crop is planted and maintained for a field.

NOTE: Payments are made for years when cover crop is planted.



NUTRIENT & WASTE MANAGEMENT (CSP Enhancements) February 2006
Enhancement Activity Task Sheet WA-CSP - ENM

Worksheet 9: Manage yield variability by using yield monitoring techniques.

Description: Use harvester mounted yield monitor system for grain, oil seed and bulk crops such as potatoes. For pasture and hay crops, use clipping measurements to estimate yield from no less than 3 management units within a field and for each cutting. The sampling areas should represent delineated soil map units, map unit inclusions or areas of uniform landscape position. A map of yield variation within fields is a useful tool when creating a nutrient budget for flat rate or variable rate application of nutrients.

Requirements: For each field, record the acres, crop, harvest date as well as the minimum, maximum and average yield. For pasture and hay land clipping method, a minimum of 3 sample areas per field per cutting is required. Attach a map that shows observed yield variability that you measured.

Payment = \$2 / acre

Worksheet 10: Manage soil quality by applying compost.

Description: Composted plant and animal waste materials improve soil quality by providing slow release nutrients and improving Organic Matter accumulation in the soil. Composting reduces the volume of animal wastes which allows transportation costs to be reduced.

Requirements: Record the date of application, crop to be grown and rate of application. Provide the nutrient analysis (N, P, K) of the composted material.

Payment = \$ 10 / acre

PEST MANAGEMENT (CSP Enhancements) February 2006

Enhancement Activity Task Sheet

WA-CSP - EPM


Photo courtesy of NRCS

Enhancement Activities

Enhancements activities refer to actions that exceed the requirements of NRCS Pest Management Practice Standard 595. Once implemented, these activities should result in a measurable improvement to the condition of one or more of the soil, water, air, plant and/or animal resources, or provide for more efficient resource utilization and/or energy conservation.

Enhancement Activity Benefits

Enhancement activities associated with Pest Management such as implementing an IPM plan or substituting non-chemical methods of controlling pests can result in the following benefits to the producer and the environment:

- Reduced risks to beneficial insects and animals
- Lower costs by limiting chemical applications to only when and where necessary
- Reduced risks to ground and surface water quality

CSP Payments

You can earn payments by participating in any of the following management activities:

- Substitute non-chemical and cultural methods for pesticide use.
- Improve pesticide use through the use of an integrated pest management IPM plan.
- Utilize only those pesticides with a WIN-PST risk rating of "LOW" or "VERY LOW".
- Utilize pesticide application techniques to reduce off-site losses.
- Manage filter strips to improve pesticide filtering capacity.

CSP Enhancement earnings are subject to payment caps. Your actual payment will depend on your CSP Tier level and the number of acres enrolled.



PEST MANAGEMENT (CSP Enhancements)

February 2006

Enhancement Activity Task Sheet

WA-CSP - EPM

Client's Acknowledgement Statement:

I am currently applying or agree to apply the following Pest Management activities and understand the requirements of the selected activities described in the associated worksheet. (Check all that apply):

Existing

Proposed

- | | | |
|--------------------------|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> | Substitute non-chemical and cultural control methods for pesticide use.
(Worksheet 1) |
| <input type="checkbox"/> | <input type="checkbox"/> | Improve pesticide use through the use of an integrated pest management plan.
(Worksheet 2) |
| <input type="checkbox"/> | <input type="checkbox"/> | Utilize only those pesticides with a WIN-PST risk rating of "LOW" or "VERY LOW".
(Worksheet 3) |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage pesticide application techniques to reduce off-site losses. (Worksheet 4). |
| <input type="checkbox"/> | <input type="checkbox"/> | Manage filter strips to improve pesticide filtering capacity. (Worksheet 5) |

I agree that the following information will be provided to NRCS upon request:

- Written documentation of the activity performed
 - (use attached worksheets or equivalent)
- Copies of dated receipts for equipment or services purchased.

I understand that CSP Enhancements earnings are subject to payment caps and that my actual payments will depend on my CSP Tier level and the number of acres enrolled.

I understand that it is my responsibility to obtain all necessary permits and to comply with all ordinances and laws pertaining to the application of these activities.

Accepted by: _____ Date: _____

USDA Nondiscrimination Statement

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PEST MANAGEMENT (CSP Enhancements)

February 2006

Enhancement Activity Task Sheet

WA-CSP - EPM

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Worksheet 1: Substitute non-chemical and cultural control methods for pesticide use.

Description: Weed, disease or insect pests are managed using non-chemical control methods such as use of goats, alleleopathic cover crops, predator insects, mating disruptors, pheromone traps, or "baits". Beneficial insects can reduce the need for pesticides and promote pollination.

Requirements: Identify fields and acres where a non-chemical or cultural method was used to control a target pest. Record dates when the control method was applied. Examples include:

- biological control
- resistant varieties
- crop rotations
- field sanitation
- prevention of re-establishment
- protection of beneficial and/or native species
- reduce the amount of pesticides applied
- consult with pest control specialists
- coordinate with county weed control program
- Using mating disruptors

Reference: <http://attra.ncat.org/attra-pub/farmscape.html>

Payment = \$8/Acre

Worksheet 2: Improve pesticide use through the use of an integrated pest management plan.

Description: A written Integrated Pest Management Plan is implemented that addresses management and control of all potential pests for an ag operation (Weeds, Disease and Insects). An IPM plan includes management methods that address all resource concerns including soil, water, air, plant and/or animal resources, or provide for efficient resource utilization and/or energy conservation. An IPM plan is comprehensive and includes documentation to verify that the plan has been implemented (receipts, maps, field records). IPM plans include non-chemical and cultural treatments when feasible, use low risk pesticides, utilize innovative application methods to improve effectiveness and reduce off-site impacts as well as use and maintenance of conservation practices such as Filter Strips to protect surface and ground water quality.

Requirements: NRCS approved IPM plan that includes:

- Document the Target Pests (Weeds, Disease and Insects) of concern to the agriculture system.
- Document scouting techniques and treatment thresholds used to manage each Target Pest.
- Document the fields or locations within the ag operation with identified problems.
- Document the method of monitoring and control used for each target pest.
- Document the effectiveness of the monitoring and control strategy.

For specific pests that required treatment each year, record Location, acres, crop, pest, control method and date of treatment applied in the table provided. **Attach the approved IPM plan containing all requirements and considerations listed in the IPM description.**

Payment =

Irrigated Cropland: \$30/Acre

Dry Cropland: \$20/Acre Range/Pasture land: \$10/Acre

**PEST MANAGEMENT (CSP Enhancements)**

February 2006

Enhancement Activity Task Sheet

WA-CSP - EPM

Worksheet 3: Utilize only those pesticides with a WIN-PST risk rating of “LOW” or “VERY LOW”.

Description: Chemical pesticides used for pest management will have a “LOW” or “VERY LOW” risk rating for a field location, method of application and rate of application. The required rating applies to risks to humans, fish and water quality. Risk to water quality includes risk for leaching, solution runoff and adsorbed runoff. Include formulation of product if part of the name of Pesticide used. **Rate** refers to units of product per acre for the application. **Method** refers to whether application is surface applied, soil incorporated or foliar. **Placement** refers to whether application was broadcast or banded.

Requirements: Attach WIN-PST printout that includes each pesticide used and the rate, method and placement attributes for the application.

Evaluate risk ratings for Human, Fish and Water quality. Rating must be “LOW” or “VERY LOW” for all resource categories. Application Record includes complete product name and formulation if available along with rate, method and placement of the application. This data is needed to run the WIN-PST model.

Payment = \$4 / Acre

Worksheet 4: Utilize pesticide application techniques that reduce the potential for off-site losses.

Description: Pesticide application technology is changing to improve application efficiency and reduced risk of pesticide movement to surface and ground water. Use of innovative techniques for applying pesticides improves overall pest management is encouraged. Pesticide application techniques are used that reduce the potential for off-site losses.

Requirements: Innovative techniques include: Sensor/spray technology, hooded sprayers, low-rate spray systems, directed spray nozzles, spot spraying, direct injection systems and use of drift reducing products. Attach a description (receipts, design, objective) of the innovative application technique used for application along with Worksheet 4.

Payment = \$3/Acre



PEST MANAGEMENT (CSP Enhancements)

February 2006

Enhancement Activity Task Sheet

WA-CSP - EPM

Worksheet 5: Manage filter strips to improve pesticide filtering capacity.

Description: Buffer strips include Field Borders, Filter Strips, Riparian Herbaceous Buffers, and/or Riparian Forest Buffers. Management activities to improve the filtering ability of vegetated buffer/filter areas include: Remove sediment accumulation, reseed as needed, harvest as needed to promote healthy growth, increase dimensions and control invasive weed and insect pests.

Requirements: Attach a map of location of Buffers with a complete description of management activity.

Payment = \$100 per acre for filter strips managed to improve pesticide filtering capacity.

AIR RESOURCE MANAGEMENT (CSP Enhancements) February 2006

Enhancement Activity Task Sheet WA-CSP - EAM



Photo courtesy of NRCS

Basic Eligibility

If the applicant watershed lies within a non-attainment area, in order to qualify for any CSP enhancement payments under Air Resources (Air Quality and Atmospheric Change) applicants must meet all applicable, agriculturally-related requirements for their state's air quality State Implementation Plan (SIP).

To view non-attainment and maintenance areas go to:

<http://yosemite.epa.gov/r10/airpage.nsf/SIPs/SIPs/General/SIPGeneral>

Enhancement Activities

Beyond meeting basic eligibility criteria, clients must initiate or maintain one or more activities that have been identified with improving air quality and/or mitigating atmospheric change. There are many of

these “enhancement” activities specifically related to air resources. These enhancement activities fall under six general agriculturally-related air resource categories or issues. These are:

- Manage dust by sprinkling, watering or graveling heavy use areas
- Manage AG fugitive dust emissions by utilizing herbaceous wind barriers, field borders and/or wind trap strips
- Grind stumps & chip pruning in lieu of burning
- Utilize fans, wind machines or clean burning orchard machines
- Manage odor with immediate incorporation or injection of manure

Benefits

These activities will directly benefit air quality, including: Improving visibility; reducing near-surface ozone levels; reducing transport of fine and coarse particulates; decreasing livestock-related off-site odor issues; reducing the potential for airborne agricultural chemicals and volatile organic compounds to affect human habitation; decreasing agriculture’s potential contribution to the buildup of greenhouse gases; and increasing the sequestration of carbon on crop, range and pasture land.



AIR RESOURCE MANAGEMENT (CSP Enhancements) February 2006

Enhancement Activity Task Sheet WA-CSP - EAM

Client's Acknowledgement Statement:

I have elected to use the following Air quality Management activities and understand the requirements of the selected activities:

- | Existing | Proposed |
|--------------------------|---|
| <input type="checkbox"/> | <input type="checkbox"/> Manage dust by sprinkling, watering or graveling heavy use areas. (Worksheet 1) |
| <input type="checkbox"/> | <input type="checkbox"/> Manage AG fugitive dust emissions by utilizing herbaceous wind barriers, field borders and/or wind trap strips (Worksheet 2) |
| <input type="checkbox"/> | <input type="checkbox"/> Grind stumps & chip pruning in lieu of burning (Worksheet 3) |
| <input type="checkbox"/> | <input type="checkbox"/> Utilize fans, wind machines or clean burning heaters for orchard (Worksheet 4) |
| <input type="checkbox"/> | <input type="checkbox"/> Manage odor with immediate incorporation or injection of manure (Worksheet 5) |
| <input type="checkbox"/> | <input type="checkbox"/> Investigate Greenhouse Gas Using Comet-VR (Worksheet 6) |

I agree that the following information will be provided to NRCS upon request:

- Written documentation of the activity performed (use attached worksheets or equivalent).
- Copies of dated receipts for equipment or services purchased.

I understand that CSP Enhancements earnings are subject to payment caps and that my actual payments will depend on my CSP Tier level and the number of acres enrolled.

I understand that it is my responsibility to obtain all necessary permits and to comply with all ordinances and laws pertaining to the application of these activities.

Accepted by: _____ Date: _____

USDA Nondiscrimination Statement

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AIR RESOURCE MANAGEMENT (CSP Enhancements) February 2006

Enhancement Activity Task Sheet WA-CSP - EAM

Worksheet 1: Manage dust by sprinkling, watering or graveling heavy use areas

Vehicles traveling on unpaved roads produce more dust the farther and faster they travel. Reducing the amount and speed of traffic on unpaved roads will control dust emissions from the road. Dust suppressants (water, other liquid products, or gravel) keep road material in aggregates which are large enough to not be entrained in the air.

Requirements:

- Attach receipt showing payment for application or certification of self-application of dust suppressant.
- Provide evidence of sticker in vehicles instructing drivers to operate the vehicles below a specified speed when on non-paved roads
- Provide certification of reduced travel distance on unpaved roads

Briefly describe your dust suppressant application, your plan and evaluation of its effectiveness.

Payment: \$25.00/treated acre

Worksheet 2: Manage AG fugitive dust emissions by utilizing herbaceous wind barriers, field borders and/or wind trap strips.

Herbaceous wind barriers interrupt wind flow downwind of the barrier, reducing wind erosive force over a field. Wind barriers can also intercept dust in the air on the downwind side of the field, reducing the amount of airborne dust leaving the edge of the field.

Requirements:

- Provide map showing location of wind barriers that are established and/or maintained/enhanced within field boundary.

Payment: \$100.00/acre.

Management Activity Documentation.

Plant materials:
Barrier width:
Barrier height:
Planting date:

WEQ management method: erosion prediction report for the field before and after the use of wind barriers.

Briefly describe your evaluation of the effectiveness of the new or renovated wind barriers to control dust from wind erosion:



AIR RESOURCE MANAGEMENT (CSP Enhancements) February 2006

Enhancement Activity Task Sheet WA-CSP - EAM

Worksheet 3: Grind stumps & chip pruning debris in lieu of burning

Grinding stumps or chipping orchard pruning debris, reduce particulate matter generation from the common practice of burning the pruning. The product of the chipping can also be used as mulch in the orchards, or possibly sold as mulch to outside customers.

- Attach receipt of purchase of chipping and/or grinding machine
- Include signed form agreeing to replace burning with chipping
- Provide certification of acres complete

Briefly describe the type of mulching machines purchased and your evaluation of their effectiveness:

Payment: \$100/acre

Worksheet 4: Utilize fans, wind machines or clean burning heaters for orchards

Smudge pots are used in orchards, and fruit and vegetable fields to provide radiant heating and thus minimize crop damage from frost and freezing temperatures. Smudge pot emissions are can contain high concentrations of particulate matter. These can be replaced with clean burners and/or fans which protect crops by breaking up inversions which trap the coldest air near the ground surface.

- Attach receipt of purchase of clean burner and/or wind machines, and include photographic documentation of installation
- Provide certification of number acres utilizing fans, wind machines or clean burning orchard heaters.

Briefly describe the type of burners or wind machines purchased and your evaluation of their effectiveness:

Payment: \$25.00/Acre



AIR RESOURCE MANAGEMENT (CSP Enhancements) February 2006

Enhancement Activity Task Sheet WA-CSP - EAM

Worksheet 5: Manage odor with immediate incorporation or injection of nutrients

Directly incorporating solid, or injecting liquid animal waste and/or commercial fertilizers into topsoil significantly decreases odor emissions and volatilization of all nitrogen compounds.

Use the table below to document dates, treatment acres, waste type, and method (solid incorporation or liquid injection).

Payment: \$3.50/treated acre

Worksheet 6 – Investigate Greenhouse Gas (GHG) Using COMET-VR

Establish a GHG/Carbon sequestration baseline by utilizing COMET-VR to establish the benchmark conditions and make land use management decisions that result in reductions of GHG emissions and carbon sequestration.

USDA has developed an on-line Carbon Management Evaluation Tool for Voluntary Reporting (COMET-VR) of Greenhouse Gas emissions. <http://www.cometvr.colostate.edu/> COMET-VR is designed to provide a simple and reliable method for estimating the production of Greenhouse Gases (GHGs). Producers can use COMET-VR to compare alternate management approaches to guide decisions that will decrease GHG emissions.

Producers enter their current and alternative farming and grazing practices into COMET-VR, allowing participants to complete an assessment of how changes to their current management could affect the production of greenhouse gases.

Management decisions that can influence GHG emissions include:

1. Changing production practices to improve fuel economy, changing fertilizer application practices, and changing livestock management practices.
2. Conserving existing carbon pools (e.g., maintaining conservation tillage practices) and thereby preventing the release of carbon into the atmosphere.
3. Sequestering carbon in soils and biomass (e.g., enhanced land management, agro-forestry).
4. Substituting bio-based products (e.g., biofuels for gasoline and diesel fuels) for fossil fuels.

Payment = \$500.00 ea.



Photo courtesy of NRCS

Enhancement Activities

Enhancement activities refer to actions that provide resource benefits beyond the level prescribed by NRCS Conservation Practice Standards. Once implemented Enhancement Activities should result in an observable or measurable improvement to the condition of one or more of the soil, water, air, plant or animal resources, or provide for more efficient resource utilization and/or energy conservation.

Enhancement Activity Benefits

Actions that control erosion reduce irrigation water use, or increase irrigation efficiency can result in the following benefits to the producer and the environment:

- Sustained productivity
- Enhanced water quality
- Improved nutrient use
- Improved water infiltration and storage
- Reduce water use

CSP Payments

You can earn enhancement payments by:

Improving your Irrigation System Index score.

Index scores can be increased by actions such as:

- Increasing the level of management.
- Improve the level of declining system efficiency,
- Reducing runoff from irrigated fields,
- Enhance your current irrigation system

CSP Enhancements earnings are subject to payment caps. Your actual payment will depend on your CSP Tier level and the number of acres enrolled.

Client's Acknowledgement Statement:

I have elected to use the following Irrigation Management activities and understand the requirements of the selected activities (Check all that apply):

- Improve Irrigation System Index Score

I agree that the following information will be provided to NRCS upon request:

- Written documentation of the activity performed (use attached worksheets or equivalent).
- Copies of dated receipts for equipment or services purchased.

I understand that CSP Enhancements earnings are subject to payment caps and that my actual payments will depend on my CSP Tier level and the number of acres enrolled.

I understand that it is my responsibility to obtain all necessary permits and to comply with all ordinances and laws pertaining to the application of these activities.

Accepted by: _____ Date: _____

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Worksheet 1: Improve Irrigation System Index Score

The Irrigation System Index is a self assessment procedure that is required in CSP to evaluate the use and management of specific irrigation systems.

The Irrigation System Index Score will reflect how well the irrigation system is managed, operated and maintained.

Payment levels for Irrigation Water Management Enhancement have been determined for each individual Watershed in the CSP.

Payment = \$2.00/Acre for Level 1 with an index of 60 to 64% to \$12.00/Acre for Level 6 with an index score of 85% or greater.

SOIL MANAGEMENT (CSP Enhancements)

Enhancement Activity Task Sheet

February 2006

WA-CSP -ESM



Photo courtesy of NRCS

Enhancement Activities

Enhancement activities refer to actions that provide resource benefits beyond the level prescribed by NRCS Conservation Practice Standards. Once implemented Enhancement Activities should result in an observable or measurable improvement to the condition of one or more of the soil, water, air, plant or animal resources, or provide for more efficient resource utilization and/or energy conservation.

Enhancement Activity Benefits

Actions that control erosion, reduce tillage operations, or increase organic matter can result in the following benefits to the producer and the environment:

- Sustained productivity
- Enhanced water quality
- Improved nutrient use
- Improved water infiltration and storage

CSP Payments

You can earn Soil Management enhancement payments by:

Improving your Soil Conditioning Index (SCI) score

SCI scores can be increased by actions such as:

- Increasing organic matter in the soil.
- Leaving crop residues on the soil surface,
- Use of cover crops
- Introducing plants that produce more biomass,
- Applying animal manure or other carbon-rich wastes

CSP Enhancements earnings are subject to payment caps. Your actual payment will depend on your CSP Tier level and the number of acres enrolled.



SOIL MANAGEMENT (CSP Enhancements)

Enhancement Activity Task Sheet

February 2006

WA-CSP -ESM

Client's Acknowledgement Statement:

I have elected to use the following Soil Management activities and understand the requirements of the selected activities (Check all that apply):

- Improve Soil Condition Index Score

I agree that the following information will be provided to NRCS upon request:

- Written documentation of the activity performed (use attached worksheets or equivalent).
- Copies of dated receipts for equipment or services purchased.

I understand that CSP Enhancements earnings are subject to payment caps and that my actual payments will depend on my CSP Tier level and the number of acres enrolled.

I understand that it is my responsibility to obtain all necessary permits and to comply with all ordinances and laws pertaining to the application of these activities.

Accepted by: _____ Date: _____

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SOIL MANAGEMENT (CSP Enhancements) Enhancement Activity Task Sheet

February 2006

WA-CSP -ESM

Worksheet 1: Improve Soil Condition Index Score

The Soil Conditioning Index (SCI) is a tool that can predict the consequences of cropping systems and tillage practices on the trend of soil organic matter. Organic matter is a primary indicator of soil quality and an important factor in carbon sequestration and global climate change.

The Soil Conditioning Index has three main components:

- 1) The amount of organic material returned to or removed from the soil;
- 2) The effects of tillage and field operations on organic matter decomposition; and
- 3) The effect of predicted soil erosion associated with the management system.

The SCI gives an overall rating based on these components. If the rating is a negative value, the system is predicted to have declining soil organic matter. If the rating is a positive value, the system is predicted to have increasing soil organic matter.

Your SCI rating will be calculated by NRCS based on crop management information you supply. Payments will be based on the SCI over the entire rotation.

Payment = \$1.16/Ac. for every 0.1 increment in the Soil Condition Index (SCI) Score above 0.0 up to a score of 2.5.



CERTIFICATION (CSP Enhancements)

2006

Enhancement Activity Certification Sheet

WA-CSP

List all Benchmark Enhancements information.

Enhancement	Location From pages 6-9 of Applicant Eligibility Workbook	Extent of Activity, Method, Type, etc.	Date Applied:
EGM-4 Manage offsite water.	South pasture <i>Example</i>	Spring development, installed pipe and tank.	5/03

I have applied, or am currently applying, the above activities and understand the requirements of the selected activities.

I agree that the following information will be provided to NRCS upon request:

- Written documentation of the activity performed (use attached worksheets or equivalent).
- Copies of dated receipts for equipment or services purchased.

Certified by: _____ Date: _____

