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**CALIFORNIA FARM BUREAU FEDERATION**  
**NATURAL RESOURCES AND ENVIRONMENTAL DIVISION**  
2300 River Plaza Drive, Sacramento, CA 95833-3293

September 23, 2002

Council on Environmental Quality  
NEPA Task Force  
P.O. Box 221150  
Salt Lake City, Utah 84122

**Re: CEQ request for comments on the National Environmental Policy Act  
Task Force [Federal Register: July 9, 2002 (Volume 67, number 131)]  
[Notices] [Page 45510-45512].**

Dear NEPA Task Force Members:

The California Farm Bureau Federation ("Farm Bureau") appreciates this opportunity to provide comments and suggestions pertaining to how the National Environmental Policy Act ("NEPA") could be improved to better facilitate reasoned decision-making. Farm Bureau represents approximately 95,000 members throughout California, including many ranching families that rely upon grazing on public lands for their livelihood.

We truly appreciate the Council on Environmental Quality's ("CEQ") efforts to make the NEPA process, and in turn government decision-making generally, more effective. We hope that the CEQ can help the agencies work through their permitting difficulties, which will hopefully free them to work with landowners in a more cooperative manner.

**I. GRAZING ON PUBLIC LANDS AND NEPA COMPLIANCE**

Ranchers who need to renew grazing permits are frustrated by the endless NEPA planning process. The process currently does not properly account for the fact that grazing can be beneficial to the environment, providing such necessities as fuel management and control of invasive weeds that can threaten healthy ecosystems. Our public lands are suffering because the land management agencies are paralyzed; bogged

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down in process instead of moving forward with planned activities and implementing actions.

While both the United States Forest Service ("USFS") and the Bureau of Land Management ("BLM") issue permits for grazing on public lands, the USFS seems to be the most frustrated by the NEPA process. In fact, the USFS has recognized that they have serious administrative problems, a significant portion of which are caused by the agency's ill-fated attempts to comply with NEPA. In a June 2002 USFS report, it states:

Unfortunately, the Forest Service operates within a statutory, regulatory, and administrative framework that has kept the agency from effectively addressing rapid declines in forest health. This same framework impedes nearly every aspect of multiple-use management as well.

Three problems stand out:

1. **Excessive analysis**-confusion, delays, costs, and risk management associated with the required consultations and studies;
2. **Ineffective public involvement**-procedural requirements that create disincentives to collaboration in national forest management; and
3. **Management inefficiencies**-poor planning and decision-making, a deteriorating skills base, and inflexible funding rules, problems that are compounded by the sheer volume of the required paperwork and the associated proliferation of opportunities to misinterpret or misapply required procedures.

These factors frequently place line officers in a costly procedural quagmire, where a single project can take years to move forward and where planning costs alone can exceed \$1 million. Even noncontroversial projects often proceed at a snail's pace.

Forest Service officials have estimated that planning and assessment consume 40 percent of total direct work at the national forest level. That would represent an expenditure of more than \$250 million per year. Although some planning is obviously necessary, Forest Service officials have estimated that improving administrative procedures could shift up to \$100 million a year from unnecessary planning to actual project work to restore ecosystems and deliver services on the ground.

*(The Process Predicament, How Statutory, Regulatory, and Administrative Factors Affect National Forest Management, USFS, Department of Agriculture, June 2002, p. 5.)*

The problem that ranchers most often face is the agencies' belief that not only do grazing permit renewals require NEPA analysis, even though these permits are a continuation of activities that in some cases have been on-going for two hundred years,

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but also a simple grazing permit renewal requires individual project level NEPA review. The problems associated with the use of endless project level analysis is recognized by the USFS as follows:

The entire NEPA process for a project, from scoping to implementation, can normally take more than a year. For example, the Morgan Falls Trail Reroute Project was a noncontroversial project with a widely accepted need. There were relatively few public comments and no appeals. Yet planning for the project, from initial scoping to a decision notice took about 12 months. (*Id.* at p. 35.)

A similar example of this type of endless procedural delay occurred in Modoc County recently where one of many of the grazing permits was up for renewal in the Modoc Forest. But what should have been a simple review of an on-going activity resulted in a seven year NEPA process. While the process dragged on, everything on the property had to remain status quo even though changes in grazing management probably would have improved the environment.

#### **A. No Need for Site-Specific NEPA Review For Every Grazing Allotment**

The USFS is under strict timelines for NEPA compliance (see Rescission Act of 1995, Public Law 104-19, H.R. 1944), but it is having trouble meeting these timelines. In fact, litigation from environmental organizations has already begun. The Rescission Act, however, does not require site-specific analysis for every grazing permit renewal. It merely provides a timeline for completion of NEPA review of the grazing allotments. With this in mind, it seems the USFS would be better able to meet the required timelines if they better utilized programmatic review, thus minimizing the need for environmental review at the site-specific level. The current programmatic review that is completed at the forest plan level would have to become more detailed, but it seems this would be a better use of the agency's time and resources than seemingly endless site-specific review. If done correctly, programmatic review would enable grazing permit renewals to be approved with nothing more than a categorical exclusion.

We do not believe the caselaw requires site-specific review for every grazing permit renewal. For example, *Natural Resources Defense Council v. Morton*, 388 F. Supp. 829 (D.D.C. 1974) is the leading federal case on this issue. In *Morton*, the court said that the programmatic environmental document was insufficiently detailed as localized impacts were insufficiently considered. However, the court did not require site-specific environmental review:

"As noted above, plaintiffs have not sought an impact statement for each permit. The crucial point is that the specific environmental effects of the permits issued, and to be issued, in each district be assessed. It will be initially within the BLM's discretion to determine whether to make this specific assessment in a separate impact statement for each district, or several impact statements for each district, or one impact statement for

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several districts or portions thereof, or indeed by other means. So long as the actual environmental effects of particular permits or groups of permits in specific areas are assessed, questions of format are to be left to defendants.” (*Id.* at p. 841.)<sup>1</sup>

The Court of Appeals for the Ninth Circuit affirmed that *Morton* did not require site-specific analysis:

“It further concluded that neither NEPA nor the *Morton* decision required the EIS to contain specific proposals and alternatives for each of the 55 grazing allotments within the Reno planning area, as suggested by the NRDC. The court held that the range of alternatives presented in the EIS was sufficiently broad to satisfy NEPA, and that inclusion of a ‘no grazing’ alternative was not required under NEPA or applicable federal regulations. [cite omitted] The court also held that neither NEPA nor federal regulations required inclusion of site-specific estimates of grazing capacity in the EIS, and that the EIS adequately described the proposed action. [cite omitted]”

*Natural Resources Defense Council v. Hodel*, 819 F.2d. 927, 930 (9<sup>th</sup> cir 1987).

The case that is often cited as the reason for the USFS undertaking specific review is *National Wildlife Federation, et al., v. Bureau of Land Management, et al.*, 140 IBLA 85 (Interior Board of Land Appeals.), which is commonly referred to as the Comb Wash case. The Comb Wash case, however, is not binding authority for general application, as it is an administrative court decision that only applies to the Comb Wash permits<sup>2</sup>.

## **B. Possible Approaches to Appropriately Detailed Programmatic Review**

One approach for appropriately detailed programmatic review, at the forest plan (USFS) or land management plan (BLM) levels, may be to have a list of accepted range management practices that are acceptable for each type of vegetation at each elevation. As long as the grazing permittees are implementing the accepted range management practices for the vegetative type and elevation of their grazing allotments, their permit renewals would qualify for either a categorical exclusion or some lesser review process. Perhaps site-specific analysis could be guided by a checklist of potentially significant impacts, where further analysis would only be triggered by highly unusual circumstances.

<sup>1</sup> Although these cases involve BLM, they are clearly relevant to the extent of the USFS' NEPA obligations, as the factual circumstances often are nearly identical.

<sup>2</sup> The administrative appeals court in the Comb Wash case cites the *Morton* case for the proposition that, “[t]he need for a detailed analysis of the site-specific resources and impacts of grazing on those resources is explicitly set forth in the case *Natural Resources Defense Council v. Morton* [cite omitted].” (*Id.* at p. 95.) However, the Comb Wash court is mistaken in its analysis as the *Morton* cite we provided above reveals. The *Morton* case talks about the need to consider “localized” impacts and specifically states that the agency has discretion to determine the appropriate format.

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This approach is similar to what is currently practiced by the National Resource Conservation Service ("NRCS"). It is our understanding that the NRCS' national program, of which their field technical guides are central components, are covered by a single programmatic environmental document that has not had major revisions since August 29, 1979. (See attached). While the need for environmental review is evaluated at the project level, few EIS' are considered necessary.

The list of accepted management practices that we think could be a part of a sufficiently detailed programmatic document for forest and land management, which includes permitted grazing, would look similar to the list of accepted practices found in the NRCS field technical guides. (See attached)

The Salinas Valley Watershed Permit Coordination Program (See pamphlet attached), which is a one-stop permit program for water quality improvements, is a good example of a stream lined permitting process that relies upon the programmatic NRCS NEPA document. The pre-approved practices within the Salinas Valley Program include providing access roads, critical area planting (like highly erodible slopes), fences (to keep livestock away from waterways), filter strips, grade stabilization structures, grassed waterways (channel construction), irrigation regulating reservoirs, pipeline, sediment basins, spring development, stream bank protection, stream channel stabilization, tanks or troughs (for livestock), underground outlets, and water and sediment control basins. It is our understanding that the NRCS completes an environmental evaluation ("EE") and circulates a document describing the project and possible impacts to other government agencies (specifically the United States Fish and Wildlife Service, National Marine Fisheries Service, and the California Department of Fish and Game). If there are no objections that cannot be remedied, then the project moves forward. This entire process takes a couple of months. Other necessary environmental permits are similarly expedited.

This program is relatively new, but everyone involved, including agencies and landowners, has been pleased with its success. Perhaps even more importantly, the agency is able to complete projects that are improving land management without costing the agency millions of dollars and endless hours of staff time.

### **C. Categorical Exclusions**

As illustrated above with the Salinas Valley Watershed Permit Coordination Program, it is possible to undertake land management practices like installing fences and pipelines without doing an EIS at the site-specific level. Grazing permittees on public lands, however, are often required to undertake years of environmental review for projects like fences and water troughs. We believe that new categorical exclusions could be drafted for certain types of activities, like fence construction under specified circumstances or for the physical removal of certain noxious plants (like juniper).

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## II. AGRICULTURAL RESOURCES ARE A PART OF THE NATURAL ENVIRONMENT

On August 30, 1976, CEQ, in cooperation with the Department of Agriculture, issued a memorandum to federal agencies informing them of the need to consider farmland loss as a potentially significant environmental impact. On August 20, 1980, the CEQ issued additional guidance to the heads of agencies as losses of agricultural lands had continued:

Approximately one million acres of prime and unique agricultural lands are being converted irreversibly to non-agricultural uses each year. Actions by federal agencies such as construction activities, development grants and loans, and **federal land management decisions** frequently contribute to the loss of prime and unique agricultural lands directly and indirectly. Often these losses are unintentional and are not necessarily related to accomplishing the agency's mission.

(Federal Register, Vol. 45, no 175, 9/8/80, *emphasis added* (attached))

Farm Bureau applauds CEQ for its early recognition that agricultural resources are "limited and valuable". We believe CEQ's guidance on the issue is invaluable; particularly, CEQ's guidance that farmland loss must be a part of an agency's determination of "significance." CEQ states further:

If an agency determines that a proposal significantly affect[s] the quality of the human environment, it must initiate the scoping process [cite omitted] to identify those issues, including effects on prime or unique agricultural lands, that will be analyzed and considered, along with the alternatives available to avoid or mitigate adverse effects... The effects to be studied include 'growth inducing effects and other effects related to inducing changes in the patterns of land use... cumulative effects... mitigation measures... to lessen the impact on... agricultural lands (*Id.*)

We believe, however, that it may be appropriate for the CEQ to re-issue its guidance on this issue because we have observed federal agencies returning to the belief that impacts to agricultural resources are purely economic, thus the loss of these resources does not impact the physical environment. Any new guidance, however, should further clarify that "agricultural resources" **includes both land and water**. Our nation's agricultural prosperity will be lost if we do not have water. This is particularly true in the west, but water supply issues are gaining in importance nationwide.

It is possible to use existing law to implement programmatic approaches to planning and implementing various permitted activities. As an example, the discussion below details one program under consideration in California that may be adapted readily to conservation practices and other components of agricultural land management.

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**A. Cooperative Programs can support viable farms and ranches while providing important habitat benefits.**

Several years ago, the California Department of Agriculture ("CDFA") convened meetings with various representatives of the agricultural community to put together a cooperative program that would provide permit streamlining, technical assistance and Endangered Species Act liability protection in exchange for farmers and ranchers providing significant species benefits as part of their farming operations. This program is called "Partnerships for Restoration" ("PFR") and was created in an effort to manage the many projects that are associated with the CALFED Bay-Delta Program. However, the benefits of the program are not limited to CALFED, and in fact it was only drafted with CALFED in mind as it appeared that this program would be funding and managing most of the state's environmental projects and programs. The future of CALFED is unknown, but we believe the planning that has already been completed is invaluable and could easily be applied to a larger program.

The PFR program was created because of the following agreement on the concept among the various agricultural representatives:

Local Participants believe that achieving these goals (ecosystem restoration, water supply reliability, water quality, and levee system integrity) generally represent good stewardship of local, state, and national resources. The purpose of the Program is to provide technical and financial resources to Local Participants so that they can develop locally based and controlled initiatives that meet their own goals [for environmental protection and restoration.]... This "bottoms-up" approach has the advantage of encouraging a diversity of approaches to programs that all stakeholders recognize as necessary... With a diversity of approaches to similar projects and good monitoring of the results of these projects, it is likely that Local Participants will be able to engage in robust adaptive management...

Local Participants are defined as follows:

1. Landowners (or their tenants) who: (i) allow Conservation Projects on lands that they own, lease, or serve; (ii) own, lease or serve lands that are within a reasonable radius (depending on species) of the location of a Conservation Project; or (iii) own, lease, or serve lands within a watershed for which one or more CALFED Agencies are implementing a Conservation Project.
2. Local public agencies (including, but not limited to counties, cities, and special districts) with conservation Projects located within their boundaries or located where activities connected with a Conservation Project could affect the operations of the local public agencies.

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3. Mutual water companies, private individuals, or other private organizations that might wish to participate in or develop conservation Projects or whose activities might be affected by the implementation of Conservation Projects.

Important elements of the program include:

1. Co-Equal Objectives ... These co-equal objectives recognize that Local Participants share the ... Agencies' (various state and federal governmental entities) desire to implement the Framework for Action [i.e. environmental restoration] and require that the ... Agencies similarly embrace Local Participants' need to grow crops, deliver water, provide flood protection, or otherwise contribute to the Nation's economy....
2. Local Initiative... Implementation of projects that are developed through this process will be under the control and direction of Local Participants, thereby allowing ... Agencies to leverage their scarce technical and financial resources to implement ... [environmental restoration] in the most cost-effective way possible.
3. Technical and Financial Assistance. A major stumbling block in the past that has prevented Local Participants from actively working on conservation projects is the fact that many, if not most, Local Participants lack access to the financial and technical resources needed to develop projects that would meet the co-equal objectives of the Program. The Program is intended to provide such assistance-often for the first time-to Local Participants. In this way, Local Participants will finally have the resources and the opportunities to design and implement projects that satisfy the Program's co-equal objectives
4. Good Science... It is important to recognize that there is significant uncertainty about the most effective way to implement Conservation Projects. Adaptive management of Conservation Projects, coupled with peer review, represents the strategy that the ... Agencies and key stakeholders believe will yield the greatest benefits for the environment...
5. Assurances. Lastly, the Program provides Local Participants with a number of assurances that are intended to ensure the voluntary and cooperative nature of the proposed partnerships among Local Partnerships and the ... Agencies. Some of these assurances merely restate existing law (e.g., respecting private property rights), but are needed because of past mishaps by certain agency personnel.

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Other assurances (e.g., voluntary participants) clarify the premise that the Program is based in the voluntary cooperation of Local Participants. Finally, other assurances (e.g., incidental take authorization, liability protection, etc.) are intended to ensure that Local Participants do not find themselves disadvantaged because of their voluntary cooperation with the...Agencies.

Implementation Agreements in the PFR Program would be tiered from the programmatic review, rather than require site-specific environmental review for each project under taken by Local Participants. The Implementation Agreements are defined as follows:

**Implementing Agreement.** A voluntary agreement between one or more Local Participants(s) and the CALFED Agencies to implement a Conservation Project under the auspices of the Program. An Implementing Agreement may contemplate sub-agreements between the signatory local Participants(s) and other individuals, public agencies, or private entities. Programmatic Implementing Agreements (for instance, between the CALFED Agencies and one or more water districts) are encouraged. Sub-agreements shall be consistent with the terms of the applicable programmatic Implementing Agreement. All Implementing Agreements shall be consistent with the provisions of these regulations.

The assurances to Local Participants are essential to the overall PFR program and would include, in part:

- a. Voluntary Participation....Local Participants who executes an Implementation Agreement may withdraw at any time and shall not suffer any penalty or disincentive for withdrawing from the Program...Local Participants shall not be required to mitigate for the effects of their withdrawal from the Program or be deemed to have taken a member of a listed species, as defined in the federal Endangered Species Act, as a result of their withdrawal from the Program.
- b. Incidental Take Authorization. Local Participants who have expressed interest in undertaking a Conservation project or who have signed an Implementing Agreement (and their neighbors) are hereby authorized to engage in the incidental take of listed species under the Federal Endangered Species Act, provided that the take is the result of Routine and Ongoing Agricultural Activities (as defined) or is the result of inadvertent or ordinary negligent acts that occur on a farm or ranch in the course of Routine and Ongoing Agricultural Activities. In the case of Local Participants other than farmers and ranchers (or their neighbors),

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- incidental take authority will extend to the routine and ongoing activities and practices of that agency, individual, or company.
- c. Ongoing Right to Farm/Ranch. Nothing in the Program shall be understood to prevent Local Participants and neighboring landowners from modifying their cultural practices (including changing cropping patterns) freely...
  - d. Minimizing and Mitigating for Conservation Projects.... Local Participants implementing Conservation Projects need not adopt minimization or mitigation measures for activities or practices outside the scope of the Conservation Project during the term of an Implementation Agreement. In addition, no Local Participant shall incur any obligations (whether legal, environmental, operational, or otherwise) as the result of implementing a Conservation Project that is less than successful.
  - e. Cost of Participation. All incremental costs to Local Participants related to participation in this Program shall be borne by the...Agencies...
  - f. Private Property Rights. The...Agencies will fully respect private property rights of Local Participants, as well as of [their] neighbors...
  - g. Right to Privacy/Information Collection. ...If appropriate, the Local Participants shall provide the...Agencies with information specifying: (i) the number of acres of habitat that will be created, maintained, or restored; and (ii) the type or types of habitat that will be created, maintained, or restored. No further information shall be required for participation in the Program.
  - h. Liability Protection. The United States and the State of California will fully indemnify, defend, and hold Local Participants and their neighbors harmless for any losses that may occur as a result of a Local Participant implementing Conservation Projects....

PFR as a national program should be able to comply with NEPA through the use of a single programmatic EIR. However, if additional review is deemed necessary, it seems that an additional tier at the regional or state level would be adequate. If funding is provided for individual projects, an EA could be completed as appropriate.

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**B. Our Farmers Have Already Demonstrated Their Commitment to Conservation**

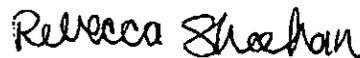
All we are accomplishing through a program like PFR is technical support, financial incentives, and the peace of mind that comes from knowing that we will not be criminally or civilly liable for our efforts to increase wildlife populations and a provide healthy environment while farming on a commercially viable level.

Historically, farmers and ranchers have invested both time and resources to wildlife protection. These investments have become more perilous as regulatory agencies exercise more mandates and less common sense. Farm Bureau recently updated our publication, *Commitment to Conservation*, where we highlighted a few of the many stories of farmers and ranchers blending wildlife conservation with viable farming operations (attached). We need to get back to a more practical collaborative approach.

We believe the PFR program could satisfy its NEPA obligations with a programmatic document that covers a nation-wide program. It is also our belief that nothing more than a one additional tiered review for each state or region of the United States should be necessary.

Once again we would like to express our thanks to CEQ for its leadership in addressing these difficult issues. If we can provide any further information or clarification, please do not hesitate to call Becky Sheehan at 916-561-5667.

Sincerely,



Rebecca D. Sheehan

BDS/sm

cc: w/out attachments  
Bob Stallman (AFBF)  
County Farm Bureau Managers  
Farm Bureau Presidents:  
    Modoc County  
    Siskiyou County  
    Lassen County  
Hannah Tangeman-Cheney  
Burt Bundy  
Farm Bureau Field Reps  
Executive Offices

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Policy and Procedures for NRCS Compliance with NEPA

NRCS is required to conduct an Environmental Evaluation for assistance it provides according to the SCS-NEPA rules (7 CFR 650) which became effective August 29, 1979. This rule prescribes the assessment procedures under which NRCS-assisted actions are to be implemented. The procedures are designed to insure that environmental consequences are considered in decisionmaking, and to allow NRCS to assist individuals and nonfederal public entities to take actions that protect, enhance, and restore environmental quality.

An Environmental Evaluation (EE) is made and documented as part of each conservation plan. During the NRCS interdisciplinary planning process, an environmental evaluation checklist is used to document potential impacts of the project and this document is placed in the project case file. The Environmental Evaluation assesses short term, long term, and cumulative effects of the proposed actions as well as the on-site and off-site impacts.

If significant adverse environmental impacts will result from the project, the landuser is encouraged to consider alternative actions, or an project specific Environmental Impact Statement must be prepared. Typically, for small conservation projects, the evaluation indicates that there are no significant adverse impacts or that long term beneficial impacts outweigh short term adverse impacts, and the conservation planner is directed to proceed with the plan of work.

EXHIBIT 1

*66-Conservation Plan*

## Subpart A - Procedures for SCS-Assisted Programs

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## PART 410 - COMPLIANCE WITH NEPA

## SUBPART A - PROCEDURE FOR SCS - ASSISTED PROGRAMS

410.0(e)

## §410.0 Introduction.

(a) On August 29, 1979, the Soil Conservation Service (SCS) published final rules (7 CFR 650) for implementation of the National Environmental Policy Act (NEPA) in SCS-assisted project actions. An updated version of the supplementary information presented in the SCS rules (August 29, 1979) for compliance with the NEPA is presented here as introductory material for Subpart A of the manual. The SCS-NEPA rule was effective on August 29, 1979, and adopted the Council on Environmental Quality (CEQ), November 29, 1978, National Environmental Policy Act Regulations (40 CFR 1500-1508) in total. The CEQ regulations were distributed with the final SCS-NEPA procedure to all SCS offices on September 18, 1979.

(b) The August 29, 1979 rule was a total revision of the previous procedures used by SCS to comply with NEPA. The August 29, 1979 rule was expanded to include procedures for implementing NEPA in all SCS-assisted programs and to comply with the regulations of CEQ, 40 CFR, Parts 1500-1508. Several data-gathering and inventorying programs of SCS are categorically excluded so that neither an environmental assessment nor an environmental impact statement is normally required.

(c) SCS introduced a new phrase, "environmental evaluation (EE)," to describe the interdisciplinary planning that is carried out before SCS takes action in any program it administers. The phrase "environmental assessment (EA)" was formerly used by SCS to describe this part of the planning process. The definition "environmental assessment" in the new CEQ regulations 40 CFR 1508.9 (Exhibit §410.30(b)(9)) depicts a document rather than a process, making it necessary for SCS to use a new phrase to describe its environmental process.

(d) The SCS-NEPA rule was developed in consultation with the staff of CEQ and is consistent with the NEPA procedures of the Secretary of Agriculture.

(e) During the 45-day commenting period for the proposed SCS-NEPA rule (May 2, 1979), seven letters of comment were received. Two letters were from Federal agencies, one letter was from a state agency, two letters were from state conservation associations, and two letters were

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(190-GM, March 1984)

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Part 410 - Compliance With NEPA

410.1(e)

from individuals. All written comments were considered in developing the final rules that are shown this directive.

§410.1 Purpose.

(a) This rule prescribes procedures by which SCS is to implement the provisions of NEPA. The SCS recognizes NEPA as the national charter for protection, restoration, and enhancement of the human environment. NEPA establishes policy, sets goals (Section 101), and provides means (Section 102) for carrying out this policy.

(b) The procedures included in this rule supplement CEQ's-NEPA regulations, 40 CFR Parts 1500-1508. CEQ regulations, that need no additional elaboration to address SCS-assisted actions, are not repeated in this rule although the regulations are cited as reference. The procedures include some overlap with CEQ regulations. This is done to highlight items of importance for SCS. This does not supersede the existing body of NEPA regulations.

(c) These procedures provide that:

(1) Environmental information is to be available to citizens before decisions are made about actions that significantly affect the human environment;

(2) SCS-assisted actions are to be supported to the extent possible by accurate scientific analyses that are technically acceptable to SCS;

(3) SCS-prepared NEPA documents are to be available for public scrutiny; and

(4) Documents are to concentrate on the issues that are timely and significant to the action in question rather than amassing needless detail.

(d) Procedures for implementing NEPA are designed to insure that environmental consequences are considered in decisionmaking. They allow SCS to assist individuals and nonfederal public entities to take actions that protect, enhance, and restore environmental quality.

(e) These procedures make possible the early identification of actions that have significant effects on the human environment to avoid delays in decisionmaking.

§410.2 Applicability.

This rule applies to all SCS-assisted programs including the uninstalled parts of approved projects that are not covered by environmental documents prepared under previous rules for compliance with NEPA. It is

## Subpart A - Procedures for SCS-Assisted Programs

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410.3(b)(5)

effective on the date of publication of the final rule. SCS is to consult with CEQ in the manner prescribed by 40 CFR 1506.11 if it is necessary to take emergency actions.

**§410.3 Policy.**

(a) SCS mission. The SCS mission, as stated in its NEPA rules, 7 CFR 650, August 29, 1979, is to provide assistance that will allow use and management of ecological, cultural, natural, physical, social, and economic resources by striving for a balance between use, management, conservation, and preservation of the Nation's natural resource base. The SCS mission is reemphasized and expanded to carry out the mandate of Section 101(b) of NEPA, within other legislative constraints, in all its programs of Federal assistance. SCS will continue to improve and coordinate its plans, functions, programs, and recommendations on resource use so that Americans, stewards of the environment for succeeding generations:

(1) Can maintain safe, healthful, productive, and esthetically and culturally pleasing surroundings that support diversity of individual choices; and

(2) Are encouraged to attain the widest range of beneficial uses of soil, water, and related resources without degradation to the environment, risk to health or safety, or other undesirable and unintended consequences.

(b) SCS environmental policy. SCS is to administer federal assistance within the following overall environmental policies:

(1) Provide assistance to Americans that will motivate them to maintain equilibrium among their ecological, cultural, natural, physical, social, and economic resources by striving for a balance between conserving and preserving the Nation's natural resource base.

(2) Provide technical and financial assistance through a systematic interdisciplinary approach to planning and decisionmaking to insure a balance between the natural, physical, and social sciences.

(3) Consider environmental quality equal to economic, social, and other factors in decisionmaking.

(4) Insure that plans satisfy identified needs and at the same time minimize adverse effects of planned actions on the human environment through interdisciplinary planning before providing technical and financial assistance.

(5) Counsel with highly qualified and experienced specialists from within and outside SCS in many technical fields as needed.

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Part 410 - Compliance With NEPA

410.3(b)(6)

(6) Encourage broad public participation in defining environmental quality objectives and needs.

(7) Identify and make provisions for detailed survey, recovery, protection, or preservation of unique cultural resources that otherwise may be irrevocably lost or destroyed by SCS-assisted project actions, as required by Historic Preservation legislation and/or Executive Order.

(8) Encourage local sponsors to review with interested publics the operation and maintenance programs of completed projects to insure that environmental quality is not degraded.

(9) Advocate the retention of important farmlands and forestlands, prime rangeland, wetlands, or other lands designated by state or local governments. Whenever proposed conversions are caused or encouraged by actions or programs of a federal agency, licensed by or require approval by a federal agency, or are inconsistent with local or state government plans, provisions are to be sought to insure that such lands are not irreversibly converted to other uses unless other national interests override the importance of preservation or otherwise outweigh the environmental benefits derived from their protection. In addition, the preservation of farmland in general provides the benefits of open space, protection of scenery, wildlife habitat, and in some cases, recreation opportunities and controls on urban sprawl.

(10) Advocate actions that reduce the risk of flood loss, minimize effects of floods on human safety, health, and welfare, and restore and preserve the natural and beneficial functions and values of flood plains.

(11) Advocate and assist in the reclamation of abandoned surface-mined lands and in planning for the extraction of coal and other nonrenewable resources to facilitate restoration of the land to its prior productivity as mining is completed.

(12) Advocate the protection of valuable wetlands, threatened and endangered animal and plant species and their habitats, and designated ecosystems.

(13) Advocate the conservation of natural and man-made scenic resources to insure that SCS-assisted programs or activities protect and enhance the visual quality of the landscape.

(14) Advocate and assist in actions to preserve and enhance the quality of the Nation's waters.

§410.4 Definition of terms.

Some terms defined in the SCS-NEPA rule are presented here to improve the readability and understanding of this directive. In addition, in

## Subpart A - Procedures for SCS-Assisted Programs

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410.4(e)

Subpart C, Exhibit 410.30, the Terminology and Index section from the CEQ-NEPA rules is also presented for reference of other definitions.

(a) Channel realignment. Channel realignment includes the construction of a new channel or a new alignment and may include the clearing, snagging, widening, and/or deepening of the existing channel. (See 410.27(C)(2)(i)(F))

(b) Environmental assessment (EA). (See Exhibit 410.30(b)).

(1) An EA is a concise public document for which a federal agency is responsible that:

(i) Briefly provides sufficient evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact.

(ii) Aids an agency's compliance with the Act when no EIS is necessary.

(iii) Facilitates preparation of an EIS when one is necessary.

(2) An EA includes brief discussions of the need for the proposal, alternatives as required by a section of the environmental impacts of the proposed action and alternatives, and a list of agencies and persons consulted.

(c) Environmental evaluation (EE). The EE (formerly referred to by SCS as an environmental assessment (EA)) is the part of planning that inventories and estimates the potential effects on the human environment of alternative solutions to resource problems. A wide range of environmental data together with social and economic information is considered in determining whether a proposed action is a major federal action significantly affecting the human environment. The EE for a program, regulation, or individual action is used to determine the need for an EA or an EIS. It also aids in the consideration of alternatives and in the identification of available resources.

(d) Federally assisted actions. These actions are planned and carried out by individuals, groups, or local units of government largely on nonfederal land with technical and/or financial assistance provided by SCS.

(e) Interdisciplinary planning. SCS uses an interdisciplinary environmental evaluation and planning approach in which specialists and groups having different technical expertise act as a team to jointly evaluate existing and future environmental quality. The interdisciplinary group considers structure and function of natural resource systems, complexity of problems, and the economic, social, and environmental effects of alternative actions. Public participation is an essential part of effective interdisciplinary planning. Even if an SCS employee provides direct assistance to an individual land user, the basic data used

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is a result of interdisciplinary development of guide and planning criteria.

(f) Nonproject actions. Nonproject actions consist of technical and/or financial assistance provided to an individual, group, or local unit of government by SCS primarily through a cooperative agreement with a local conservation district, such as land treatment recommended in the Conservation Operations, Great Plains Conservation, Rural Abandoned Mine, and Rural Clean Water Programs. These actions may include consultations, advice, engineering, and other technical assistance that land users usually cannot accomplish by themselves. Nonproject technical and/or financial assistance may result in the land user installing field terraces, waterways, field leveling, on farm drainage systems, farm ponds, pasture management, conservation tillage, critical area stabilization, and other conservation practices.

(g) Notice of intent (NOI) (40 CFR 1508.22, Exhibit 410.30(b)). A NOI is a brief statement inviting public reaction to the decision by the responsible federal official to prepare an EIS for a major federal action. The NOI is to be published in the Federal Register (FR), circulated to interested agencies, groups, individuals, and published in one or more newspapers serving the area of the proposed action.

(h) Project actions. A project action is a formally planned undertaking that is carried out within a specified area by sponsors for the benefit of the general public. Project sponsors are units of government having the legal authority and resources to install, operate, and/or maintain works of improvement.

(i) Record of Decision (ROD) (40 CFR 1505.2, Exhibit 410.30(a)). A ROD is a concise written rationale by the responsible federal official regarding implementation of a proposed action requiring an EIS. This was previously defined by SCS as a Statement of Findings (SOF).

(j) Responsible federal official (RFO). The SCS Chief is the RFO for compliance with NEPA regarding proposed legislation, programs, legislative reports, regulations, and program EIS's. SCS state conservationists (STC's) are the RFO's for compliance with the provisions of NEPA in other SCS-assisted actions.

(k) Significantly (40 CFR 1508.27, Exhibit 410.30(b)). "Significantly" as used in NEPA requires considerations of both context and intensity:

(1) Context. This means that the significance of an action must be analyzed in several contexts, such as society as a whole (human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of the proposed action. For instance, for a site-specific action, significance usually depends on the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant.

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(2) Intensity. This refers to the severity of impact. Responsible officials must bear in mind that more than one agency may make decisions about partial aspects of a major action.

The following should be considered in evaluating intensity:

(i) Impacts that may be both beneficial and adverse. A significant effect may exist even if the federal agency believes that on balance the effect will be beneficial.

(ii) The degree to which the proposed action affects public health or safety.

(iii) Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.

(iv) The degree to which the effects on the quality of the human environment are likely to be highly controversial.

(v) The degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks.

(vi) The degree to which the action may establish a precedent for future actions with significant effects, or represents a decision in principle about a future consideration.

(vii) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.

(viii) The degree to which the action may adversely affect districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places (NRHP) or may cause loss or destruction of significant scientific, cultural, or historical resources.

(ix) The degree to which the action may adversely affect an endangered or threatened species or its habitat that has been determined to be critical under the Endangered Species Act (ESA) of 1973 as amended.

(x) Whether the action threatens a violation of federal, state, or local law or requirements imposed for the protection of the environment.

(1) Finding of no significant impact (FNSI) (40 CFR 1508.13, Exhibit 1410.30(b)). "Finding of No Significant Impact" means a document by the federal agency briefly presenting the reasons why an action

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not otherwise excluded (§1508.4, Exhibit 410.30(b)) will not have a significant effect on the human environment, and an EIS therefore will not be prepared. It shall include the EA, or a summary of it, and shall note any other environmental documents related to it (§1501.7(a)(5), see Exhibit 410.30(a)). If the assessment is included, the finding need not repeat any of the discussion in the assessment but may incorporate it by reference.

§410.5 Environmental evaluation in planning.

(a) General. Environmental evaluation (EE) integrates environmental concerns throughout the planning, installation, and operation of SCS-assisted projects. The EE applies to all assistance provided by SCS, but planning intensity, public involvement, and documentation of actions vary according to the scope of the action. SCS begins consideration of environmental concerns when information gathered during the EE is used:

- (1) To identify environmental concerns that may be affected, gather baseline data, and predict effects of alternative courses of actions;
- (2) To provide data to applicants for use in establishing objectives commensurate with the scope and complexity of the proposed action;
- (3) To assist in the development of alternative courses of action; (40 CFR 1502.14). In SCS-assisted project actions, nonstructural, water conservation, and other alternatives that are in keeping with the Water Resources Council's Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies are considered;
- (4) To perform other related investigations and analyses as needed, including economic evaluation, engineering investigations, etc.
- (5) To assist in the development of detailed plans for implementation and operation and maintenance.

(b) Procedures. SCS's Guide for Environmental Assessment (now called Evaluation) issued in March 1977, and published in the FR on August 8, 1977, provides guidance for conducting an EE (42 FR Parts 40123-40167).

(c) Decision points. Figure 410-1 illustrates the decision points for compliance with NEPA in SCS decisionmaking.

§410.6 Categorical exclusions.

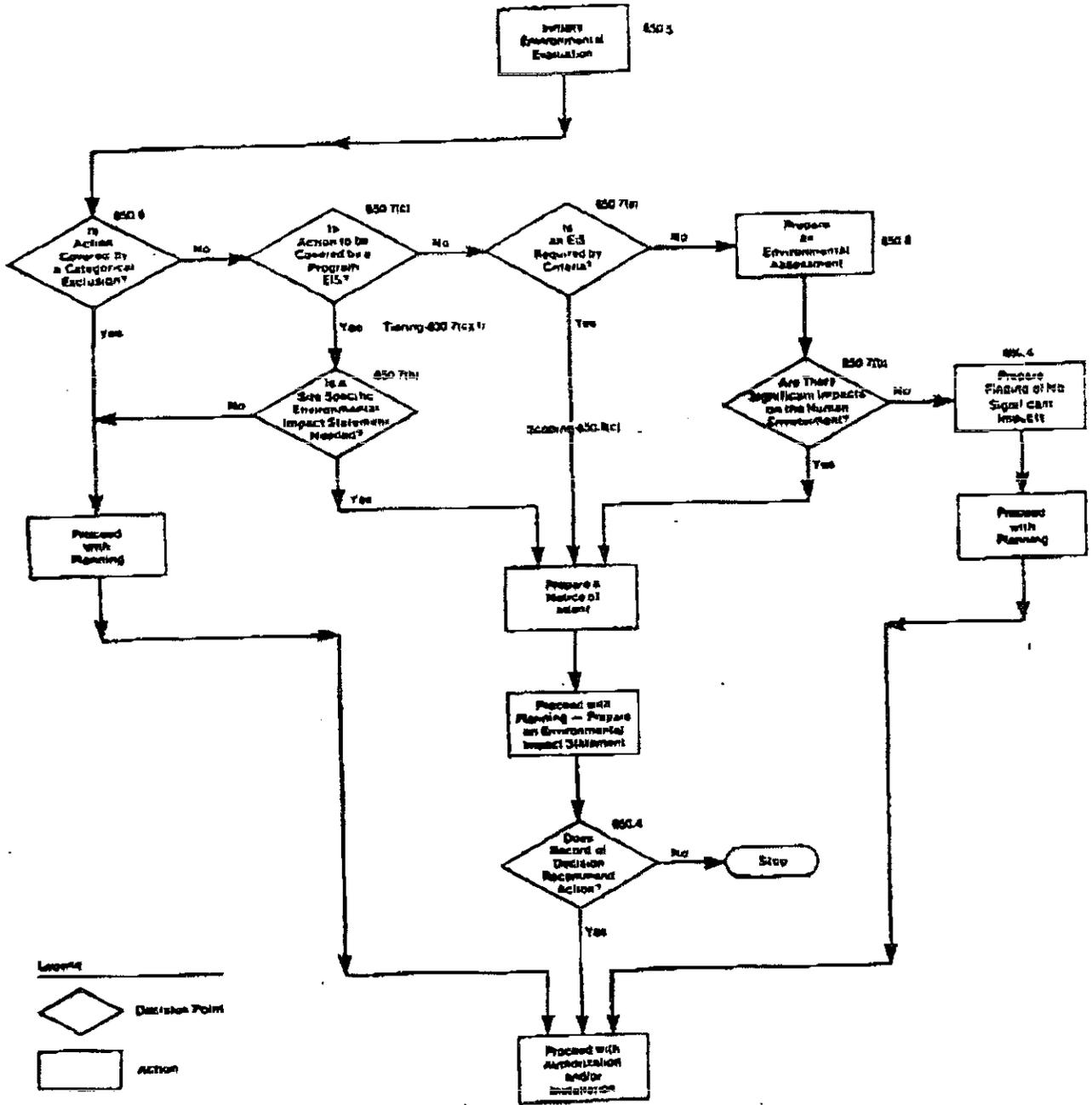
(a) Some SCS programs, or parts of programs, do not normally create significant individual or cumulative impacts on the human environment.

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Figure 410-1

NEPA in SCS Planning



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Therefore, an EA or EIS is not needed. These are data gathering and interpretation programs and include:

- (1) Soil Survey - 7 CFR Part 611;
- (2) Snow Survey and Water Supply Forecasts - 7 CFR Part 612;
- (3) Plant Materials for Conservation - 7 CFR Part 613;
- (4) Inventory and Monitoring - Catalog of Federal Domestic Assistance - 10.908; and
- (5) River Basin Studies under Section 6 of Public Law (PL) 83-566 as amended - 7 CFR Part 621.

(b) The environmental evaluation performed by the RFO when any new action under these programs is planned is to identify extraordinary circumstances that might lead to significant individual or cumulative impacts. Actions that have potential for significant impacts on the human environment are not categorically excluded.

§410.7 When to prepare an EIS.

The following are categories of SCS action used to determine whether or not an EIS is to be prepared:

- (a) An EIS is required for:
  - (1) Projects that include stream channel realignment or work to modify channel capacity by deepening or widening where significant aquatic or wildlife habitat exists. The EE will determine if the channel supports significant aquatic or wildlife habitat;
  - (2) Projects requiring Congressional action;
  - (3) Broad federal assistance programs administered by SCS when the EE indicates there may be significant cumulative impacts on the human environment (§410.7(c)); and
  - (4) Other major federal actions that are determined after the EE to affect significantly the quality of the human environment (§410.7(b)). If it is difficult to determine whether there is a significant impact on the human environment, it may be necessary to complete the EE and prepare an EA in order to decide if an EIS is required.

(b) The RFO is to determine the need for an EIS for each action, program, or regulation. An EE, using a systematic interdisciplinary analysis and evaluation of data and information responding to the five provisions of Section 102(2)(C) of NEPA, will assist the RFO in deciding

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if the action requires the preparation of an EIS. In analyzing and evaluating environmental concerns, the RFO will answer the following questions:

(1) Environmental impact. Will the proposed action significantly affect the quality of the human environment (40 CFR 1508.14, Exhibit §410.30(b)). For example, will it significantly alter or destroy valuable wetlands, important farmlands, cultural resources, or threatened and endangered species? Will it affect social values, water quality, fish and wildlife habitats, or wilderness and scenic areas?

(2) Adverse environmental effects that cannot be avoided. What are the important environmental amenities that would be lost if the proposed action were implemented?

(3) Alternatives. Are there alternatives that would achieve the planning objectives but avoid adverse environmental effects?

(4) Short-term uses versus long-term productivity. Will the proposed actions, in combination with other actions, sacrifice the enhancement of significant long-term productivity as a tradeoff for short-term uses?

(5) Commitment of resources. Will the proposed action irreversibly and irretrievably commit the use of resources such as important farmlands, wetlands, and fish and wildlife habitat?

(c) Criteria for determining the need for a program EIS:

(1) A program EIS is required if the EE reveals that actions carried out under the program have individually insignificant but cumulatively significant environmental impacts.

(2) A project EIS, in lieu of a program EIS, is required if the EE reveals that actions carried out under the program will have both individually and cumulatively significant environmental impacts (40 CFR 1508.7, Exhibit §410.30(b)).

(d) The RFO, through the process of tiering, is to determine if a site-specific EA or EIS is required for an individually significant action that is included in a program EIS.

§410.8 When to prepare an Environmental Assessment (EA).

An EA is to be prepared for:

(a) Land and water resource projects that are not included in §410.7(a)(1) through (4) for which state and local units of government receive federal technical and financial assistance from SCS (7 CFR Parts 620-623; and

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(b) Other actions not included in a program EIS nor categorically excluded that the EE reveals may be a major federal action significantly affecting the quality of the human environment.

§410.9 NEPA and interagency planning.

(a) Lead agency.

(1) SCS is to be the lead agency for actions under programs it administers. If the actions affect more than one state, the SCS Chief is to designate one SCS state conservationist as the RFO.

(2) SCS normally takes the role of lead agency in actions that share program responsibilities among USDA agencies if SCS provides the majority of funds for the actions. If the lead agency role is in question, the role of SCS and other USDA agencies is to be determined by USDA.

(3) If SCS and federal agencies outside USDA cannot agree on which will be the lead agency and which will be the cooperating agencies, the procedures in 40 CFR 1501.5(e) are to be followed.

(4) SCS, as lead agency, is to coordinate the participation of all concerned agencies in developing the EIS according to the GEQ provisions in 40 CFR 1501.6(a), (see Exhibit §410.30(a)).

(b) Cooperating agencies.

(1) SCS is to request, as appropriate, the assistance of cooperating agencies in preparing the EE. This assistance will broaden the expertise in the planning and help to avoid future conflict. SCS is to request assistance in determining the scope of issues to be addressed and identifying the significant issues related to a proposed action from federal agencies that have jurisdiction by law or special expertise.

(2) SCS is to act as a cooperating agency if requested. SCS may request to be designated as a cooperating agency if proposed actions may affect areas of SCS expertise, such as prime farmlands, soils, erosion control, and agricultural sources of nonpoint pollution. SCS, as a cooperating agency, is to comply with the requirements of 40 CFR 1501.6(b) (see Exhibit §410.30(a)) to the extent possible depending on funds, personnel, and priority. If insufficient funds or other resources prevent SCS from participating fully as a cooperating agency, SCS is to request the lead agency to provide funds or other resources which will allow full participation.

(c) Scoping. See Exhibit §410.30(a).

(1) SCS is to use scoping to identify and categorize significant environment issues in its EE. Formalized scoping is used to insure that an analytical EIS can be prepared that will reduce paperwork and avoid

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delay. Scoping allows SCS to obtain the assistance and consultation of affected agencies that have special expertise or legal jurisdiction in the proposed action. If early environmental evaluation identifies a need for an EIS, SCS is to publish a NOI to prepare an EIS. The NOI is to request the assistance of all interested agencies, groups, and persons in determining the scope of the evaluation of the proposed action.

(2) Normally a scoping meeting is held and federal, state, or local agencies that have special expertise or legal jurisdiction in resource values that may be significantly affected are requested to participate. The scoping meeting will identify agencies that may become cooperating agencies.

(3) In the scoping meeting, the range of actions, alternatives, and impacts to be evaluated and included in the EIS as defined in 40 CFR 1508.25 (Exhibit §410.30(b)) are to be determined. Tiering as defined in 40 CFR 1508.28 (Exhibit §410.30(b)) may be used to define the relation of the proposed statement to other statements.

(4) Periodic meetings of the cooperating agencies are to be held at important decisionmaking points to provide timely interagency, interdisciplinary participation.

(5) Scoping is to include the items listed in 40 CFR 1501.7(a) and may also include any of the activities in 40 CFR 1501.7(b), (see Exhibit §410.30(a)). Appropriate, timely requests and notification are to be made to promote public participation in scoping in accordance with paragraph (d) of this section.

(6) The RFO through the scoping process will set time and page limits as prescribed in 40 CFR 1501.8, (see Exhibit §410.30(a)). Time and page limits are established by SCS in consultation with sponsors and others according to the projected availability of resources. The RFO is to make the applicant aware of the possible need for revising time and page limits because of changes in resources.

(d) Public participation.

(1) General. Public participation activities begin early in the EE and are to be appropriate to the proposed action. For example, extensive public participation activities are required in the implementation of new programs and project actions, but limited public participation is appropriate for nonproject technical and financial assistance programs on nonfederal land.

(2) Early public involvement. The public is to be invited and encouraged to participate in the early stages of planning, including the consideration of the potential effects of SCS-assisted actions on significant environmental resources such as wetlands, flood plains, cultural values, endangered species, and important farmland.

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(3) Project activities. The following are general considerations for providing opportunities for public participation:

(i) Identification of interested public. The interested public consisting of, but not limited to individuals, groups, organizations; and government agencies are to be identified, sought out, and encouraged to participate in and contribute to interdisciplinary planning and environmental evaluation.

(ii) Public notices (40 CFR 1506.6, see Exhibit §410.30(a)). If the effects of an action are primarily of local concern, notice of each public meeting or hearing should be:

(A) Submitted to state and areawide clearinghouses pursuant to Executive Order 12372;

(B) Submitted to Indian tribes if they are interested;

(C) Published in local newspapers;

(D) Distributed through other local media;

(E) Provided to potentially interested community organizations including small business associations;

(F) Published in newsletters that may be expected to reach potentially interested persons;

(G) Mailed directly to owners and occupants of nearby or affected property; and

(H) Posted onsite and offsite in the area where the action is to be located.

(iii) State statutes. If official action by the local units of government cooperating in the proposal is governed by state statute, the public notice and mailing requirement of the statute is to be followed. If the effects of an action are of national concern, notice is to be published in the FR and mailed to national organizations reasonably expected to be interested.

(iv) Public meetings. The RFO, after consultation with the sponsors, is to determine when public meetings or hearings are to be held. Public meetings may be in the form of a workshop, tour, open house, etc. Public involvement will include early discussion of flood-plain management and protection of wetlands, where appropriate. Environmental information is to be presented and discussed along with other appropriate information. To the extent practical, pertinent information should be made available before the meetings.

(v) Documentation. The RFO is to maintain a reviewable record of public participation in the environmental evaluation process.

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(4) Nonproject activities. Public participation in the planning and application of conservation practices with individual land users is accomplished primarily through conservation districts. These districts are governed by boards of supervisors, directors, commissioners, etc., who are elected and/or appointed to insure that soil, water, related resources, and environmental qualities in the district are maintained and improved. The public is to be encouraged to participate in the development of long-range district programs and annual district plans. The district keeps the public informed through public meetings, district newsletters, news stories, radio and television programs, and annual reports.

**§410.10 Adoption of an EIS prepared by a cooperating agency.**

(a) If SCS adopts an EIS prepared by another federal or state agency, the RFO is to review the document to insure that it meets the requirements of the CEQ regulations and SCS-NEPA procedures.

(b) If the actions included in the EIS are substantially the same as those proposed by SCS, the RFO is to recirculate the EIS as "final." The final EIS is to include an appropriate explanation of the action. If these actions are not substantially the same, the EIS is to be supplemented and recirculated as a draft EIS. The RFO is to inform the preparing agency of the proposed action.

(c) If the adopted EIS is not final, if it is the subject of a referral under 40 CFR 1504, (see Exhibit §410.30(a)) or if the statement's adequacy is in litigation, the RFO is to include an appropriate explanation in the EIS.

(d) The RFO is to take appropriate action to inform the public and appropriate agencies of the proposed action.

**§410.11 Environmental documents.**

(a) SCS is to use the following documents in compliance with NEPA (see §410.4 and 410.30(b)):

- (1) Environmental Assessments (EA)
- (2) Environmental Impact Statements (EIS)
- (3) Notice of Intent (NOI)
- (4) Finding of No Significant Impact (FNSI)
- (5) Record of Decision (ROD)

(b) The format and content of each document is to be appropriate to the action being considered and consistent with the CEQ regulations.

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(1) To reduce duplication, SCS may combine environmental documents with other planning documents of the same proposal, as appropriate. This may necessitate modifying the recommended CEQ format. If documents are combined, the RFO is to include the information and sections required by the CEQ regulations (40 CFR 1502.10, see Exhibit §410.30(a)). The EIS should indicate those considerations, including factors not related to environmental quality, that are likely to be relevant to a decision.

(2) The RFO is to establish the format and content of each document giving full consideration to the guidance and requirements of the CEQ regulations. The SCS-NTC director is to provide guidance and concurrence on the format and content if the SCS state conservationist is the RFO. The results of scoping are to determine the content of the EA or the EIS and the amount of detail needed to analyze the impacts.

(3) In addition to the minimum requirements of the CEQ regulations (40 CFR 1502.10, see Exhibit §410.30(a)), EA's and EIS's are to include:

(i) A brief description of public participation activities of agencies, groups, and individuals during the EE;

(ii) A description of the hazard potential of each alternative, including an explanation of the rationale for dam classification and the risk of dam failure from overtopping or other causes;

(iii) Information identifying any approved regional plans for water resource management in the study area (40 CFR 1506.2(d), see Exhibit §410.30(a)) and a statement on whether the proposed project is consistent with such plans;

(iv) All federal permits, licenses, and other entitlements that must be obtained (40 CFR 1502.25(b), see Exhibit §410.30(a)); and

(v) A brief description of major environmental problems, conflicts, and disagreements among groups and agencies and how they were resolved. Unresolved conflicts and the SCS's proposal for resolving the disagreements before the project is implemented are to be summarized.

(4) Letters of comment and responses (40 CFR 1503.4, 1502.9(b), see Exhibit §410.30 (a)). Letters of comment that were received and the responses to these comments are to be appended to the final EIS. Opposing views and other substantive comments that were not adequately discussed in the draft EIS are to be incorporated in the final EIS.

(5) Appendix. The RFO may use an appendix to an EA or EIS. If an appendix is too voluminous to be circulated with the EIS, the RFO is to make it available upon request. If an appendix is included it is to:

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- (i) Meet the requirements of 40 CFR 1502.18 (see Exhibit 5410.30(a));
- (ii) Identify any methodologies used (40 CFR 1502.24, see 5410.30(a)) and make explicit reference to other sources relied on for conclusions; and
- (iii) Briefly describe the relationship between the benefit-cost analysis and any analyses of unquantified environmental impacts, values, and amenities. "For purposes of complying with the Act, the weighing of the merits or drawbacks of the various alternatives need not be displayed in a monetary cost benefit and should not be when these are important qualitative considerations" (40 CFR 1502.23, see Exhibit 5410.30(a)).

5410.12 SCS decisionmaking.

(a) General. The purpose of these procedures is to insure that environmental information is provided to decisionmakers in a timely manner. The NEPA process is a part of SCS decisionmaking. The RFO is to insure that the policies and purposes of NEPA and CEQ regulations are complied with in SCS decisionmaking by:

(1) Including in all decision documents and supporting environmental documents a discussion of all alternatives considered in the decision. Alternatives to be considered in reaching a decision will be available to the public.

(2) Submitting relevant environmental documents, comments, and responses with other decision documents through the review process.

(3) Including in the record of formal rulemaking or adjudicatory proceedings relevant environmental documents, comments, and responses.

(4) Providing for pre- and post-project monitoring (40 CFR 1505.2(c) and 1505.3, see Exhibit 5410.30(a)) and evaluation in representative projects to insure that planning and evaluation procedures are performed according to sound criteria.

(b) Decision points in SCS-assisted projects. SCS administers programs that may have a significant effect on the human environment. Program procedures incorporate provisions for compliance with NEPA and for providing environmental information to the public, other agencies, and decisionmakers in a timely manner. SCS provides technical and financial assistance for projects under the Watershed Protection and Flood Prevention and the Resource Conservation and Development (RC&D) programs. These usually require the preparation of project EA's or EIS's. The major decisionmaking points and their relation to NEPA compliance are as follows:

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(1) For Watershed Protection and Flood Prevention projects:

(i) Application for assistance by the sponsoring local organization (SLO).

(ii) A preauthorization report identifying goals, alternatives, and effects of alternatives (including environmental impacts) prepared by the RFO and submitted to the applicant for decision. It is circulated to local, state, and federal agencies and public comment is solicited. A decision is made to stop planning assistance or to develop a watershed plan.

(iii) Granting of planning authorization by the Chief. The RFO must provide an evaluation of the potential environmental impacts to obtain the authorization.

(iv) A watershed agreement between the SLO and SCS. The agreement is based on a completed watershed plan and associated environmental documents, which have been adequately reviewed within SCS.

(v) A project agreement between the SLO and the RFO executed after the NEPA process is complete and the watershed plan has been approved and final plans and specifications have been developed.

(2) For RC&D measure plans:

(i) A request for assistance (measure proposal) is reviewed by the RC&D council to insure that the proposal is in accordance with the RC&D area plan. The proposal is then referred to SCS.

(ii) A preliminary report is prepared by the RFO to identify goals, alternatives, and effects (including environmental impacts). The report is submitted to the sponsor for review. The sponsor may then apply to SCS for planning assistance for measures considered in the preliminary report.

(iii) An authorization for planning assistance is granted by the RFO.

(iv) The RC&D measure plan is signed by the applicant and the RFO after the preparation and review of the measure plan and environmental documents.

(v) A project agreement is signed between the applicant and the RFO after the NEPA process is complete, the measure plan has been approved, and final plans and specifications have been prepared.

(c) Record of decision (ROD).

(1) EIS's. The RFO is to prepare a concise ROD for actions requiring an EIS. The ROD is to be prepared and signed by the RFO following the 30-day administrative action period initiated by the EPA's

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publication of the notice of availability of the final EIS in the FR. It is to serve as the public ROD as described in 40 CFR 1505.2 (see Exhibit \$410.30(a)) of the CEQ regulations. The ROD is to be distributed to all who provided substantive comments on the draft EIS and all others who request it. A notice of availability of the ROD will be published in the FR and local newspaper(s) serving the project area. The RFO may choose to publish the entire ROD.

(2) Environmental assessments (EA). If the EA indicates that the proposed action is not a major federal action significantly affecting the quality of the human environment, the RFO is to prepare a FNSI.

(3) Distribution and publication of the FNSI (\$1506.6(b), see Exhibit \$410.30(a)). The RFO is to distribute the FNSI to interested agencies and individuals. Notice of its availability is to be published in the FR and in one or more newspapers serving the area of the proposed action. Single copy requests for the document are to be filled without charge. A charge may be made for multiple copies. Implementing action is not to be initiated for 30 days after the notice of availability of the FNSI has been published in the FR.

(d) Changes in actions. When it appears that a project or other action needs to be changed, the RFO will perform an EE of the authorized action before making a change.

\$410.13 Review and comment.

In addition to the requirements of 40 CFR 1503, 1506.10 and 1506.11, (See Exhibit \$410.30(a)) SCS will take the following steps in distributing EIS's for review and comment:

(a) Draft EIS's. Five copies of the draft EIS are to be filed by the RFO with the Office of Federal Activities, Environmental Protection Agency (EPA), West Tower Room 537 (Mail Code A-104), 401 M Street S.W., Washington, D.C. 20460. At the same time, the RFO is to send copies of the draft EIS to the following:

(1) Other federal agencies. The regional office of EPA and other agencies that have jurisdiction by law or special expertise with respect to any environmental effect, other federal agencies (including appropriate field and regional offices), and affected Indian tribes.

(2) State and local agencies. Through its system of state and areawide clearinghouses, provides a means for obtaining the views of state and local environmental agencies that can assist in the preparation and review of EIS's.

(3) Organizations, groups, and individuals. A copy of the draft EIS is to be sent to the appropriate official of each organization or group and each individual of the interested public (410.9(d)(3)(i)) and

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to others as requested. A charge may be made for multiple copy requests.

(b) Time period for comment. The time period for review ends 45 days after the date EPA publishes the notice of public availability of the draft in the FR. A 15-day extension of time for review and comment is to be considered by the RFO when such requests are submitted in writing. If neither comments nor a request for an extension is received at the end of the 45-day period, it is to be presumed that the agency or party from whom comments were requested has no comments to make.

(c) News release. In addition to the notice of availability published in the FR by EPA, the RFO is to announce the availability of the draft EIS in one or more newspapers serving the area.

(d) Revising a draft EIS. If significant changes in the proposed action are made as a result of comments on the draft EIS, a revised draft EIS may be necessary. The revised draft EIS is to be recirculated for comment in the same manner as a draft EIS.

(e) Final EIS's. After the review period for the draft EIS, the RFO is to prepare a final EIS, making adjustments where necessary by taking into consideration and responding to significant comments and opposing viewpoints received on the draft EIS. The following steps are to be taken in filing and distributing the final EIS:

(1) Letters of comment are to be appended to the final EIS. If numerous repetitive responses are received, summaries of the repetitive comments and a list of the groups or individuals who commented may be appended in lieu of the actual letter.

(2) The RFO is to send five copies of the final EIS to EPA's Office of Environmental Review, and to each state and federal agency, organization, group, and individual who commented on the draft EIS. Requests for single copies of the final EIS will be provided without charge. A charge may be made for multiple copy requests.

(3) During the 30-day administrative action period noted in §410.12(c), SCS will make its final EIS available to the public (40 CFR 1506.10, see Exhibit §410.30(a)).

(f) Supplements to EIS's.

(1) If SCS determines that it is necessary to clarify or amplify a point of concern raised after the final EIS is filed, appropriate clarification or amplification is to be sent to EPA with information copies furnished to those who received copies of the final EIS. The waiting periods do not apply.

(2) If the RFO determines that the final EIS or supplement to the original EIS previously filed becomes inadequate because of a major change in the plan for the proposed action that significantly affects

Subpart A - Procedures for SCS-Assisted Programs

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410.13(f)(2)

the quality of the human environment, a new EIS is to be prepared, filed, and distributed as described in this section.

Sep-23-02 04:18pm From-California Farm Bureau  
Sep-20-02 11:55am

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CQ589

NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE STANDARD

CA589

**PRESCRIBED GRAZING**

(Acre)  
CODE 528A

**DEFINITION**

The controlled harvest of vegetation with grazing or browsing animals, managed with the intent to achieve a specified objective.

Frequency of defoliations and season of grazing will be based on the rate and physiological conditions of plant growth.

Duration and intensity of grazing will be based on desired plant health and expected productivity of key forage species to meet management unit objectives.

**PURPOSES**

This practice may be applied as part of a conservation management system to accomplish one or more of the following purposes:

Maintain enough vegetative cover to prevent accelerated soil erosion due to wind and water.

- \* Improve or maintain the health and vigor of selected plant(s) and to maintain a stable and desired plant community.
- \* Provide or maintain food, cover and shelter for animals of concern.
- \* Improve or maintain animal health and productivity.
- \* Maintain or improve water quality and quantity.
- \* Reduce accelerated soil erosion and maintain or improve soil condition for sustainability of the resource.

Application of this practice will manipulate the intensity, frequency, duration, and season of grazing to:

- \* Insure optimum water infiltration,
- \* Maintain or improve riparian and upland area vegetation,
- \* Protect stream banks from erosion,
- \* Manage for deposition of fecal material away from water bodies, and
- \* Promote ecological and economical stable plant communities on both upland and bottom land sites which meet landowner objectives.

**CONDITIONS WHERE PRACTICE APPLIES**

This practice may be applied on all lands where grazing and/or browsing animals are managed including irrigated and nonirrigated pastureland.

**Additional Criteria For Improved Animal Health And Productivity.**

Movement of animals will be in a manner to improve and/or maintain animal health and performance, and to reduce or prevent spread of disease, parasites, and contact with harmful insects.

**CRITERIA**

**General Criteria Applicable For All The Purposes Stated Above.**

Removal of herbage will be in accordance with production limitations, plant sensitivities and management goals using Sections I & II of the FOTG and other references as guidance.

Grazing should be applied in accordance with forage quality and quantity criteria that best meets the production requirements for the kind and/or class of animal.

**Additional Criteria For Water Quality.**

Duration, intensity, frequency, and season of grazing in or near surface waters will be applied in such a manner

Conservation practice standards are reviewed periodically, and updated if needed. To obtain the current version of this standard, contact the Natural Resources Conservation Service.

NRCS, CA  
July, 2000

**EXHIBIT 2**

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that the impacts to vegetative and water quality will be positive.

Duration, intensity, frequency, and season of grazing will be applied to enhance nutrient cycling by better manure distribution and increased rate of decomposition.

#### **Additional Criteria For Soil Erosion and Condition.**

Duration, intensity, frequency, and season of grazing shall be managed to minimize soil compaction or other detrimental effects.

Duration, intensity, frequency, and season of grazing shall be applied to sustain vegetative cover to minimize soil erosion.

#### **Types of Grazing Prescriptions:**

Grazing prescriptions should be designed to meet habitat and food requirements of the wildlife. The landowner should identify special habitat such as winter range, fawning, kidding and other special areas.

**Deferred Grazing.** Discontinuance of grazing by livestock on an area for a specified period of time during the growing season to promote plant reproduction, establishment of new plants, or restoration of vigor by old plants. Deferred grazing is required on all native or naturalized grazing lands following brush management, range seeding, prescribed fire, or wildfires that destroy vegetative cover.

**Deferred-Rotation Grazing.** Discontinuance of grazing on various parts of a range in succeeding years, allowing each part to rest successively during the growing season to permit seed production, establishment of seedlings, or restoration of plant vigor. Two, but usually three or more, separate units are required. Control is usually insured by unit fencing, but may be obtained by herding.

**Rest-Rotation Grazing.** An intensive system of management whereby grazing is deferred on various parts of the range during succeeding years, allowing the deferred part complete rest for one year. Two or more units are required. Control by fencing is usually necessary on cattle range, but may be obtained by herding on sheep ranges.

**Rotational Deferment.** A grazing system in which one or more parts of the range are rested during the

growing season each year; and rotational use of other segments of the range are not necessarily planned for.

Short duration. High Intensity grazing provides extended periods of rest during periods of slow plant growth and minimal rest periods during rapid growth. Implementation requires multiple grazing areas and close monitoring of the vegetative resources.

Supplemental feed may be necessary to meet the desired nutritional levels for animals of concern. Placement of supplemental feed should be considered to reduce negative impacts to soil, water, air, plant, and animal resources.

Use of natural or artificial shelter will be included as part of this practice when conditions demand.

Animal husbandry requirements which may affect the design of the grazing prescription will be considered.

Prescribed Grazing should consider the needs of other enterprises utilizing the same land, such as wildlife and recreational uses.

#### **Pastureland**

Delay grazing newly planted fields until plants are well rooted and in the boot stage.

Clip, harrow, or drag pastures after each grazing to scatter droppings and maintain uniform growth.

Use fertilizers as needed to maintain optimum forage growth and quality. Use soil tests or tissue analysis to determine needs in absence of local experience trials. Make split applications of nitrogen at intervals during the growing season. Use phosphorus and sulfur as needed to maintain legumes.

Minimize soil compaction by not grazing when irrigating or when soil is wet.

Divide area into three or more fields and rotate grazing to permit regrowth and avoid grazing while irrigating. Refer to Table 1.

Daily rotation systems permit very intensive use of irrigated pasture without pasture deterioration when all management factors needed to maintain maximum pasture growth are properly applied. These factors include:

1. Observing the maximum grazing period, not exceeding the minimum grazing height, and use of an adequate regrowth period
2. Provision for keeping livestock off while irrigating or when pasture is wet,
3. Adequate, timely irrigation, and
4. Adequate use of fertilizer.

During periods of maximum growth, excess forage can be removed for hay or ensilage.

Minimum grazing height is the main item that provides erosion control. It also is the minimum needed to protect the growing point to keep the plant productive. A higher grazing height usually is required for maximum production to allow for faster regrowth. Maintaining root reserves is the main item that keeps a pasture productive and alive. This is accomplished by maintaining the minimum grazing height and allowing enough rest time for the leaves to produce enough food to store in the roots.

Overgrazing is on an individual plant by plant basis. Each time the grass plant is grazed, food from the roots is needed for regrowth. If animals are allowed to stay in the same pasture when the new regrowth is tall enough to get the second or additional bites, they will graze this tender regrowth because it is more palatable than the taller coarser plants. If continued, the root reserves can dwindle to the point that the plant dies, the stand thins or the pasture reverts to a short patchy grazed turf, sometimes with some big unpalatable wolf plants.

Rotations are used to limit the grazing period and provide the rest needed to control this problem. Rest period needed varies by species and growth rate but should be gaged by length of time needed to get to the bloom stage after pasture was rotated. Occasionally allowing the plant to seed improves vigor if needed. When a plant puts up seed heads, new leaf growth almost stops. Clipping the seed heads usually starts vigorous regrowth.

### Fertilization

Nitrogen is the main growth stimulator, is water soluble and is easily leached. Phosphorus enhances palatability and seed production and is used with the rotation to help maintain the legume balance. Sulfur is needed on many of our soils. Fertilizer balance is

important and the N to P<sub>2</sub>O<sub>5</sub> ratio should be about 3:1 for most grass-legume mix pastures. Nitrogen is usually applied in split applications, especially on soils easily leached. Phosphorous is best utilized if applied in the fall.

### Irrigation water management

Adjust frequency of irrigation that will maintain soil moisture above 50 percent available water capacity during the growing season. When practical, use the established frequency of irrigation during the entire grazing season in combination with livestock rotation to provide proper regrowth interval and avoid grazing wet pastures. Amounts of water applied at each irrigation should be adjusted to match consumptive use. (See local Irrigation Guide). Irrigation frequency and amount of water applied should be increased accordingly when soil and/or irrigation water is high in soluble salts.

### Irrigated pasture fertilization

Apply minimum of 70 lbs. of P<sub>2</sub>O<sub>5</sub> per acre per year when desirable legumes are present.

Apply 120 to 150 pounds of Nitrogen (N) per year, divided equally into 4 or 5 applications.

Apply after each grazing period in the rotation cycle.

Time of application: just prior to irrigation, or add to irrigation water.

Apply other plant nutrients if needed. Use animal manures as a source of nitrogen, and supplement with commercial fertilizer to supply annual requirements.

### Dryland pasture fertilization

Apply a combination of N and P<sub>2</sub>O<sub>5</sub> in the fall, just prior to first effective rainfall.

The minimum annual rate should be 30 to 40 lbs. of N and 30 to 40 lbs of P<sub>2</sub>O<sub>5</sub>.

The first year fertilizer is applied, these rates should be doubled.

On dryland pastures, fertilization shall be limited to areas where precipitation is 12 or more inches and soils are at least 20 inches in depth. Priority should be given

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to the most productive soils. Apply fertilizer when soil moisture is adequate for nutrient uptake.

On dryland perennial pastures, grazing management must permit sufficient late season top growth to restore root reserves for the next season. Withhold grazing until seedlings are well established, may require more than one growing season.

Stocking rates vary with climate, soil, type of grass and/or legume, irrigation water quality and quantity, fertilizer use, and other management practices. Stocking rates for California rotation systems on irrigated pasture vary from 10 to 20 AUM/acre. Observations and experience should be used to determine need for adjustment.

## CONSIDERATIONS

### Annual Rangeland

There are some benefits to annual range ecosystems by developing a grazing prescription. The following items are examples.

Take grazing pressure off riparian areas during critical growth periods.

Reduce livestock trailing and grazing pressure around established long term watering developments, lakes and streams.

Reduce livestock browsing impact on key shrubs.

Manipulate key plant communities by regulating grazing pressure at critical phenological stages. Livestock impacts are by grazing and by creating improved seed bed conditions at optimal times to encourage or discourage targeted plant species.

Eroding areas will regain or improve their vegetative cover.

Easier to manage livestock (breeding, spraying, treating, etc.)

Reduce soil compacting during wet periods.

Avoid grazing of areas important to wildlife at critical period, re: waterfowl nesting, fawning.

Avoid grazing areas that have poisonous plants.

Deferred grazing is required on all native or naturalized grazing lands following brush management, range

seeding, prescribed fire, or wildfires that destroy vegetative cover.

### Perennial Rangeland

All livestock must be excluded from the grazing unit for the prescribed period of rest.

The rest period will allow seed set and maturation of the identified key plant species. The rest period will usually be in April, May and June; in higher elevations it may be May, June, and July. The rest period should define critical time periods that affect reproduction and growth of the target species.

Deferred grazing for range improvement should be planned only where enough desirable plants are present in the stand to repopulate the area in a reasonable time. More than one period of deferral may be necessary if adverse growing conditions do not produce the desired results in plant vigor and reproduction.

### Endangered Species Considerations

Determine if installation of this practice with any others proposed will have any effect on any federal or state listed Rare, Threatened or Endangered species or their habitat. NRCS's objective is to benefit these species and others of concern or at least not have any adverse effect on a listed species. If the Environmental Evaluation indicates the action may adversely affect a listed species or result in adverse modification of habitat of listed species which has been determined to be critical habitat, NRCS will advise the land user of the requirements of the Endangered Species Act and recommend alternative conservation treatments that avoid the adverse effects. Further assistance will be provided only if the landowner selects one of the alternative conservation treatments for installation; or at the request of the landowners, NRCS may initiate consultation with the Fish and Wildlife Service, National Marine Fisheries Service and/or California Department of Fish and Game. If the Environmental Evaluation indicates the action will not affect a listed species or result in adverse modification of critical habitat, consultation generally will not apply and usually would not be initiated. Document any special considerations for endangered species in the Practice Requirements Worksheet.

Some species are year-round residents in some streams, such as, freshwater shrimp. Other species, such as steelhead and salmon, utilize streams during various seasons. Be aware that during critical periods, such as spawning, eggs in gravels and rearing of young may preclude activities in the stream that may directly affect

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the stream habitat during those periods. For example, there should be no disturbance of stream gravel beds that may have eggs in them. That could include any equipment in the stream or even walking in the stream or work upstream that may result in sediment depositing in the gravel beds. Document any special considerations for endangered species in the Practice Requirements Worksheet.

### Water Quantity

The effects of this practice will vary with range sites, range site conditions, ground cover, and range trend. Areas with low percent ground cover will, with improved vegetation, have increased infiltration and less rapid runoff. The increase in infiltration is expected to increase soil moisture that would increase plant growth and transpiration (T). Soil compaction (bulk density) is diminished through the natural processes associated with increased plant growth. The increased plant growth will increase trapping of snow and give a better distribution of the snow over the land surface.

Care should be taken to avoid livestock trail development that would lead to gully development. Grazing distribution is generally improved, which distributes trampling and manure over a larger area.

### Water Quality

There should be no detrimental effects on the quality of surface and ground water.

Increased vegetation slows runoff and acts as a sediment filter for sediments and sediment attached substances, uses more nutrients, and reduces raindrop splash.

Improved vegetative density will limit adverse runoff effects on surface or aquifer water quality. As vegetative cover increases, the filtering processes are enhanced, thus trapping more silt and nutrients as well as snow if climatic conditions for snow exist.

Planned grazing prescriptions normally reduce the time livestock spend in each pasture. Compacted layers of the soil tend to diminish because of the absence of the grazing animals. This decrease in bulk density increases infiltration, increases vegetation growth, slows runoff, and improves the nutrient and moisture filtering and trapping ability of the area.

Decreased runoff will reduce the rate of erosion and movement of sediment, dissolved and sediment-attached substances into downstream water courses. No increase in ground-water pollution hazard would be anticipated from the practice.

### Annual Grazing Lands

All livestock must be excluded from the grazing unit for the prescribed period of rest. On sites depleted of cover to the extent that accelerated soil erosion is a hazard, the rest period will be for that portion of the growing season required to insure adequate RDM (residual dry matter) levels to prevent excessive erosion.

Periodic resting on sites will allow seed set and maturation of the identified key plants. The primary season for rest is late spring while soil moisture is adequate to promote regrowth. In dry regions, the primary rest period will be in early spring. Adequate RDM levels should be specified in the planning documents.

A rest period should be planned when inadequate RDM exists.

### Pasture and Hayland

Consider use of pastureland, crop residues and hayland after growth in a grazing prescription with rangeland and other grazing resources.

Grazing schedules and irrigation schedules need to be carefully coordinated.

Adequate regrowth needs to occur before grazing the subsequent period.

Fertilizer needs should be assessed on economics and management of the stand.

Special grazing units may be needed for calving, lambing, and breeding.

Close grazing on hayland after growth will be detrimental to the stand. Spring grazing on hayland will reduce hay yields.

### Grazable Woodland

The intensity of grazing needs to be adjusted to allow for wildlife habitat, watershed protection, and timber

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production, with special emphasis being placed on protecting seeding and sapling stands.

Grazing by livestock can reduce danger of fire in young plantations. Grazing by livestock can be used as an alternative to fire and herbicide to control competition to tree seedlings.

Provide adequate livestock water.

Recently logged areas should be considered in determining forage potentials. Many of these areas will only provide useable forage before the tree canopy increases. Generally this transitory range forage resource cycle is good for a 10 year period.

Deerbrush (*Ceanothus integrifolius*) may cause animal sickness if grazed after mid September. It provides excellent browse during the summer months. Some grazeable woodlands receive significant seasonal use, i.e., wintering areas for deer, and should be considered when developing livestock grazing plans.

#### Grazed Wildlife Land

Livestock grazing can be used to control excessive vegetative growth or utilize forage in excess of wildlife needs. Livestock grazing can reduce fuel build-up and reduce risk of wildfire. Livestock grazing is often more acceptable in vegetation management than use of prescribed burning, herbicides or mechanical treatment. Providing an adequate number of pastures will provide flexibility in wildlife management and good control over the degree of grazing use by livestock.

#### Planning

Use Form SCS-ECS-414 to document plan schedule, key grazing areas, and key species and to record utilization by years. Use Form SCS-ECS-416 for browse species.

Form SCS-ECS-005 should be used to determine present spacing of woodland overstory. Appropriate ZIG-ZAG transects should be taken to determine existing tree spacing. Using this information with the woodland information stick, adjustments in the woodland overstory can be determined to accommodate increased forage production (add 1 to 2 feet to the suggested D+ spacing guide for the appropriate timber type).

Other formats may be substituted for SCS-ECS-414, 416 and 005 providing information documented is consistent with that required on these respective forms.

On slopes over 30 percent, allowable use will be decreased by 5 to 10 percent for each 10 percent increase in slope. On critical soils such as granitics, adjust the proper use factor as needed to protect the basic soil-vegetative resource.

Resource inventories including wildlife, watershed, and riparian zones, need to be taken in order to develop land use alternatives that will conserve the resource base.

One or more of the following facilitating practices may be needed to obtain the planned objective. See practice standards and specifications in FOTG or appropriate handbook for the following practices:

1. FENCE-382
2. Livestock water distribution and development (NRH Section 803)
3. ANIMAL TRAILS and WALKWAYS-575
4. Location of salt, minerals and supplemental feeding (NRH Section 803)
5. Herding (NRH Section 803)

#### PLANS AND SPECIFICATIONS

A Prescribed Grazing schedule will be prepared for all fields and pastures incorporating any additional feed supplementation for the operating unit or portion of an operating unit being addressed. Grazing schedules will be recorded in a manner that is readily understood and useable by the decision-maker in their daily operations. The manner of documentation will depend upon the size and complexity of the operating unit and the details required for a grazing prescription.

A prescribed grazing schedule will include the following information:

1. Documentation of the expected forage quantity and quality for each management unit(s), i.e., pastures during the grazing season.
2. Documentation of the number of domestic livestock by kinds and class, and the number of grazing/browsing wildlife of concern anticipated within the management unit(s).
3. Documentation of nutritional surpluses and deficiencies from the forage resources for each

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kind and class of livestock and grazing/browsing wildlife of concern in the management unit(s).

4. Supplemental feed requirements needed to meet the desired nutritional level for the kind and class of livestock and grazing/browsing wildlife of concern in the management unit(s).
5. Development of a planned grazing schedule for livestock that identifies periods of grazing, resting, and other treatment activities for each management unit(s).
6. A contingency plan that details potential problems, i.e., drought, and a guide for adjusting the grazing prescription to insure resource management and economic feasibility without resource degradation will be developed.

**Woodlands Dominated by Annual Forage Plants**

Adequate residues shall be left on the land for erosion control and sustained forage production.

1. 1000 to 1200 pounds RDM for slopes less than 30 percent and 1200 to 1500 pounds RDM for slopes greater than 30 percent will be adequate.

These RDM levels correspond to an average two inch stubble and 3 inch stubble height respectively. RDM levels can be determined by using the procedure as outlined in the National Range Handbook. The landscape will have a patchy appearance at these levels.

2. Grazing should be delayed when the soil is wet (at or above field capacity) to avoid compaction on soils where compaction can be a problem.
3. Eliminate grazing for a sufficient number of years after timber is harvested to assure adequate reproduction or to prevent damage to planted trees. (See USE EXCLUSION - 472.)

**Woodlands Dominated by Perennial Forage**

At least 50 percent of the key forage species produces mature seed, or

Where the key forage species are browse plants at least 40 percent of the current leader or twig growth will be left at the end of the grazing season. (See Section 1003 NRH)

Eliminate grazing for a sufficient number of years after timber is harvested to assure adequate reproduction or to prevent damage to planted trees.

**OPERATION AND MAINTENANCE**

Operation: The manager will apply Prescribed Grazing on a continuing basis, making adjustments as needed to insure that the concept and objectives of its application are met.

Maintenance: The Prescribed Grazing schedule will specify when evaluations of the current feed and forage supply should be made. If an imbalance is determined the prescription should be adjusted accordingly or other harvesting techniques applied.

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Table 1. - Guide for planning proper grazing and irrigation water management

PASTURELAND (IRRIGATED)

<u>Grasses</u>	<u>Plant Height for Grazing (in.) Interval</u>		<u>Minimum Regrowth Rooting Time (days)</u>	<u>Depth (ft)</u>	<u>Potential Salt Tolerance</u>
	<u>Maximum</u>	<u>Minimum</u>			
Bermudagrass (improved strains)	8	3	15-20	3	High
Reed Canary Grass	12	6	25-30	4	Medium
Tall Fescue	8	4	20-25	3	High Medium
Creeping Meadow Foxtail	6	3	20-25	3	High Medium
Hardinggrass	8	3	30-35	5	Medium
Perla Koeagrass	8	3	30-35	5	Medium
Intermediate Wheatgrass	8	3	30-35	4-5	Medium
Tall Wheatgrass	10	6	30-35	5+	High
Orchardgrass	8	3	25-30	3	Low
Pubescent Wheatgrass	6	3	25-30	3	Medium
Annual Grasses	6	3	20-25	1-2	Variable
<u>Legumes</u>					
Alfalfa	10	4	30-35	5+	Low
Alsike Clover	8	3	25-30	2	Low-Medium
Ladino Clover	8	3	20-25	2	Low-Medium
Trefoil - Birdsfoot	8	3	25-30	3	Medium
Trefoil - Narrowleaf	5	2	25-30	3	Medium
Annual Legumes	4-6	2	20-25	1-2	Variable

PASTURELAND (NON-IRRIGATED) - ANNUALS - Follow specification for Annual Range

PASTURELAND (NON-IRRIGATED) - PERENNIALS - After plants are established, use the following as a guide for proper grazing. At the end of the grazing season, about 30 percent of the seed heads should remain.

<u>Grasses</u>	<u>Heights to begin Season's Grazing (inches)</u>	<u>Minimum Grazing Height (inches)</u>
Hardinggrass, Perlagrass	6-8	4
Perennial Veldtgrass	8-10	6
Wheatgrasses, Crested	6	3
Intermediate	8-10	6
Pubescent	8-10	4
Siberian	6	3
Tall	10-12	7

NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE SPECIFICATION

CQ589

**PRESCRIBED GRAZING - ANNUAL RANGELAND**

(Acre)  
528A

**I. SCOPE**

The work shall consist of controlling grazing through fencing or herding, so that each grazing unit will receive alternate periods of grazing and rest.

Reduce livestock trailing and grazing pressure around established long term watering developments, lakes and streams.

Reduce livestock browsing impact on key shrubs.

**II. AREAS AND TIME**

The areas to be grazed shall be shown on the plans and the time periods for grazing and resting are shown on the Practice Requirement sheet, or grazing calendar.

Manipulate key plant communities by regulating grazing pressure at critical phenological stages. Livestock impacts may create improved seed bed conditions to encourage or discourage targeted plant species.

**III. GRAZING OPERATIONS**

The grazing area shall be divided into two or more grazing units unless other arrangements provide for periodic deferment of grazing.

Eroding areas should regain or improve their vegetative cover.

Easier to manage livestock (breeding, spraying, treating, etc.)

Changing the order of grazing through grazing units should increase the seeding success of desirable species from year to year.

Reduce soil compacting during wet periods.

Avoid grazing of areas important to wildlife at critical period, (e.g. waterfowl nesting, fawning.)

Rotation of grazing among grazing units shall be based on plant development, degree of use, or residual dry matter levels, and not on calendar dates.

Avoid grazing areas that have poisonous plants.

Salting should be used as a means to achieve even livestock distribution. Salt and other supplements should be placed in areas not readily used by livestock and away from wetlands and riparian areas.

Many areas of the state dominated by annual grasslands have relict populations of native perennial grasses, particularly where precipitation is greater than 15-20 inches, in drainages, or on shaded north-facing slopes. Where it is the desire of the landowner to increase the expression of native perennial grasses planned grazing systems should be developed and implemented. Current research indicates that intense management will be necessary.

Grazing when soils are wet should be avoided when possible, especially with finer textured soils to minimize soil compaction and other adverse effects. Grazing in riparian areas should be controlled by season of use where necessary to benefit water quality.

Deferred grazing shall be required on all native or naturalized grazing lands following brush management, range seeding, prescribed fire, or wildfires that destroy vegetative cover.

**IV. BENEFITS OF GRAZING PRESCRIPTION**

There are some benefits to annual range ecosystems by developing a grazing schedule or prescription. The following items are examples:

Take grazing pressure off riparian areas during critical growth periods or during wet season to minimize erosion and water quality impairment.

**V. WETLAND OPERATION**

Livestock can be used to control excessive herbaceous growth in wetlands. Livestock grazing can be used to reduce invasion of exotic plants into vernal pools.

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Grazing should be planned to meet desired management goals, i.e. nesting areas -- graze after nesting season; grazing intensity should allow carry over of vegetation into following year which coupled with new growth provides nesting cover; wintering areas -- since most natural waterfowl food plants are palatable to livestock, grazing time and intensity should be carefully controlled to prevent heavy grazing of desired waterfowl food plants (e.g. no or limited grazing in summer or fall).

## VI. ANNUAL RANGELANDS GRAZING OPERATIONS

Adequate residual dry matter (RDM) will be left on the land for erosion control and sustained forage production. Research shows the need for residual dry matter to shield the mineral soil from sheet and rill erosion. It also shows the relationship between mulch/residual dry matter and germination of desirable annual forage species.

The amounts of residual dry matter left shall be a minimum of 800 pounds air dry weight per acre on sites having slopes less than 30 percent; and 1,000 pounds air dry weight per acre on sites having slopes greater than 30 percent. Greater levels of residual dry matter may be needed in extreme situations depending on soil surface conditions.

On sites producing 800 pounds or less per acre or during dry years leave 50 percent of the current year's growth as residual dry matter.

Residual dry matter shall be measured just prior to the beginning of the rainy season. Normally this will be about November 1. Livestock grazing use shall not exceed the RDM recommendation for the site. Intensive grazing systems must leave minimum RDM while grazing during the rainy season to protect the soil. RDM mapping should be used to track utilization from year to year. Livestock grazing time and intensity should be designed to promote desired composition and density of plants.

It must be recognized that a discrepancy exists between the quantities of residual dry matter recommended by the University of California Cooperative Extension Leaflet #21327 "Guidelines for Residue Management on Annual Range" and the values above. Most of this difference can be explained by the differing methods of clipping employed between the UCCE and NRCS. UCCE clips a 1 square foot plot to mirror the vegetation that can be managed and consumed by grazing livestock. Residual dry matter from

unpalatable weeds and summer annuals such as tarweed are not clipped since they are usually not consumed by grazing livestock.

NRCS clips a .96 square foot plot on annual grassland but clips the entire residual dry material, making an effort to distinguish current from previous years organic matter. NRCS is concerned with erosion-preventive aspects of RDM, role of RDM as standing forage in the fall, as well as the germination benefits attributed to RDM. It should be recognized that higher levels of RDM reflecting taller cover value for wildlife may be recommended in specific instances. Higher levels of stubble height are desirable in ephemeral riparian areas.

## VII. SUPPORTING PRACTICES

When fences are specified, the fences shall be installed as specified by Practice Specification 382-Fence. Temporary or moveable fencing may also contribute to ease of livestock control. Practice specification 614 Trough/Tank including pipelines are often needed.

## VIII. OTHER REQUIREMENTS

The owner, operator, or other persons shall conduct all work and operations in accordance with proper safety codes for the type of equipment and operations being performed with due regard for the safety of all persons and property

NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE SPECIFICATION

CQ589

**PRESCRIBED GRAZING – IRRIGATED PASTURE**

(Acre)  
528B

**I. SCOPE**

The work shall consist of controlling grazing fencing or herding, so that each grazing unit will receive alternate periods of grazing and rest.

Soil moisture shall be maintained above 50 percent available water capacity unless otherwise specified on the Practice Requirement sheet.

**II. AREAS AND TIME**

The areas to be grazed shall be shown on the plans and, the time periods for grazing and resting are shown on the Practice Requirement sheet, or grazing calendar.

Nitrogen shall be applied annually in split applications. Phosphorus shall be applied annually when desirable legumes are present.

Excessive vegetation shall be mowed periodically and animal manure in fields redistributed over fields.

**III. GRAZING OPERATIONS**

The grazing area shall be divided into two or more grazing units unless other arrangements provide for periodic deferral of grazing.

**V. SUPPORTING PRACTICES**

When fences are specified, the fences will be installed as specified by Practice Specification 382-Fence. Temporary or moveable fencing may also contribute to ease of livestock control.

Each grazing unit that is grazed during the growing season shall have a different period of use the following year, except on irrigated pastures.

**VI. OTHER REQUIREMENTS**

The owner, operator, or other persons shall conduct all work and operations in accordance with proper safety codes for the type of equipment and operations being performed with due regard for the safety of all persons and property

Rotation of grazing among grazing units will be based on plant developments and degree of use, or mulch levels and not on calendar dates.

Salting should be used as a means to get more even livestock distribution. Salt and other supplements should be placed in areas not readily used by livestock.

Grazing when soils are wet should be avoided when possible, especially with finer textured soils.

Grazing, including daily rotation grazing, shall be managed to prevent vegetation height being reduced below the minimum grazing height specified on the Practice Requirement sheet.

Fields shall be rested for at least the minimum regrowth period specified on the Practice Requirement sheet.

**IV. IRRIGATION AND NUTRIENTS**

NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE SPECIFICATION

CO589

**PRESCRIBED GRAZING – PERENNIAL RANGELAND**

(Acre)  
528C

**I. SCOPE**

The work shall consist of controlling grazing fencing or herding, so that each grazing unit will receive alternate periods of grazing and rest.

At least one key grazing area and a one or two key species for each pasture area will be designated.

**II. AREAS AND TIME**

The areas to be grazed shall be shown on the plans and the time periods for grazing and resting are shown on the Practice Requirement sheet, or grazing calendar.

The key species will be selected based on the management objective of the landowner or operator, as recorded in the Conservation Assistance Notes and in the Conservation Plan if one is prepared for the landowner or operator.

**III. GRAZING OPERATIONS**

The grazing area shall be divided into two or more grazing units unless other arrangements provide for periodic deferment of grazing.

The key grazing areas and the key species in that area will be used to judge the utilization percentage in a pasture.

Each grazing unit that is grazed during the growing season shall have a different period of use the following year, except on irrigated pastures.

The utilization percentage determination will be made at or near the end of the grazing season. This will never be later than the beginning of the new growing season.

Rotation of grazing among grazing units will be based on plant developments and degree of use, or mulch levels and not on calendar dates.

**IV. SUPPORTING PRACTICES**

When fences are specified, the fences will be installed as specified by Practice Specification 382-Fence. Temporary or moveable fencing may also contribute to ease of livestock control.

Salting should be used as a means to get more even livestock distribution. Salt and other supplements should be placed in areas not readily used by livestock.

**V. OTHER REQUIREMENTS**

The owner, operator, or other persons shall conduct all work and operations in accordance with proper safety codes for the type of equipment and operations being performed with due regard for the safety of all persons and property

Grazing when soils are wet should be avoided when possible, especially with finer textured soils.

Not more than 50 percent of the current year's growth of the designated key species when grazed during the growing season. Not more than 35 percent of the current year's growth of the designated key species when grazed in the desert during the growing season.

Not more than 80 percent of the current year's growth of the designated key species when grazed during the dormant season.

Not more than 65 percent of the current year's growth of the designated key browse species, based upon twigs only.

NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE SPECIFICATION

CQ589

**PRESCRIBED GRAZING - WETLANDS**(Acre)  
528D**I. SCOPE**

The work shall consist of controlling grazing fencing or herding, so that each grazing unit will receive alternate periods of grazing and rest.

**II. AREAS AND TIME**

The areas to be grazed shall be shown on the plans and, the time periods for grazing and resting are shown on the Practice Requirement sheet, or grazing calendar.

**III. GRAZING OPERATIONS**

The grazing area shall be divided into two or more grazing units unless other arrangements provide for periodic deferment of grazing.

Each grazing unit that is grazed during the growing season shall have a different period of use the following year, except on irrigated pastures.

Rotation of grazing among grazing units will be based on plant developments and degree of use, or mulch levels and not on calendar dates.

Salting should be used as a means to get more even livestock distribution. Salt and other supplements should be placed in areas not readily used by livestock.

Timing of grazing should be adjusted as possible to minimize soil impacts, especially with finer textured soils.

Wetlands. Livestock can be used to control excessive herbaceous growth. Grazing should be planned to meet desired management goals, i.e. nesting areas -- graze after nesting season, grazing intensity should allow carry over of vegetation into following year which coupled with new growth provides nesting cover; wintering areas -- since most natural waterfowl food plants are palatable to livestock, grazing time and intensity should be carefully controlled to prevent heavy grazing of desired waterfowl food plants (e.g. no or limited grazing in summer or fall).

Livestock grazing use not to exceed the RDM or utilization level recommendation for the site. Livestock grazing time and intensity should be designed to promote desired composition and density of plants.

**IV. SUPPORTING PRACTICES**

When fences are specified, the fences will be installed as specified by Practice Specification 382-Fence. Temporary or movable fencing may also contribute to ease of livestock control.

**V. OTHER REQUIREMENTS**

The owner, operator, or other persons shall conduct all work and operations in accordance with proper safety codes for the type of equipment and operations being performed with due regard for the safety of all persons and property.

NATURAL RESOURCES CONSERVATION SERVICE  
CONSERVATION PRACTICE SPECIFICATION

CQ589

**PRESCRIBED GRAZING – WOODLANDS/FORESTLAND**(Acre)  
528E**I. SCOPE**

The work shall consist of controlling grazing through fencing or herding, so that each grazing unit will receive alternate periods of grazing and rest.

**II. AREAS AND TIME**

The areas to be grazed shall be shown on the plans and the time periods for grazing and resting are shown on the Practice Requirement sheet, or grazing calendar.

**III. GRAZING OPERATIONS**

The grazing area shall be divided into two or more grazing units unless other arrangements provide for periodic deferment of grazing.

Each grazing unit that is grazed during the growing season shall have a different period of use the following year, except on irrigated pastures.

Rotation of grazing among grazing units will be based on plant development, degree of use, or mulch levels and not on calendar dates.

Salting should be used as a means to get more even livestock distribution. Salt and other supplements should be placed in areas not readily used by livestock, and away from wetlands and riparian areas.

Grazing when soils are wet should be avoided when possible, especially with finer textured soils.

Livestock grazing use is not to exceed the RDM recommendation for the site. Livestock grazing time and intensity should be designed to promote desired composition and density of plants.

Chaparral. After prescribed burning, do not graze with livestock until late spring. After the first growing season, livestock can be managed to keep browse species within reach of wildlife, and to promote the desired composition and density of plants.

**IV. ANNUAL RANGELANDS GRAZING OPERATIONS**

Adequate mulch will be left on the land for erosion control and sustained forage production. Research shows the need for mulch to shield the mineral soil from sheet and rill erosion. It also shows the relationship between mulch/residual dry matter and germination of desirable annual forage species.

The amounts of mulch left will be a minimum of 800 pounds air dry weight per acre on sites having slopes less than 30 percent; and 1000 pounds air dry weight per acre on sites having slopes greater than 30 percent. Greater levels of mulch may be needed in extreme situations depending on soil surface conditions.

On sites producing 1000 pounds or less per acre or during dry years leave 50 percent of the current year's growth as mulch.

Mulch will be measured just prior to the beginning of the rainy season. Normally this will be about November 1.

It must be recognized that a discrepancy exists between the quantities of residual dry matter recommended by the University of California Cooperative Extension publication Number # and the values above. Most of this difference can be explained by the differing methods of clipping employed between the UCCE and NRCS. UCCE clips a .96 square foot plot to mirror the vegetation that can be managed and consumed by grazing livestock. Residual dry matter from unpalatable weeds and summer annuals such as tarweed are not counted since they are usually not consumed by grazing livestock.

NRCS also clips a .96 square foot plot on annual grassland but clips the entire residual dry material, making an effort to distinguish current from previous years organic matter if feasible. NRCS is concerned both with erosion-preventive aspects of RDM as well as the germination benefits attributed to RDM.

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## **V. PERENNIAL RANGELANDS GRAZING OPERATIONS**

Not more than 50 percent of the current year's growth of the designated key species when grazed during the growing season.

Not more than 80 percent of the current year's growth of the designated key species when grazed during the dormant season.

Not more than 65 percent of the current year's growth of the designated key browse species, based upon twigs only.

At least one key grazing area and a one or two key species for each pasture area will be designated.

The key species will be selected based on the management objective of the landowner or operator, as recorded in the Conservation Assistance Notes and in the Conservation Plan if one is prepared for the landowner or operator.

The key grazing areas and the key species in that area will be used to judge the utilization percentage in a pasture.

The utilization percentage determination will be made at or near the end of the grazing season. This will never be later than the beginning of the new growing season.

## **VI. SUPPORTING PRACTICES**

When fences are specified, the fences will be installed as specified by Practice Specification 382-Fence. Temporary or moveable fencing may also contribute to ease of livestock control.

## **VII. OTHER REQUIREMENTS**

The owner, operator, or other persons shall conduct all work and operations in accordance with proper safety codes for the type of equipment and operations being performed with due regard for the safety of all persons and property

# COORDINATING THE Permitting Process

**Sixteen commonly used  
conservation measures  
are now eligible for  
pre-approved permits.**

Landowners have been discouraged from voluntarily installing conservation management practices by the lengthy and costly process of acquiring the necessary permits. In order to reduce this barrier, the USDA's Natural Resources Conservation Service (NRCS), the Resource Conservation District of Monterey County (RCD), Sustainable Conservation, and the Monterey Bay National Marine Sanctuary's Water Quality Protection Program have worked with eight federal, state and county regulatory agencies to pre-approve permits for sixteen commonly used conservation practices.

The regulatory agencies that have signed onto this one-stop regulatory shopping are the County of Monterey, the California Coastal Commission, the California Department of Fish and Game, the Regional Water Quality Control Board, the U.S. Army Corps of Engineers, the U.S. Environmental Protection Agency, the U.S. Fish and Wildlife Service, and the National Marine Fisheries Service.

## SALINAS VALLEY

The Salinas Valley watershed includes approximately 2,500 square miles of Monterey County, including some of the most productive agricultural lands in the world. The rich soils of the broad flat lands along the Salinas River are the "Salt Bowl of the Nation", producing the majority of the country's lettuce and a diverse mix of vegetables, including broccoli, artichokes, celery, and cauliflower. The surrounding hills support extensive cattle grazing and vineyards.

## WATERSHED PROTECTION

The creeks and rivers in this watershed eventually drain into the Sanctuary, home to thousands of diverse species of plants and wildlife. Local farmers and ranchers are working to prevent polluted runoff, or "nonpoint source pollution", (i.e. nutrients, sediments, and pesticides) from ending up in the waterways that flow to the ocean.

Reducing erosion from agricultural lands can also prevent the movement of persistent pesticides, such as remnant DDT, into sensitive ecosystems. Through the use of conservation practices, such as erosion control, irrigation improvements and streambank protection, the agricultural community can protect water quality and retain valuable top soil on their properties.

CQ589

**Natural Resources Conservation Service**  
**744-A La Guardia Street, Salinas, CA, 93905**  
**(831) 424-1036**    [DannyMarquis@ca.usda.gov](mailto:DannyMarquis@ca.usda.gov)

**Resource Conservation District, Monterey County Office,**  
**744-A La Guardia St., Salinas, CA, 93905**  
**(831) 424-1036, ext. 124**    [redmonterey@yahoo.com](mailto:redmonterey@yahoo.com)

FUNDS FOR THIS BROCHURE WAS PROVIDED BY THE CALIFORNIA ENVIRONMENTAL PROTECTION AGENCY THROUGH A 319 (H) GRANT FROM THE REGIONAL WATER QUALITY CONTROL BOARD (88-117-255-0), TO THE MONTHLY BAY SANCTUARY FOUNDATION.



# Permi Coordination

**One-Stop Permits  
for Water Quality  
Improvements**

# One-Stop Permits for the Salinas Valley

LA589

These sixteen conservation practices were authorized by the agencies in advance through watershed-based permits issued to the NRCSS and the RCD of Monterey County. Authorization of these practices includes certain installation and maintenance conditions developed by the agencies. Activities that involve grading of more than 100 cubic yards of soil or any work within a stream channel or riparian area ordinarily require one or more permits. Land managers that work with the NRCSS and the RCD can implement the practices without the need to seek project-specific permits from each agency or to pay permit fees. NRCSS and the RCD may also be able to provide financial assistance for conservation practices.

## THE FOLLOWING PRACTICES HAVE BEEN PRE-APPROVED WHEN YOU ARE WORKING WITH THE NRCSS OR RCD.

- (1) **ACCESS ROADS** Modifications to farm roads to reduce runoff and erosion as part of a conservation plan.
- (2) **CRITICAL AREA PLANTING** Minor slope grading and planting vegetation such as trees, shrubs, vines, grasses or legumes, on highly erodible or critically eroding areas.



Diversion basins capture soil and store storm and irrigation runoff.

- (3) **DIVERSION** An earth channel constructed to direct runoff water across the slope and carry it to a stable outlet.
- (4) **FENCE** A constructed barrier to control livestock access to waterways.
- (5) **FILTER STRIP** Minor slope grading and planting of vegetation for capturing

sediment, organic matter, and other pollutants from runoff and wastewater.

- (6) **GRADE STABILIZATION STRUCTURE** A structure built into the creek bed or channel bottom to control the grade and prevent head cutting in natural or artificial channels.
- (7) **GRASSES WATERWAYS** A natural or constructed channel that is shaped or graded to required dimensions and velocities, and established with suitable vegetation for the stable conveyance of runoff.
- (8) **RIPARIAN REGULATING RESERVOIR** A small storage reservoir constructed to regulate or store a supply of water for irrigation.

(9) **PIPELINE** Pipeline installed for conveying water for livestock or for recreation.

- (10) **SEDIMENT BASINS** Basins constructed to collect and store debris or sediment.
- (11) **SPRING DEVELOPMENT** Improving springs and seeps by fencing out livestock and providing watering sources away from sensitive habitats.
- (12) **STREAMBANK PROTECTION** Using vegetation or rock to stabilize and protect banks of streams, lakes, estuaries, or excavated channels against scour and erosion.
- (13) **STREAM CHANNEL STABILIZATION** Stabilizing the channel of a stream with suitable structures.



Streambank protection project using willow cuttings, willow nut trees, and retired used planting.



(top) View of gully formed in 1997 following a winter storm. Upper end of gully was threatened to migrate with subsides on hill above.



(bottom) Source location of pipe drop and its connection of soil to fill former gully. Pipe inlet is located behind berm at edge of trees and carries runoff to outlet in foreground. Rock at outlet serves as energy dissipator. The slopes have been covered with an erosion control mix.

(14) **TANK OR TROUGH** A trough or tank installed to provide drinking water for livestock.

(15) **UNDERGROUND OUTLETS** A conduit installed beneath the surface of the ground to collect surface water and convey it to a suitable outlet.

(16) **WATER AND SEDIMENT CONTROL BASIN** An earthen embankment to form a sediment trap and water detention basin.

### HOW TO APPLY FOR THE WATERSHED PERMIT

Before you begin your own conservation project permitting process, contact the local NRCSS office or the RCD of Monterey County to find out if your project can be covered by the Salinas Valley Watershed Permit. The NRCSS and/or RCD can insure that your project meets the conditions of the regulatory agencies and is covered by the permit. In addition to simplifying the permit application process, assistance is available for project design, construction guidance, and information on applicable cost sharing programs.

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**COUNCIL ON ENVIRONMENTAL QUALITY**

**Publishing of Three Memoranda for Heads of Agencies**

August 20, 1980.

The Council on Environmental Quality is publishing three Memoranda for Heads of Agencies.

The first memorandum, dated August 11, 1980, on Analysis of Impacts on Prime and Unique Agricultural Lands in Implementing the National Environmental Policy Act was developed in cooperation with the Department of Agriculture. It updates and supersedes the Council's previous memorandum on this subject of August 1978.

The second memorandum, dated August 11, 1980, requests information on agency agricultural land policies and other information related to the implementation of the first memorandum.

The third memorandum, dated August 10, 1980, on Interagency Consultation to Avoid or Mitigate Adverse Effects on Rivers in the Nationwide Inventory is intended to assist federal agencies in meeting their responsibilities under the President's August 2, 1979 directive.

Edward L. Strohbehn, Jr.  
Executive Director.

Executive Office of the President,  
Council on Environmental Quality,  
723 Jackson Place, NW, Washington, D.C.  
August 11, 1980.

**Memorandum for Head of Agencies**

**Subject: Analysis of Impacts on Prime or Unique Agricultural Lands in Implementing the National Environmental Policy Act**

Approximately one million acres of prime or unique agricultural lands are being converted irreversibly to nonagricultural uses each year. Actions by federal agencies such as construction activities, development grants and loans, and federal land management decisions frequently contribute to the loss of prime and unique agricultural lands directly or indirectly. Often these losses are

<sup>1</sup>As used in this memorandum, prime and unique agricultural land is cropland, pastureland, rangeland, forest land or other land, but not urban built-up land, which is capable of being used as prime and unique farmland as defined by the Department of Agriculture (see attachment) [The attachment to this memorandum was § 657.5 of title 7 CFR.]

unintentional and are not necessarily related to accomplishing the agency mission.

On August 30, 1978, CEQ, in cooperation with the Department of Agriculture, issued a memorandum to the heads of federal agencies on the need for analysis of prime or unique farmlands in the preparation and review of environmental impact statements. The memorandum also recommended steps for agencies to take in making such analyses. Since that memorandum was issued, federal agencies' environmental impact statements have begun to include references to the presence of prime or unique farmlands that would be affected by the proposed federal action. Moreover, they have clearly indicated that many federal and federally assisted projects have direct and indirect adverse impact on prime or unique farmlands.

Recent studies by the Council and the General Accounting Office indicate that federal agencies have not adequately accounted for the impacts of their proposed actions on agricultural land through the environmental assessment process. Furthermore, agency project plans and decisions have frequently not reflected the need and opportunities to protect these lands. The purpose of this memorandum is to alert federal agencies to the need and the opportunities to analyze agricultural land impacts more effectively in the project planning process and under the National Environmental Policy Act (NEPA).

Agencies can substantially improve their analysis of impacts on prime or unique agricultural lands by following closely our recently established NEPA regulations (40 CFR 1500-1508, Nov. 23, 1978). The regulations apply to these lands in several specific respects. Determining the effects of a proposed federal agency action on prime or unique agricultural lands must be an integral part of the environmental assessment process, and must be a factor in deciding whether or not to prepare an environmental impact statement. For example, when an agency begins planning any action, it should, in the development of alternative actions, assess whether the alternatives will affect prime or unique agricultural lands. Then, recognizing the importance of these lands and any significant impacts that might affect them, it must study, develop, and describe appropriate alternative uses of available resources. (Sec. 1501.2(c).)

In determining whether to prepare an environmental impact statement, the regulations note that the "Unique characteristics of the geographic area such as . . . prime farmlands . . ." (Sec. 1501.27(b)(3)) must be considered, among others. If an agency determines that a proposal significantly affect the quality of the human environment, it must initiate the scoping process (Sec. 1501.7) to identify those issues, including effects on prime or unique agricultural lands, that will be analyzed and considered, along with the alternatives available to avoid or mitigate adverse effects. An environmental impact statement must include a description of the area that will be affected by the proposed action (Sec. 1502.15) and an analysis of the environmental consequences of the proposal, including a discussion of "natural or depletable resource

requirements and conservation potential or various alternative and mitigation measures" (Sec. 1502.15(f)). These resource requirements include prime or unique agricultural lands. The effects to be studied encompass indirect effects that may include "growth inducing effects and other effects related to induced changes in the pattern of land use . . ." (Sec. 1502.8(b)). The cumulative effects of a proposal must be studied (Secs. 1502.7, 1502.8(b)), as must any mitigation measures that could be taken to lessen the impact on prime or unique agricultural lands (Secs. 1505.2(c), 1509.20). Agencies must also cooperate with state or local governments in their efforts to help retain these lands (Secs. 1502.15(c), 1502.2(d).)

Federal agencies with technical data on the occurrence, value, or potential impacts of federal actions on these lands will provide the lead agency with data that may be useful in preparing environmental assessments or impact statements. The U.S. Department of Agriculture will cooperate with all agencies in planning projects or developments, in assessing impacts on prime or unique agricultural lands, and in defining alternative. Technical data as assistance regarding agricultural land may be obtained by contacting the Chairperson of the USDA Land Use Committee (list attached) or any USDA office. In addition to providing technical data and assistance, the USDA will continue to emphasize the review of EISs on federal actions likely to have significant effects on prime and unique farmlands. Under Section 1504 of the regulations, USDA should refer to CEQ those proposed federal actions which it believes will be environmentally unsatisfactory because of unacceptable effects on prime or unique farmlands. CEQ will review such referrals, and take necessary steps in accordance with Section 1504 of our regulations.

Because prime and unique agricultural lands are a limited and valuable resource, the Council urges all agencies to make a particularly careful effort to apply the goals and policies of the National Environmental Policy Act to their actions and to obtain necessary assistance in their planning processes so that these lands will be maintained to meet our current national needs and the needs of future generations of Americans.

Gene Speth,  
Chairman.

**Attachments.**

U.S. Department of Agriculture State Land Use Committee Chairpersons

- Mr. William E. Lingis, State Conservationist, Soil Conservation Service, P.O. Box 311, Auburn, Alabama 36830
- Mr. Marvin C. Meier, Director, State and Private Forestry, 2221 E. Northern Lights Blvd., Box 6606, Anchorage, Alaska 99502
- Mr. Thomas C. Rockenbaugh, State Conservationist, Soil Conservation Service, Federal Bldg., Rm. 3008, 230 N. First Street, Phoenix, Arizona 85025
- Mr. M. J. Spears, State Conservationist, Soil Conservation Service, P.O. Box 2323, Little Rock, Arkansas 72203
- Mr. James H. Hansen, State Resource Conservationist, Soil Conservation Service,

EXHIBIT 4

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**CALIFORNIA FARM BUREAU FEDERATION**  
**NATURAL RESOURCES AND ENVIRONMENTAL DIVISION**  
2300 River Plaza Drive, Sacramento, CA 95833-3293

**FACSIMILE COVER SHEET**

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NEPA Task Force

FROM: Becky Sheehan

TELEPHONE: (916) 561-5667

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CALIFORNIA FARM  
BUREAU FEDERATION

*Produced and edited by California Farm Bureau Federation's National Affairs and Research Division, January 2002*

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Below are farmers and ranchers who have committed their resources to the enhancement of wildlife as indicated on the map.

Individuals' names are from *Commitment to Conservation Project*  
California Farm Bureau Federation, 2002.

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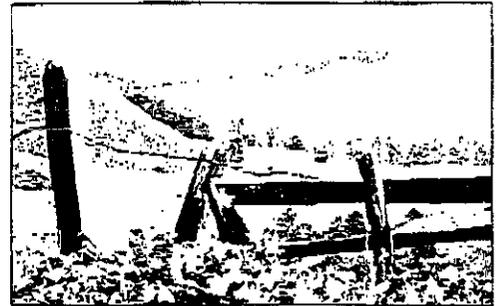


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## Some Facts to Consider

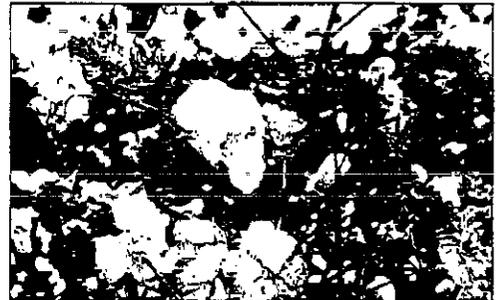
### *Wildlife and Private Lands*

- ▶ Nearly all listed species in California spend at least part of their life cycle on private lands
- ▶ An estimated 75% of private land in California supports habitat
- ▶ 80% or more of wildlife in the continental US is dependent on private land for food, water, and shelter
- ▶ 60% of waterfowl in the Pacific Flyway use California rice fields for habitat in the winter months



### *Agriculture and the Environment*

- ▶ Each year private timber owners plant 20-30 million new trees. . . that's 7 new trees for each one that is harvested
- ▶ 23,000 pounds of carbon dioxide is scrubbed from the atmosphere each year by 1 acre of California rice, which is approximately the amount that an average car produces in a year
- ▶ 325,000 pounds of ozone (smog) is removed from the atmosphere each day by California's 1 million acres of cotton
- ▶ The 500 million trees and vines in California produce enough oxygen to sustain the entire population of LA



### *The Endangered Species Act*

- ▶ Out of 1,197 species listed in the US as threatened or endangered:
  - ▶ 12 have been delisted as a result of their recovery
  - ▶ 7 have been declared extinct
  - ▶ 9 have been delisted after it was determined that the original data was incorrect
  - ▶ There are 275 listed species in California, 36 million acres have been designated as critical habitat with nearly 24 million on private lands
  - ▶ Most California counties have 15 or more listed species



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While many wildlife restoration projects take place on state and federal lands, the majority of our country's wildlife populations spend some or all of their time on private property. This fact puts our nation's farmers and ranchers in a unique position. Many have chosen to take action in order to see native habitat and wildlife populations flourish on their operations. The California Farm Bureau Federation has noticed this trend in our own state, and we have compiled examples of the efforts taken by many of California's farmers and ranchers as they work toward promoting healthy wildlife populations on their property.

The following is a series of farmer and rancher profiles that highlight the activities of individual agriculturists like Bill Eiler in Siskiyou County, Mike Hall in Yolo County, Larry Hydar in El Dorado County, Randy Riviere in Merced County, and Ed Holt in Santa Barbara County. These individuals, like countless others throughout the state, have made a commitment to manage their property for agricultural production and wildlife preservation.

## Making a Difference



Although the profiles in this booklet represent diverse projects for various wildlife species and habitats throughout the state, they are merely the tip of the iceberg. We found that most farmers consider their efforts to help wildlife beneficial to their agricultural operation, discovering that the health of their land is often reflected in the health of their wildlife populations. Says Scott Kemp, an Owens Valley rancher, *"If you're going to stay in the business you've got to manage for everything."*

More often than not, farmers and ranchers manage their wildlife as an extension of their agricultural activities, understanding their responsibility to care for the land for both social and personal reasons, including the desire to pass the land on to their children in a better condition. As Stan Hunewill of Mono County puts it, *"few people know the land as well as the people who've lived on it for several generations - who've seen what works and what doesn't."* Dave Fisher of San Bernardino County says that they care for their wildlife because *"it's all a part of our operation."*

As Tom Ellis of Colusa County puts it, *"I think we really could make a difference."*

California farmers and ranchers participate in activities ranging from wood duck nesting box projects to riparian zone restoration. Northern and Central Valley Californians are often involved in artificial wetlands creation and "egg rescues," while agriculturists in the Cascades and the Sierras strive to improve fish habitat by restoring waterways and riverbanks. Ranchers in the southern part of the state, used to dealing with water issues, endeavor to develop year-round water sources for both their cattle herds and wildlife populations. Farmers and ranchers on the Central Coast work with endangered species to protect riparian habitats. Foresters throughout the state are particularly interested in maintaining the health of their forest and woodland habitat through responsible resource management.

Some of the operations profiled in this report receive outside financial assistance, allowing them to take additional conservation steps. The majority, however, operate within their own financial means



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and economic viability. Frequently, this influences whether land can be left fallow or what resources can be allocated.

Many of our state's farmers and ranchers work cooperatively with government agencies while many opt to rely strictly on their own resources. There is, however, genuine concern among the vast majority of the agriculturists we spoke to about excessive regulation and government mandates, especially under the Endangered Species Act. In most cases farmers and ranchers are cautious about giving information concerning endangered species on their property, fearing that if too much information gets out, they risk the possibility of having their right to farm or otherwise manage their land taken away.

We found that in all too many cases, well-meaning government regulations were having the opposite of their intended effects. We heard time after time the fact that it often comes down to providing wildlife habitat at your own risk. One individual said if farmers are threatened with having their right to manage their land taken away by government regulation or mandate, they are unlikely to encourage endangered species or habitat on their property. Unfortunately, it's frequently the farmers and ranchers who fall under the greatest risk of having the right to manage their property taken away, when they are the ones making the effort to help wildlife on their land through those very management practices.

We'd like to recognize those farmers and ranchers who voluntarily strive to preserve wildlife on their property, even if it means risking regulation. We also would like to point out that there are several government agencies and programs that are truly helping farmers in their efforts, but for many people we spoke with, that's not happening often enough. The majority of farmers and ranchers grow up surrounded by wildlife and the outdoors, and naturally develop a love and respect for their surroundings.

Larry Hyder probably describes it best, "*We love the land and the streams and everything that lives here...the world does not understand how people fall in love with the land.*" This sentiment was repeated over and over again by the individuals we spoke with for this project. These farmers and ranchers are committed to conserving the wildlife found on their properties. "I'm a farmer," Ed Holt says, "but I'm also a manager of a wildlife habitat, and I'm trying to do a good job of it."

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**Dear Reader,**

Thank you for your interest in the actions farmers and ranchers are taking to preserve wildlife on private lands. In my experience, farmers and ranchers have always had a love and appreciation for the land they work and the wildlife that inhabits their property. It's gratifying to see the advances in knowledge and technology that allow them to better achieve their goal of ultimate stewardship of the land.

While working on this project, I have had the opportunity to talk to over 50 different farmers and ranchers throughout the state. Their concerns, experiences, and opinions differ as widely as do their commodities and locations. This invaluable experience has shown me a larger picture of the opportunities and difficulties farmers and ranchers face when practicing conservation.

Three main points surface when considering this larger picture. First, farmers and ranchers want to encourage wildlife and habitat on their private property. They believe in the preservation of all species, endangered or not, and they delight in the natural systems they understand so well on their land. They also want to improve the land and harvest their crops. Farmers and ranchers believe all these things tie into a larger goal of stewardship, where the land, the farmer, and wildlife all benefit by positive management practices.

Second, financial incentives and cost-share programs with government agencies encourage farmers and ranchers to implement more conservation practices. Many farmers and ranchers choose to implement these practices without the help of government agencies. However, those that do partner with agencies express willingness and desire to do more, if they can find the additional financial support they need to implement those programs. Farmers and ranchers overwhelmingly agree that flexibility and cooperation in working towards a shared goal is what they're looking for in a relationship with a government agency.

Finally, though they support the goal of preserving endangered species, sometimes the way the Endangered Species Act is implemented actually makes it more difficult for farmers and ranchers to protect endangered species on their property. Some slight modifications and more uniform application would make the Endangered Species Act more useful. With these changes, the Endangered Species Act could be a tool to encourage the partnership between private land owners and the government in the shared goal of preserving species for future generations.

It has been a rewarding experience for me to work with so many positive, enthusiastic farmers and ranchers throughout the state. I appreciate their cooperation in allowing me to compile their experiences in a booklet we can share to show what farmers and ranchers are doing to conserve wildlife. The personnel and staff at the California Farm Bureau Federation have been incredibly supportive and helpful to me as I developed the second edition of this booklet. I'm proud to present this as a cooperative effort to showcase the 'commitment to conservation' found on private lands in California.

Sincerely,



*National Affairs and Research, California Farm Bureau Federation*

Janie Phippen is a recent graduate of Cal Poly, San Luis Obispo with a degree in Agribusiness Management. After her summer internship at the California Farm Bureau Federation, she will earn a law degree from University of the Pacific's McGeorge School of Law in Sacramento. She plans to serve the agriculture industry in the area of policy, concentrating on land use and water law. Janie is from Ripon, on the northern end of the San Joaquin Valley, where her family has grown and processed almonds for three generations.

This second edition represents an enlargement of a series of profiles first developed by Melissa Heringer of Chico.

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NORTH MOUNTAIN REGION

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*Wildlife beneficiaries:*

Mule deer, antelope, elk, geese, ducks, pheasants, quail, and at least 8 species of fish

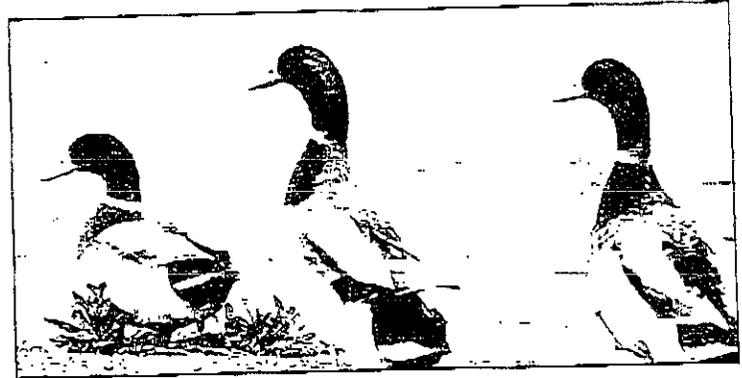
*Conservation practices:*

Stream conservation, bank stabilization, wildlife friendly fencing



*Herb Jasper, Modoc County*  
CATTLE RANCHER

**H**erb Jasper's hay and cattle ranch is located just south of the Oregon border in Modoc County. It includes sections of Lassen and Willow Creeks, which feed into the nearby Goose Lake. Jasper says that he tries to make management decisions that will benefit and improve all aspects of his ranch, including wildlife. He



## Positive Efforts Guide This Cattle Ranch's Operation

refers to this philosophy as "total resource management." The ranch is home to populations of mule deer, antelope, elk, geese, ducks, pheasants, quail, and at least eight species of fish. Predator populations, including mountain lions and coyotes, are also large.

Jasper is involved in several efforts to help wildlife on his ranch and in his community. He is currently serving on a committee that is designed to deal with management decisions concerning the thriving population of elk in the area. He also is involved in efforts to protect the red band trout.

Jasper has many new projects he's working on to conserve wildlife and resources on his property, but most have to do with stream conservation. He's upgrading rock wing projects from the past that have been damaged or partially failed during floods. In decades past the Army Corps of Engineers channeled out and straightened Willow Creek,

which runs through his property.

That caused big erosion problems, "so we're trying to stabilize the banks by adding native vegetation and rocks." He is installing new fence along a mile of the creek to provide "better management of the cattle," protecting the riparian areas of his land. These areas also contain nesting sites for geese, and Jasper says that he's tried to make the fencing itself "friendly to deer and antelope" by putting smooth wires along the tops to keep them from getting hung up if they try to jump them.

Surprisingly, antelope are more likely to crawl beneath the fences than to jump them like deer, so Jasper has actually raised the level of the lower wires for easier access. In fencing off the stream, he loses the ability to water his cattle during some parts of the year, so he's also working with the Resource Conservation District to develop off-stream water troughs for his herds. "We're trying not to have as much activity on the stream banks," and more riparian fencing is in the works.

He also uses fish screens on his

ditches to keep the fish in the creek, and is planning additional screens in various parts of the ranch. In addition, he is installing a more efficient irrigation system for his ranch which includes a gated pipe rather than open ditches to transport water. Jasper adds, "We also lay out pastures in accordance to vegetation and ecosystems represented, so we can better manage them." He believes in total resource management, and the deer, fish, antelope, and elk are just as important to him as his cattle.

Along with these efforts he has put in "fish-friendly" diversions and is planning to install one in the near future that will present "no obstacle at all" to the fish, as it diverts water from a deeper level in the creek and leaves the surface undisturbed.



JASPER IS PROUD  
OF THE HEALTH AND  
VARIETY OF WILDLIFE  
ON HIS PROPERTY.

C O M M I T M E N T I O N S

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Jasper is proud of the health and variety of wildlife on his property. Several years ago the red-band trout found in his streams was a candidate for listing on the Endangered Species Act, but "the trout populations have bounced back so dra-

certainly help.

Jasper has worked with many agencies for conservation, including California Department of Forestry, Bureau of Land Management, Trout Unlimited, US Fish and Wildlife Service, CA Fish and Game, and the California Farm Bureau. He's also working with the EPA and the State Water Resources Control Board to develop water conservation practices, using a 319 grant, where his funds and efforts are matched 60:40 to provide habitat and improve streams. He's used many grants to develop conservation practices, but more than half of the total funds have come from his own pocket.

Working with many of these agencies is not always easy. "Some of the agencies are at odds with each other, and waste time arguing." He adds that some agencies are very helpful and proactive, where others tend to be critical about projects, but never offer any alternate plan of action. Sometimes he gets frustrated with prolonged "bureaucratic processes," but he enjoys working on conservation projects, so he tries to be patient with the different agencies he works with. He believes conservation programs should be strictly voluntary and flexible. He says, "if there are any strings attached we shy away from it." Jasper also says, "I don't think the government should have the right to decide how we operate," though he believes they have every right to structure a project or grant the way they want to. One

way he tries to help is by being proactive in his community. "We sit on the Fishes Working Group, where ranchers, farmers, environmentalists, and any interested agencies meet to work together in finding conservation solutions."

Because of these types of success stories, Jasper hopes that, "if we take care of ourselves and our land maybe in the future there won't be so much pressure" as far as regulations are concerned. Jasper wants to pass his ranch on to his children, but he knows that, "we've got to take care of the land... if we don't take care of it we'll lose it."

"Sometimes," says Jasper, "we don't blow our own horn enough" about the good things ranchers are doing to help wildlife. He is concerned that such voluntary efforts are not receiving adequate attention, and "that's a major emphasis that we should continue to put forward...we accomplish more through a voluntary effort than a mandatory effort." He says, "I don't think I'm much different than the majority of ranchers in this area." Jasper and his fellow ranchers are motivated to help wildlife simply because they "enjoy being in the outdoors and seeing wildlife in the outdoors." He's positive about conservation practices, and says "we want to work with both sides, but people need to recognize agriculture needs to survive, too." "We just try to stay ahead of the ball," he says with a laugh. "We're not doing things perfectly, but we try to improve every day."

**HE BELIEVES ONE OF THE REASONS FOR THE RED-BAND TROUT'S RECOVERY WAS THE COOPERATIVE EFFORT OF RANCHERS IN THE BASIN.**

matically, they decided not to list it." He believes one of the reasons for the fish's recovery was the cooperative effort of ranchers in the basin. But he also thinks "the fish have survived for centuries, and they're going to continue," though he knows his efforts to improve their habitat

**"...WE ACCOMPLISH MORE THROUGH A VOLUNTARY EFFORT THAN A MANDATORY EFFORT."**



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*George McArthur, Modoc County*  
CATTLE RANCHER AND FIELD CROP GROWER

*Wildlife beneficiaries:*

Ducks, geese, blue heron, deer, turkeys, wild pigs, elk, salmon, sand hill cranes, egrets, and cocklers

*Conservation practices:*

Streambank restoration, planting willows, bank stabilization projects, tail water return systems, egg rescues, and rotational grazing

The McArthur Ranch consists of 8,000 acres under ownership, with an additional 31,000 lease acres in Modoc County, with a cattle operation, as well as timothy hay, peppermint, grass hay, and wild rice production, under the direction of George McArthur. McArthur uses conservation practices to encourage many species of wildlife, in-

**"WE LOVE THE FISH,  
AND WE LOVE THE ELK."**

McArthur says they've worked with NRCS and CWA to fence off one mile of the Fall River, which runs through their property, so they can limit cattle access to the riparian area and encourage waterfowl nesting. UC Cooperative

content and temperature, and monitor foliage on native plant species, in order to better protect the land they work on. Although the projects can be costly, George McArthur says it is "just the cost of doing business. Some years it's more affordable than others, but we do what we can." About 2,000 acres of the land is on the Pacific Flyway. The conservation practices include restoring riparian areas and building check dams "We're acting like beavers!" knocking down some banks, and planting willows for habitat.

## Sense of Responsibility Guides Cattle Ranch's Operations



cluding populations of ducks, geese, blue heron, coyotes, deer, turkeys, wild pigs, elk, fish, cranes, egrets, cocklers and sand hill cranes. McArthur believes strongly in conservation for the benefit of wildlife, and is involved in several projects, including stream bank restoration, planting willows, bank stabilization projects, tail water return systems, and rotational grazing. George even collects eggs in his hat if he sees a nest when he's harvesting a field, so they can incubate the eggs and release the birds later in the year.

Extension has worked with the McArthur Ranch to monitor water

**"WE WANT TO PASS  
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FOR WILDLIFE AND  
THE ENVIRONMENT."**

The goal of conservation for wildlife remains strong on the McArthur Ranch with motivation to use conservation practices because "we have a sense of responsibility. We see benefits not only to our operation but to the wildlife as well." The financial benefits of the conservation work leads to capital improvements to the operation, which has a domino effect in helping the wildlife. The more efficient the operation becomes, the more time and capital is available to invest in wildlife conservation. "We love the fish, and we love the elk." McArthur believes conservation is important because "we want to pass it on to our kids," both the land, and their respect for wildlife and the environment.

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Mike Bryan, Siskiyou County  
CATTLE RANCHER AND HAY FARMER

*Wildlife beneficiaries:*

Hawks, quail, doves, ducks, geese, squirrels, deer, beavers, and muskrats

*Conservation practices:*

Fencing of riparian zones for controlled grazing, riverbank improvement, nesting habitat for wildlife

Mike Bryan's great grandfather started ranching in the Scott Valley in 1852, and Bryan is the fourth generation to follow in his footsteps. He runs a 700-acre hay and cow/calf operation in Siskiyou County that provides a home to

Bryan has developed an appreciation for wildlife that is reflected in his management practices. He has fenced off the riparian zones along the Scott River on his ranch where he practices controlled grazing. This promotes the health of the vegetation along the river and provides undisturbed nesting habitat for wildlife. Bryan has also been involved in projects to improve the riverbanks and has done several plantings both on his own and with the help of government monies. Bryan has noticed an increase in the salmon population, but he comments that the fish population increases or declines are influenced more by weather, offshore fishing, and other factors as opposed to farming practices.

Bryan is concerned that "with the Klamath Basin crisis everyone on a tributary of the Klamath River is in danger of losing their water rights. The Endangered Species Act needs to be thrown out or amended. Without irrigation water we are all out of business. Then what happens to all the animals, birds, fish, and people we feed?"

The idea of federal mandates concerns Bryan, who thinks that voluntary actions are the most effective way to preserve and enhance habitat. Although he appreciates incentive programs and suggestions, he believes that that's as far as the government should go. He also adds that many of his neighbors are reluctant to pursue active conser-

"I ENJOY IT... I ENJOY SEEING [WILDLIFE] AND HAVING IT AROUND."

vation practices since they are afraid of the consequences of having en-

## Wildlife Appreciation is a Tradition on Hay and Cattle Ranch



dangered species on their property. But as for Bryan, he will continue in his efforts to promote wildlife and habitat on his property, because as he puts it, "I enjoy it... I enjoy seeing [wildlife] and having it around."

ACCORDING TO BRYAN, MANY OF HIS NEIGHBORS ARE RELUCTANT TO PURSUE ACTIVE CONSERVATION PRACTICES BECAUSE OF THE ENDANGERED SPECIES ACT, BUT HE WILL CONTINUE BECAUSE HE "ENJOYS IT."

hawks, quail, doves, ducks, geese, coyotes, squirrels, deer, skunks, beavers, muskrats, and mountain lions. Bryan is also a licensed guide, taking people on wilderness tours about 20 to 30 times a year.

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Bill Eiler, Siskiyou County  
FIELD CROP GROWER

Wildlife beneficiaries:  
Deer, ducks, doves, quail,  
steelhead, and salmon

Conservation practices:  
Bank stabilization, erosion control,  
water supplies, habitat enhancement

Bill Eiler grows hay and small grains along the Scott River in Siskiyou County on a farm that his grandfather bought in the 1960s. His farm is home to deer, ducks, doves, quail, coyote, steelhead and salmon. The Eilers have taken measures to restore and provide habitat for other species of wildlife as well. Eiler has been in-



enough water through the wetter months to release during the drier months in an effort to keep the Scott River from drying up in the summer, as it often does.

## Common Sense Guides this Hay and Grain Farm's Restoration Activities

Despite his willingness to participate in con-

servation projects, Eiler is getting more discouraged from excessive regulation. "The government has everyone shell-shocked as to what you can and can't do. Many people are afraid to do things we know are positive for the wildlife." Excessive paperwork is a deterrent for projects, as well. He feels regulations cause a situation where "you can't do common sense things."

"We're hoping agencies don't want to kill proactive communities," but he doesn't know if there will be a future for agriculture in his area, as some have indicated Scott Valley may be the next "Klamath." Eiler sees that "people here work to solve the problems...we know how to fix it better than the bureaucrats in Washington D.C., just help us with some true biologists and some good scientific research." He knows farmers are genuinely concerned about wildlife. "We're always working with other agencies and trying to do good things" for wildlife, says Eiler. Many of the projects they do are cost-share efforts with the Resource Conservation District (RCD) and other agencies. Eiler is very positive about his relationship with the RCD, and describes it as being "like a middleman to us," between the government and his farm. "They keep it on a working level with us, kind of like a contractor."

involved mainly in bank stabilization projects along the river, including riprap and tree planting projects to slow erosion and provide more habitat for the fish, who like the deeper, cooler pools created by the rocks used in the riprapping. They are currently involved in stabilizing a creek channel by raising the bottom and planting trees along the banks to prevent sediment erosion into Scott River. The Eilers also maintain a buffer zone between the river and the land that they farm to help stem erosion. In addition to these projects, the Eilers have built a pond to help correct drainage problems and capture wastewater on their land. Now there is a year-round source of drinking water for wildlife in an area that used to be completely dry by April.

The Klamath Basin issue frustrates Eiler. He sees evidence that the action taken by the Bureau of Reclamation to save the three endangered fish species will "do the fish more harm than good. Because releasing so much water all of a sudden may "trick the fish into thinking it's a wet year and a good time to spawn." This situation has "emotionally disrupted my way of life. "Up until April of this past spring when Klamath Falls farmers were denied water, I was confident that my future and possibly my daughters' would continue in farming, but now I think otherwise. I'm seriously thinking 'should we sell,' before they take our water away on the land's not worth anything?"

Eiler supports the idea of increasing flows down the Scott River through the use of several check dams. These are similar to beaver dams, which may help hold back

Eiler wanted to conserve the land so he could leave it to his children but now he's no longer secure in the future as a farmer. He is positive about the conservation efforts farmers in his area, though. "We cooperate with the agencies, and we get things done." He's hoping the government takes note of the community's willingness to help wildlife.

WE COOPERATE  
WITH AGENCIES  
AND WE GET  
THINGS DONE.  
EILER'S HOPING  
THE GOVERNMENT  
TAKES NOTE OF HIS  
COMMUNITY'S  
WILLINGNESS TO  
HELP OUT WILDLIFE.

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NORTH COAST REGION

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Wildlife beneficiaries:  
Fish and more

Conservation practices:  
Erosion control, river restoration, removal of non-native plants, restoration of native plants, natural flooding



Frank Leeds, Napa County  
VINEYARD MANAGER

Frog's Leap Winery in Napa County was one of the first to establish a river restoration project in the county. Frank Leeds, who's also heavily involved in the Napa Valley Grape Growers Association, is the vineyard manager for the winery, and has worked for Frog's Leap for over a decade. When Frog's Leap owner/wine-



## Napa Winery Sets Trend In River Restoration

maker John Williams approached Leeds with his idea to purchase Galleron Ranch in Rutherford, within close proximity to the Napa River. Leeds reacted by saying that while he did not advise the purchase, he would do his best with the land. Since that time Leeds has gone above and beyond his promise by producing premium sauvignon blanc, merlot, and petite syrah as well as creating a highly effective river restoration project along the 3,000 feet of Galleron Ranch that borders the Napa River.

Leeds began the river restoration project in 1997, after the Galleron Ranch vineyard was purchased by Frog's Leap Winery. The immediate problems were erosion issues caused by a mid-channel gravel bar with vegetation and the need for stabilization of the riverbanks. Embracing the philosophy that a healthy river means a healthy environment for the adjacent vineyard, Leeds was committed to finding

an environmentally friendly river restoration management program that would incorporate natural repair.

Leeds consulted with Evan Engberg, a preeminent bioengineer in the

**LEEDS IS COMMITTED  
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ENVIRONMENTALLY-  
FRIENDLY RIVER  
RESTORATION PROGRAM  
THAT INCORPORATES  
NATURAL REPAIR.**

western states. Engberg proposed a river restoration plan based on the implementation of living systems, primarily willow mattresses. This method is based on German and Austrian engineering from the

1920s-30s. The Live Willow Brush Mattress, set in a boulder-filled toe trench, is an excellent method of stabilizing and re-vegetating eroding stream banks. Willow branches used in the mattress were gathered within the Napa area. The brush mattress gives complete surface protection of the reshaped bank and grows rapidly into a stable plant community that provides food, habitat, and overhanging shade.

The work is done in late summer when the water flow is at its lowest point. Engberg, who is also an independent contractor, came out to Galleron Ranch with a crew for 2-3 weeks to work on the project. While public monies are available for river restoration projects, Frog Leap Winery funded the work for the first two years because using private capital tends to speed up the process, although there are several public agencies involved with the project's approval process, including the Department of Public Works and Napa County's RCD.

Frog's Leap was careful to only wo

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with what needed to be done. For example, they left two acres untouched to flood naturally in the winter and picnic on during the summer. Leeds has also been able to remove wild, non-native plants, such as blackberries, mugwort, vinca, and wild grapes, and is planting native oaks, plum trees and cottonwoods in their place along the top of the riverbank to prohibit the spread of Pierce's disease. It is important to note that although willows are a habitat for the Blue-Green sharpshooter, they do not carry the bacteria that causes Pierce's disease.

The implementation of the willow mattresses has had numerous beneficial results. The project has resulted in immediate and permanent bank stabilization, erasing a 30-foot drop in the bank and replacing it with a gradual slope with both vegetation and habitat. Moreover, the cost of the project is half the amount of the typically prescribed riprap



projects. Fish Friendly Farming techniques such as the use of logs and overhangs are also incorporated into the toe rock to provide shade for fish.

This particular river restoration pro-

LEEDS HAS ALSO  
BEEN ABLE TO  
REMOVE WILD,  
NON-NATIVE PLANTS,  
SUCH AS BLACKBERRIES,  
MUGWART, VINCA, AND  
WILD GRAPES, AND IS  
PLANTING NATIVE OAKS,  
PLUM TREES AND  
COTTONWOODS IN  
THEIR PLACE ALONG THE  
TOP OF THE RIVERBANK  
TO PROHIBIT THE  
SPREAD OF  
PIERCE'S DISEASE.

ject has been endorsed by several public agencies. In fact, it is the first project of this sort to receive funding from the Napa County public works department. The Department of Public Works began matching funds for the Frog's Leap river restoration project in 2000. It has even revised its criteria for approving these projects based on the Frog's Leap model.



Frog's Leap Winery, under Leeds' guidance, has spearheaded the issue of river restoration and has triumphed. Leeds is an example of a progressive farmer using private capital, with no mandate from the government, to make substantive, genuine improvements to the Napa River environment that benefit the entire community.

Source: *Grower Advocate*, 01 Vol. 3 No. 3, published by the Napa County Farm Bureau and Napa Valley Grape Growers Assn., written by Emily Barouch



*Davie Pina, Napa County*  
VINEYARD MANAGER

Davie Pina says operations in the Napa County vineyard management company he's involved in always stresses conservation, particularly erosion control. That's good news for the numerous species that inhabit the 1,000 acres he manages, which include deer, wild turkeys, coyotes, rabbits, raccoons, opossums, gophers, moles, mice squirrels, numerous song birds,

cut down on the need for pesticides, using recycled compost and grope pumice for fertilizer, and reusing waste water from wineries to irrigate. Some of the land is farmed organically as well.

Pina is also very involved with watershed restoration projects, and several groups associated with them. His work on the Hopper

*Wildlife beneficiaries:*  
Deer, wild turkeys, rabbits, raccoons, opossums, quail, blue jays, waterfowl and hawks  
*Conservation practices:*  
Drip irrigation, cover crops, recycled compost, recycled water, erosion control

## Vineyard Manager Values Conservation Education

quail, blue jays, starlings, hawks, buzzards, numerous waterfowl, geese, ducks, pigeons, dove, and owls. Also on the properties are bobcats, mountain lions, wild pigs, and an occasional bear.

Pina uses conservation practices that reflect "normal management," which include drip irrigation rather than flood or sprinkler which conserves water, planting cover crops to encourage beneficial insects and



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OUR CROPS."**

Creek watershed includes replanting banks and riparian areas with native plants, planting native trees and grasses in other areas, and bank stabilization projects. Pina says these practices are just part of "being a good steward of the land." He believes, "All farmers try to be good stewards...the better we



take care of the soil, the better environment we have to grow our crops."

Much of Pina's work is focused on reducing erosion, and he's involved in or worked with several groups to that end. In particular, he's part of the Hopper Creek Stewardship Group, which is made up of farmers, citizens, government agencies and soil conservation groups. Their goal is to educate everyone, including farmers and non-farmers about stewardship practices. The focus on erosion, and California Fish and Game works with them to educate and give presentation on new practices. They also work on sediment problems, and agency representatives give workshops and paperwork for different programs. The group is a valuable source of open information to the community that surrounds the Hopper Creek Watershed. Pina also has worked with the Napa Valley Sustainable Agriculture Group, the Napa County Soil Conservation Group, CA Fish and Game, the County Public Works Department and the Army Corps of Engineers

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Pina says most costs of conservation practices are factored in when they install a vineyard. His biggest challenge when practicing conservation is "making a bunch of different owners understand what we need to do, and having the public also understand what we're doing is beneficial." He says, "Farmers always get a bad rap about 'polluting the world' when in fact we're working hard to use better, safer chemicals, use them less often, and use other important conservation practices. It's tough to educate people about what we're doing." He feels the government listens more to the public's frenzied environmental outcries than to levelheaded people trying to present the facts. He doesn't agree with government mandates, saying, "[the government] uses regulations to control us when they don't really understand what it is we're doing. Farming practices are so much better now."

Pina stresses voluntary actions get the most mileage. "It's always better when the actions are voluntary. A farmer fulfilling a mandate will do only what's demanded, because he

may not understand or agree with the way it's implemented. But when it's voluntary, farmers see the value

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to it and work harder to keep the program going, and growing."

On the ranches Pina manages, they have to be especially sensitive to some areas of wetlands. "The government came in to look for red-legged frogs...they didn't find any, but we agreed to stay back from the wetlands and change our practices to meet their goals of improving the wetlands." The experience was both positive and negative. "Certain wetlands you can see the value in protecting. They are unique and special, and we want to preserve them. Others are not really wetlands, though, someone just got a little carried away, and wherever they saw water became wetlands." Pina says working with the many knowledgeable people in the agencies was a good experience, though he disliked having to work with some who were unreasonable and on a "power trip." Though "overall," he says working with agencies "was a positive experience." Pina says "You should conserve every chance you get," and adds, "I like to see ground being productive and enhancing habitat."



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Larry Mailliard, Mendocino County  
FOREST LANDOWNER

*Wildlife beneficiaries:*  
Spotted owl, various bird species,  
salmon and other fish

*Conservation practices:*  
Selective sustainable harvesting, watershed improvement,  
protection of riparian areas, reforestation

The Mailliard Ranch in Mendocino County is home to a vast array of wildlife, as well as a long-standing family commitment to conservation practices to "help Mother Nature out," says Larry Mailliard, who manages the timber operation. The Mailliard Ranch encompasses 10,000 acres of forest, including old growth, redwood,

## Wildlife Protection Important To Forest Landowner

Douglas fir, and oak stands. It's a family-owned operation, and Larry's children, who are becoming involved in the ranch, will be the fourth generation to manage the land.

"Conservation was beat into my head as a boy by my grandmother," Mailliard says with a chuckle. He selectively harvests the timber, and also runs 60 head of leased cattle to help with habitat management. When picking an area to harvest, Mailliard evaluates the health of the stand of timber, and harvests only what he needs from it, leaving

**HARVEST PLANS**

**NOW COST AROUND**

**\$30,000 TO \$40,000,**

**AND ARE OVER**

**200 PAGES LONG,**

**WHEN THEY**

**USED TO BE**

**ABOUT 20 PAGES.**

a healthy habitat behind. And if it doesn't make sense to harvest, ecologically or economically, he doesn't.

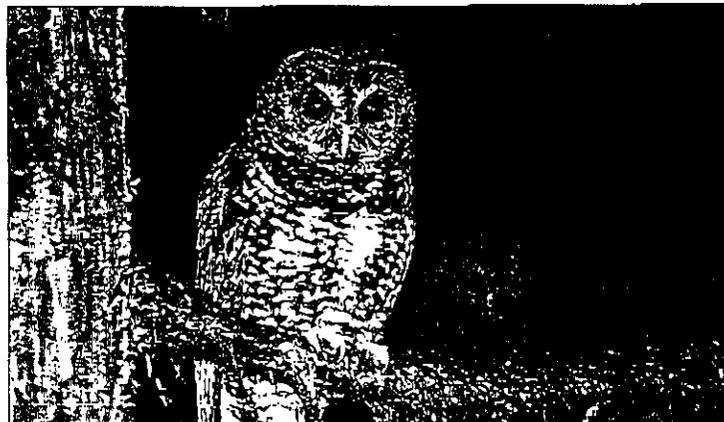
"We're not logging this year because prices are low," and it's not worth the effort. Mailliard works to take dilapidated trees out with some of the good ones, to improve the

health of the area. He exceeds standards issued by the California Department of Forestry in harvested areas with improvements to the land, and has planted over 900,000 seedlings as part of his management practices. "We've had a phenomenal response to our program. The growth rate is excellent" with the conservation practices he's used. His ranch is often used as a model for conservation forestry.

Mailliard is also involved in a spring development program, to improve the watershed on his land. It includes road upgrades and fencing riparian areas to keep the cattle out of the creek. "It's an extreme cost. The expense has to come out of the product, and it's not a one-time cost, you have to maintain it." But Mailliard says, "It's worth it to me because my kids are into it," and he plans to pass the ranch on to future generations, so passing it on in the best condition possible is important to him.

Mailliard is involved in another water project, this one in partnership with the U.S. Fish and Wildlife Service for a grant establishing stream restoration program. He also worked with the Resource Conservation District and the Farm Bureau, and feels he's had a good working relationship with most agencies.

Some regulations concern him though. The confiscation of property rights for endangered species seems unfair to Mailliard, who wor



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to protect the species on his land. "[Ranchers] should be compensated for their property rights." New regulations each year drive up his production costs: his harvest plans now cost around \$30,000 to \$40,000, and are over 200 pages long, when they used to be about 20 pages. "I don't know how the smaller people make it," he says.

The Mailliard ranch is home to the Spotted Owl, which is a federally listed endangered species. He's not a fan of the Endangered Species Act; speaking of the old growth area on his ranch that's protected because it's potential Spotted Owl habitat, Mailliard says "We've worked around it, and we weren't going to cut it anyway." He says predators really have more of an influence on wildlife, especially the fish and mammals. He's upset about the government taking property rights away from landowners. "When the land is taken like that, it loses its value, so there's no incentive to manage it in a positive way

for wildlife. Otherwise, we could have enrolled it in an easement, and gotten a tax credit, which makes it have a value to us even though we're not harvesting it. The government is killing motivation for good management."

Mailliard is skeptical of government involvement in private lands with regard to conservation practices. He

they should instead have workshops of conservation ideas, so he can take that information and apply it to his land. "Regulations need to be flexible because every operation is different," Mailliard says. He appreciates guidelines as long as implementation is allowed to be specific to the property. He believes voluntary conservation practices are the most successful, because "you get the most good out of it." He says he's "open to suggestion—show me a better way, easier way, or less expensive way, and I'm all for it."

Mailliard sees effective management for wildlife as a long-term commitment to the future of his operation and way of life. "We plan to be here for a long time, so we take care of the land and the wildlife on it."

**"REGULATIONS NEED  
TO BE FLEXIBLE  
BECAUSE EVERY  
OPERATION  
IS DIFFERENT."**

doesn't agree with governmental regulations, because "blanket mandates don't work" for everyone's specific land situation. He believes



*Philo and Gloria Barnwell, Humboldt County*  
**TIMBER AND CATTLE RANCHERS**

*Wildlife beneficiaries:*

Golden eagles, peregrine falcons, various birds, deer, bears, bobcats, and salamanders

*Conservation practices:*

Protection of nesting areas, tree planting, selective harvesting to promote stand improvement, pre-commercial thinning wood-duck nesting boxes

**P**hilo and Gloria Barnwell and their family are continuing a 115-year tradition on their 9,000-acre cattle and timber operation 35 miles east of Fortuna, in Humboldt County. While 6,500 to 7,000 acres of the property have been devoted to timber for the last 50 years, the Barnwell family continues to raise cows and calves on the re-

particularly in the timber areas, the Barnwells practice careful harvesting and maintenance techniques. For example, they will not harvest areas that are used for nesting during the nesting season; and while clearing brush and maintaining the property, areas used for nesting are avoided and left undisturbed. Says Mrs. Barnwell, "we try to log carefully so that wildlife isn't hurt or damaged." The Barnwells encourage wildlife even around their home, where they've hung wood duck nesting boxes. "We are thankful to live in an area where things naturally flourish," says Barnwell, and "we take care of what we have."

The Barnwells have other conservation practices as well. They have cleared many acres of tan oak brush and planted about 28,000 redwood and fir trees, in addition to clearing white oak and black oak growing over established natural fir seed beds. They work on stand improvement, where they take only the less desirable trees, leaving the healthy ones to grow; and they par-

**"BEFORE THE SPOTTED OWL REGULATIONS, OUR PRODUCTION COSTS WERE JUST 10% OF WHAT THEY ARE NOW."**

ticipate in pre-commercial thinning. These practices are very costly for the Barnwells, but they see many benefits. "We see wonderful stands of second growth fir, and the fir growth redwood now have more grass around them," which is the "Agri-forestry" practice that helps maintain feed for the cattle. "I see more and varied wildlife at habitat with these practices, and employ several families."

The property includes a high ca that serves as a nesting site for peregrine falcons, a species listed under the Endangered Species Act. The Barnwells have been a bit fr

## **Responsible Management Guides Forest and Cattle Operation**



maintaining 2,000 to 2,500 acres of open country. The entire sustainable operation provides a home to large numbers of diverse species of wildlife, including golden eagles, peregrine falcons, turkeys, ospreys, kingfishers, hawks, valley and mountain quail, grouse, wood ducks, woodpeckers, deer, bears, coyotes, mountain lions, bobcats, raccoons, squirrels, tree voles, and salamanders.

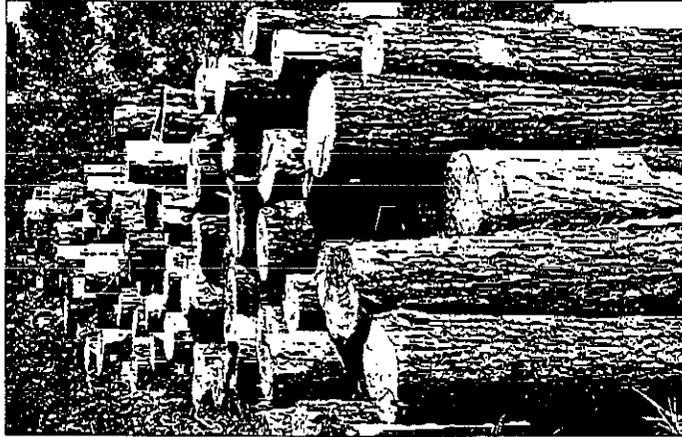
To help promote the populations of such wildlife on the property, and



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trated with the actions of governmental agencies concerning that cave. Regulations brought on by the Spotted Owl have been "a costly nuisance, even though our forestry practices improve their habitat as well as the peregrines." According to Barnwell, the government promised them they would only impose "minimum" restrictions on their logging activity, but what happened in reality was a long term, \$1.5 million setback to their operation, "even though we had diary records from the 1920s and Department of the Interior studies." In addition, the "possible Murrelet habitat" has cost the Barnwells missed redwood sales. Now that they're finally allowed to cut, the market is so poor they'll probably cut and deck the trees for future sale instead of letting the trees grow more, says Barnwell. This intrusion frustrates them, because they have logged their property responsibly for years, and wildlife populations, including peregrine falcons, are flourishing. Barnwell sums it up by saying, "They, the federal government, aren't doing a good enough job themselves to tell us what to do." She points out, "Our managed forests seem to provide far better, more diversified wildlife and habitat than natural brush lands."

Barnwell has had some positive experience with government agencies, though. "CDF has some good people in their programs such as the Vegetative Management Unit." However, she says, "Too many



Department of Fish and Game personnel live in town and yet they want to tell us about our wildlife." She's disappointed that "most studies we have cooperated with are non-productive or eventually used against us." She feels the rules and regulations she's subjected to are "silly...all politics and not scientific or good forestry." She says the best thing the government could do to

**"WE TRY TO LOG  
CAREFULLY SO THAT  
WILDLIFE ISN'T HURT  
OR DAMAGED."**

help her conservation practices is to "Let us plant, nurture and harvest our crops (timber) with good management for the future."

Barnwell says government regulations and regulators make it diffi-

cult to practice conservation. "Regulations combined with a shortened logging season create a situation where we can't generate enough funds for [conservation] projects."

Wildlife, to the Barnwells, is considered a part of the ranch, and, "we do what we are allowed to enhance wildlife habitat." She adds, "we need some incentives because it's getting bad—it's hard to pay everyone." The costs in the Barnwell's operation are getting out of control. "Before the Spotted Owl regulations, our production costs were just 10% of what they are now," Barnwell says. She's discouraged that the effects have filtered throughout her family, too. "It's too late to save our rights or way of life. It is illegal to take my granddaughter fishing on our local creeks. She is the sixth generation on the ranch where all previous generations fished, camped and recreated. Now it's no more."



George Hollister, Mendocino County  
TIMBER LAND OPERATOR

George Hollister's 450-acre timber operation has evolved in his lifetime from a cattle and timber ranch to a hunting club and timber ranch in Mendocino County. Hollister may not see cattle on the ranch anymore, but he pays a lot more attention to the numerous species found there, most of which are not hunted. The ranch is home

to over 50 bird species including falcons, hawks,

## Wildlife Benefits from Timber Practices



**HOLLISTER SAYS**  
**"POPULATIONS GO UP**  
**AND DOWN**  
**IN A NATURAL**  
**ENVIRONMENT;**  
**IT'S NEVER ACTUALLY**  
**IN BALANCE."**

eagles, tri-colored black birds, hooded orioles, merlins, Cooper's hawks, golden eagles, turkeys, doves, ospreys, cormorants, blue herons, king fishers, wood ducks, mallards, mergansers, sand-pipers, godwins, migratory birds, quail, and band-tailed pigeons as well as coyotes, bobcats, mountain lions, deer and raccoons. The Hollister ranch is a family operation, with his mother owning half and his wife and two sons involved in the ranch.

Much of the timber on the Hollister ranch is redwood, and Hollister works to leave unmarketable trees standing instead of felling them, se-

curing popular nesting sites for birds. He also built a pond on the ranch a decade ago, which is now home to many species of amphibians, turtles, and mosquito fish. The creek running through the ranch used to dry up in the summer and fall, but now has water year-round thanks to the pond's slow discharge. This creates an assured water source and habitat for wildlife. Hollister provides feed for the wildlife on his ranch with the money he earns from the hunting club. He also has cultivated Himalayan berries for cover on the property.

All of these practices lead to a welcoming atmosphere for wildlife on the Hollister ranch, but managing for wildlife is not without it's difficulties. "My time is a major cost," says Hollister, and the wildlife can sometimes interfere with his forestry efforts. "The deer sometimes browse on the young seedlings I plant, and rodents eat the bark off trees, killing the tree tops." He is managing the antics of deer and rodents on his property, though, and says he enjoys seeing the natural cycle of things. He's frustrated by outsiders who call themselves naturalists, but don't understand the natural cycle. "Lots of people think in a stable environment, everything is 'in harmony,' and that's just not true." Hollister says "populations go up and down in a natural environment; it's never actually in balance."

Hollister's conservation efforts are done voluntarily, and on his own. He's dubious about government in-

volvement in any private land operation, because "they have preconceived notions that what you're already doing is bad for wildlife." He says, "The regulatory climate is fueled by misinformation," and he's not interested in dealing with the government for those reasons. Hollister points out, "Voluntary efforts have been successful for years and years, while government mandates in forestry have failed. I've not seen any environmental benefits from governmental regulations of all." He does support forest improvement projects and thinks incentives are a good idea. Hollister himself doesn't feel he needs incentives, though, saying, "What incentives do you need with all the positive side effects of wildlife?"

Hollister believes land usually managed for the benefit of wildlife but when people are taken out of the equation, wildlife usually suffers. He points out Native Americans managed the land before we did and no one would question their efforts to encourage wildlife, since they were dependent upon it for survival. That's why he feels environmental pressure to "retire" the land in permanent preservation without any management is misguided. Hollister reminds us "the hand man is an important part of the natural environment."

*Wildlife beneficiaries:*  
Various ducks and birds, bobcats, deer, raccoons, amphibians, turtles, and mosquito fish

*Conservation practices:*  
Selective harvesting, enhances popular nesting sites for birds, wildlife water supplies, feed, and habitat for wildlife

*Wildlife beneficiaries:*  
Turkeys, deer, and fish

*Conservation practices:*  
Erosion prevention, managed grazing, controlled burns,  
predator control, fencing off streams and streambed stabilization

Gary and Wanda Johnson, Mendocino County  
CATTLE AND SHEEP RANCHERS



Gary and Wanda Johnson are the fifth generation of their family to live in an area settled by their ancestors in the 1850s. The 2,000 acres they live on in Mendocino County have been in the family for over 70 years. The Johnsons also lease 3,000 acres adjoining the original property and own 4,000 acres elsewhere. On their acreage, they run cattle and a small ewe herd, which used to be larger but in the early 70s coyotes destroyed most of the sheep. The Johnsons run a hog hunting business on their land to supplement the ranch income and control the wild pigs, which are a non-native species that do considerable damage to the ground.

His father, who valued controlling erosion on his property and keeping the roads stable with erosion-halting innovations, taught Johnson the importance of conservation practices. Johnson remembers how proud his father was to hear others comment on his "clean ranch" where erosion didn't seem to cause the problems it did on other people's property. Johnson has been planting redwood and fir trees along creeks since the early 80s to stabilize stream banks, culverts, and ditches. His road system is rocked to prevent erosion, and he uses managed grazing to keep the land healthy. He has used controlled burns to encourage native vegetation; he limits hunting of most species on his ranch, and he makes sure the wild turkeys have feed avail-

able through the winter. He also manages some predator control through depredation permits, which helps the deer survive on the ranch. Johnson notices "the fawn survival rate is higher in areas where we use predator control than in other areas."

Reversing the effects of erosion is Johnson's motivation for water-barring his roads, which takes the water off the roads and stabilizes them through the wet spring months. He's also established rock barriers along some roads to stop erosion. He doesn't mind the costs of his conservation efforts, pointing out that he saves money by seldom having to re-work the roads. He has taken advantage of some FSA cost-share programs to help fence off streams and stabilize streambeds. He also allows UC Davis to conduct studies in his creeks on steelhead and salmon populations.

Johnson believes "less government is better," and wishes mandated programs would have funding to implement. "I'm afraid to let government people in because they might tell us we have to do something we can't afford." He points out some regulations are not practical in every place, so they should have more flexibility in their application. He says, "We take care of the land we own; it's been in the family for generations. There's no need for so many restrictions." His views may seem contradictory to his work, since

his "day job" is working with wildlife for a government agency, but he says that experience just highlights his views as a rancher.

Johnson has had a lot of experience with endangered species in his government job, though not at his ranch. He says, "Most of the work I do for endangered species is around cities, involving loss of habi-

## Family Values Inspire Conservation Efforts on Cattle and Sheep Ranch



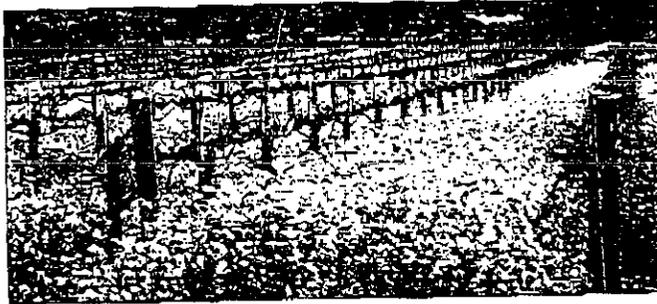
tat." He says, "Farms are the place the endangered species have a chance of surviving," so he feels farmers and ranchers should be encouraged by the government rather than restricted. He believes government involvement that would "return profitability to farming would be helpful to wildlife...the farmers would set more land aside for wildlife, because they won't have to plant every inch of land just to be profitable." Johnson thinks the government's priority should be to preserve family farms and ranches, because "farmers have to keep tightening the belt and tightening the belt...we're strangling."

**"FARMS ARE  
THE PLACE THE  
ENDANGERED SPECIES  
HAVE A CHANCE  
OF SURVIVING"**



*Mike Wolf, Napa County*  
VINEYARD MANAGER

**M**ike Wolf is involved with a vineyard management



## Vineyard Manager Believes In Promoting a Healthy Environment

company and oversees about 400 acres in Napa County. In this wine grape Mecca, Wolf establishes vineyards and farm acreage with habitat conservation in mind. The wide variety of wildlife found here, which includes squirrels, rabbits, gophers, coyotes, hawks, falcons, many insects, migratory waterfowl, shorebirds, and countless species in the riparian zones, prosper under the conscientious management Wolf promotes.

Wolf says, "we evaluate the needs of specific areas with regard to management. If just one corner of the vineyard needs an application of spray, just that corner gets sprayed, not the entire field." Wolf concentrates on using Integrated Pest Management to control pests in the vineyards. Water conservation is also important. "We conserve water by using drip systems on all the vineyards. If we have sprinklers in a field, they're only used for frost protection." He also has established

cover crops, which promote erosion control, encourage beneficial insects, and naturally fertilize the vines.

In particular, Wolf is involved in a river restoration project on half a mile of riverbanks and levees in Rutherford. "We're planting willow trees, and finding natural ways to restore the banks." He's also installed owl boxes and helped improve old riprap projects by planting grass on willow

mattresses over the top. Wolf and many of his neighbors have moved away from the hardscaping tactics used for river control in the 1990s, which included riprapping, in favor of less costly, more habitat-friendly bioengineering to accomplish flood protection goals in an environmentally friendly manner. "You have to think of [the river and farmland] as an entire entity, and consider the whole ecosystem." Wolf has worked to improve the flow, plant shade trees over the river to encourage fish populations, cleaned gravel bars for spawning, and helped protect the banks from erosion with bioengineering techniques.

Wolf faces some challenges in his conservation practices. The most difficult part is "getting outside people to understand what we're doing—the public relations part is pretty tough." For example, one riparian area near the vineyard had to be cleared because many of the non-native plants were carrying

Pierce's disease, a deadly threat to vineyards. The public doesn't always know the difference between native and dangerous non-native plant species, and the clearing could have been misunderstood. However, once the dangerous non-native plants were cleared, Wolf replanted the area with native grasses and trees. Luckily, Wolf says, "We find a lot of cooperation with farmers. [The projects] cost a bit, but clients are understanding," and Wolf says they agree with the need to conservation efforts.

California Fish and Game has been involved with the river restoration as a cost-share project. Wolf says it was a significant challenge to clear Fish and Game hurdles and sept rate county hurdles, which cause delays and expense. "I disagree with the way it has been administered," though he says it was worth it to help prevent erosion. "They have the same goal as we do, y just get there faster." Wolf also agrees with the recent mandate he's had to deal with. "The rules are due to a few irresponsible farmers." He resents the mandates, saying, "most farmers are conscientious enough to do this themselves with very limited supervision."

When reflecting on his motivations to use conservation practices, Wolf says, "It's just the right thing to do. The healthier we keep the environment, the easier our job is; become an integral part of a healthy environment."

*Wildlife beneficiaries:*  
Squirrels, rabbits, hawks, falcons, migratory waterfowl, fish species, and shorebirds

*Conservation practices:*  
Integrated Pest Management, erosion control, encouragement of beneficial insects, natural riverbank restoration, owl boxes, stream-bank riprap projects

"WE EVALUATE THE NEEDS...IF JUST ONE CORNER OF THE VINEYARD NEEDS AN APPLICATION OF SPRAY, JUST THAT CORNER GETS SPRAYED, NOT THE ENTIRE FIELD."

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SACRAMENTO VALLEY REGION



*Mike Hall, Yolo County*  
WILDLIFE MANAGER

*Wildlife beneficiaries:*

Pheasant, cottontails, wood ducks and pelicans

*Conservation practices:*

Provides nesting cover for wildlife in ditches, canals, and fallow fields, egg rescues, "brood ponds", winter flooding

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The 17,500-acre Conaway Ranch, located between Davis and Woodland in Yolo County, is actually farmed by about 25 different farmers. Local farmers lease the land for crops, including rice, corn, tomatoes, alfalfa, safflower, and sugar beets. The Conaway Ranch itself was purchased nine years ago by PG&E Properties (not Pacific Gas

agencies and individuals, through cooperation and a willingness to try new things, have provided a refuge for countless species of wildlife.

From the start, the Conaway Ranch did away with "clean farming," says Hall, allowing vegetation to closely hedge in roads and field edges. The ditches and canals are also thick with vegetation. If the vegeta-

tion be-  
comes too  
dense, im-  
peding water

movement, only one side of the ditch will be cleaned at a time, ensuring that there will be continuous cover for wildlife. Allowing this cover to grow, remarks Hall, creates "incredible corridors for pheasant, cottontails," and other species. Birds and small animals can be seen diving into the vegetation on the roadsides as vehicles pass, while broods of waterfowl, including wood ducks, take cover in the reeds and cattails growing in the waterways.

Hall comments that fallow fields are typically disked up and cleaned regardless of whether or not any crops will be put in. This is not done on the Conaway Ranch, where fallow fields are left completely undisturbed in order to provide secure nesting habitat. Fallow fields are often left in the middle of large areas of alfalfa, rice, and other crops to provide nesting cover. These nesting fields provide immediate alternative sites for hens looking to relocate their nests when they've been

disturbed by normal farming activities. Hall describes one small, triangular field surrounded by larger fields of alfalfa that has 108 nests in it. Many of these nests were established by hens that had actually nested in that same field for each of the past three years, showing that wildlife continues to come back to the Conaway Ranch, and often to the exact field.

"Hen-flushing" and egg rescue activities are also common during harvest on the property, says Hall, who describes a device that they provide to each of the farmers on the ranch that is used to scare, or "flush" hens from their nests before the equipment reaches them. It is comprised of bars, hung with bells, that reach

## Cooperative Efforts Pay Off For Wildlife on Diversified Operation

and Electric, as many people think), and their partners. According to Wildlife Manager Mike Hall, "Nine years ago there wasn't a blade of grass here." PG&E Properties and their partners decided to make a concerted effort to restore wildlife habitat and populations, and over the last nine years they have achieved some incredible successes. Hall is very proud of the progress that has been made.

From the roadways and ditch banks to the nesting fields and tree lines of native oaks, almost every square inch of the ranch is a paradise for wildlife. What is especially significant about this particular ranch's efforts is the fact that it involves the cooperation of some 25 individual farmers, the Conaway landowners, and agencies such as California Waterfowl Association, Wildlife Conservation Board, Ducks Unlimited, California Fish and Game, U.C. Davis, and the U.S. Fish and Wildlife Service. These

**"FROM THE ROADWAYS**

**AND DITCH BANKS**

**TO THE NESTING**

**FIELDS AND TREE**

**LINES OF NATIVE**

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**RANCH IS A PARADISE**

**FOR WILDLIFE."**

CA589

out 14 feet in front of the harvesters and swathers. This creates enough noise and distraction to scare away the hens, who instinctively do not want to leave their nests. This keeps the hens from being injured or killed by swather blades and other harvesting equipment. In addition, once a nest has been located using these hen-flushing devices, the eggs are gathered and taken to hatcheries like Daryl Daley's in Live Oak. Here the eggs are incubated and hatched, and the chicks and ducklings are cared for until they are mature enough to be released.

The Conaway Ranch has implemented two cost-share projects with the California Waterfowl Association and the Department of Fish and Game, both consisting of "brood ponds" that harbor shorebirds and waterfowl as they raise their young through the months of April to August. Several other ponds are located throughout the ranch on areas of poorer soil. The areas are flooded and dense vegetation is encouraged to grow around the edges to provide cover for black-necked stilts, egrets, ducks, and other species of shorebirds and waterfowl. Some of the ponds are actually flooded year-round to provide brood pond habitat during every month of the year. These ponds are surrounded by nesting fields and teem with wildlife. Along with the brood ponds, Hall indicates that 3,000 to 6,000 acres of fields are flooded each winter for migratory waterfowl.

In addition to all of these projects, Hall describes an area of wood duck nesting habitat along a canal lined with native oaks. Wood duck hens nest in the boxes set among the trees, and their ducklings take cover in reeds growing along the water's edge. According to Hall, approximately 50 wood duck nesting boxes have been established. Hall explains that "farmers... are the best stewards of the land there are."



The Conaway Ranch works cooperatively with its individual farmers as well as several agencies, such as, Dan Loughman from the California Waterfowl Association. Hall adds that the sentiment of the farmers on the Conaway is that, "farming might as well benefit wildlife" rather than harm it.

"I just like wildlife," says Hall, it's important to "be good stewards of the land." Hall stresses that most farmers have grown up on the land and have developed a love and appreciation for wildlife. But, he cau-

tions, farmers are not going to want to set aside areas and go out of their way to help wildlife if their right to farm those areas is taken away because of it. He says that there is a real concern among farmers who want to help wildlife but who are afraid that, because they're providing habitat, they risk having that land forced out of production because of more stringent regulations regarding wildlife habitat, even if that habitat was already being pro-

vided by the farmer voluntarily.

Individuals like Hall and the people he works with on the Conaway Ranch, as well as corporations and landowners such as PG&E Properties and their partners are voluntarily helping wildlife populations flourish on California farms and ranches. They are motivated by a desire to leave the land better than they found it for their children, and by their own deep appreciation for wildlife and the outdoors.

"[FARMERS] ARE  
MOTIVATED BY  
A DESIRE TO LEAVE  
THE LAND BETTER  
THAN THEY FOUND  
IT FOR THEIR  
CHILDREN, AND  
BY THEIR OWN  
DEEP APPRECIATION  
FOR WILDLIFE AND  
THE OUTDOORS."



*Pat Collmer, Yuba County*  
DUCK CLUB MANAGER

Pat Collmer, a member of the California Waterfowl Association, manages the Aloha Farm Company Duck Club just north of Marysville, in Yuba County. Four members of the club, which was established in the 1950's, own the 450 acres. While 210 acres are put into rice and managed by a local farmer, about 248 acres are set aside and

birds. Coyotes, pheasant, and many other upland species also use the areas when they are drained.

Recently, Aloha Farming Company has been working with the U.S. Fish and Wildlife Service on a restoration project of about 200 acres. The Partners in Wildlife program helped provide some of the funding, and overall "it has been a very positive experience."

Wood duck nesting boxes and mallard nesting tubes have been put up around the marshes and Collmer reports that in the past few years, 406 wood ducks have been hatched on the farm as well as 287 mallard ducklings. The wood ducks are all banded and monitored by Collmer. "It's something that interests me," he says. Barn owls also use the wood duck boxes and Collmer notices that swallows build their nests just beneath them. Collmer sees voluntary efforts to help wildlife, like those on the Aloha Farm Company, as much more successful than federally mandated ef-

managed as permanent wildlife habitat. This area, according to Collmer, includes 100 acres of semi-permanent marsh and one 148-acre seasonal marsh. While the semi-permanent marsh provides wetland habitat almost year-round, the seasonal marsh is flooded from September through early spring. The wetland areas provide habitat for many species of ducks, egrets, yellow-headed, tri-colored, and red-winged blackbirds, bitterns, killdeer, white-faced ibis, and other shore-

*Wildlife beneficiaries:*  
Ducks, egrets, various blackbirds, bitterns, killdeer, white-faced ibis, and other shorebirds and pheasant

*Conservation practices:*  
248 acres set aside as permanent wildlife habitat, wood duck nesting boxes, mallard nesting tubes

## Healthy Wildlife Populations Goal of Farm and Hunt Club

**"IF YOU'RE INTERESTED  
IN IT, YOU'LL  
PROBABLY PAY MORE  
ATTENTION TO IT  
THAN IF YOU'RE  
MADE TO DO IT."**

ports, explaining that, "if you're interested in it, you'll probably pay more attention to it than if you're made to do it."

Although he believes that certain government programs can help farmers help wildlife, he doesn't see any sense in excessive regulation and mandates.

Collmer, like other farmers, ranchers, and managers throughout the state, is simply doing what he loves to do in helping to preserve or promote wildlife. "I feel Aloha Farming Company is a great working example of the owners or management team working together to provide quality wetlands. As a working farm, Aloha strives to provide a wildlife-friendly atmosphere for all wildlife. All of these practices blend together help to provide a great experience in the marsh and habitat for many species of wildlife."



*Wildlife beneficiaries:*  
Ducks, geese, pheasants, and jackrabbits

*Conservation practices:*  
Hen flushing, egg rescues

Tom Ellis, Colusa County  
ALFALFA FARMER



Tom Ellis' family has been farming in southern Colusa County for over 60 years. Ellis grows various crops near the town of Grimes, but he is especially interested in his alfalfa crop, where he finds ample opportunities to help wildlife. Ellis notes that ducks, geese, pheasants, and jackrabbits love to use the fields for feeding and nesting. He is actively involved in efforts to rescue pheasant and duck eggs, but acknowledges that he's "just a Johnny-come-lately" to the project, crediting men like Roger Moore, the late Pat Murphy, and Charlie Jensen with pioneering the program in his area 30 years ago.

es them for several weeks. The growing birds are then taken to Charlie Jensen who continues to care for them until they are mature enough to be released. Through the use of duck bands, these birds have been tracked as far away as Texas, Montana, South Dakota, and Canada.

Ellis and other concerned farmers have lobbied equipment dealers to install warning devices on swathers to scare off nesting birds during harvest. "We still use a pipe frame attached to the swather with plastic containers on the end, and

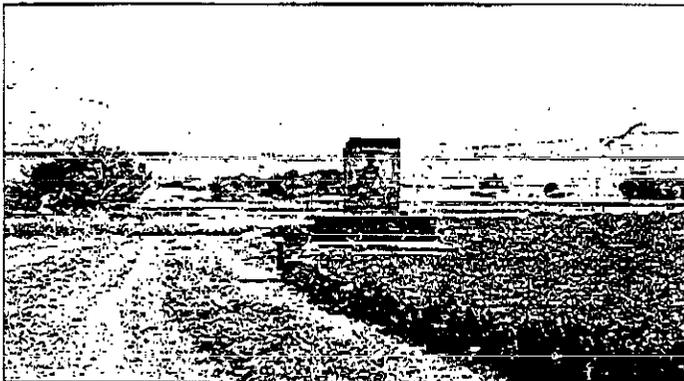
to nest and raise another brood.

Ellis conducts all of his conservation practices voluntarily, without the help of any groups or agencies. In fact, he's disappointed with some groups for their support in creating the Sutter Wildlife Refuge in his area. He is not opposed to preserves, but this one puts the farmland where Ellis lives in extreme danger of be-

## Problems Present Opportunities In Alfalfa Fields

ing flooded by the Sacramento River. He's in favor of providing habitat for species, but not when it endangers the lives of people who live there, and the land those people depend upon to make a living.

Ellis is opposed to the idea of federal mandates, opting for the use of voluntary efforts like his to help wildlife. Says Ellis, "We don't need federal mandates...we don't need the federal government telling us what to do. We ought to be able to do it ourselves." He says, "We help wildlife simply because we noticed a problem and wanted to fix it." He explains, "I've witnessed this [nest disturbance]...and felt it was a problem. We believe that if farmers continue to work together, and especially if they are able to get equipment manufacturers interested, we really could make a difference." Ellis and his neighbors in the Grimes area have already made a difference for thousands of pheasants and ducks.



Ellis, through a series of trial-and-error approaches, has developed a mechanism that reaches in front of his hay swather to flush out hens and jackrabbits before the swather blades reach them. As soon as the hens are flushed out, he says, the equipment operator stops the machine and collects any eggs from their nests before continuing. These eggs are then taken to Roger Moore, who incubates and hatches the chicks and ducklings and rais-

they're working pretty well, but I think we could do a lot better" with more technology from equipment manufacturers. He has been a proponent of an electronic warning device for swathers that alert wildlife in the path of the machine. He stresses that it's not just the eggs that are salvaged through the use of flushing mechanisms, but the hens as well. When a hen is flushed from a field before any equipment reaches her, she is given a second chance

"WE DON'T NEED  
[MORE] FEDERAL  
MANDATES...WE  
DON'T NEED  
THE FEDERAL  
GOVERNMENT  
TELLING US WHAT  
TO DO. WE OUGHT  
TO BE ABLE TO  
DO IT OURSELVES."

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*Wildlife beneficiaries:*

Ducks, geese, pheasants, turkeys, doves, deer, muskrats, foxes, hawks, and owls

*Conservation practices:*

Flood and erosion control, groundwater recharge, decomposing rice stubble, perennial grasses, no-till planting practices, nesting and food sources, beneficial insects encouraged, silt traps



*Charlie Rominger, Yolo County*  
FIELD CROP GROWER

Charlie Rominger's family has been farming in Yolo County for five generations, or since his great-great grandfather came to California. Rominger still farms with his family on land that was purchased by his grandfather in the 1930s. Together they farm about 2,500 acres of corn, tomatoes, alfalfa, wheat, sunflowers, safflowers,

Rominger stresses the fact that wildlife benefit from responsible farming practices, even if no projects are implemented solely for wildlife. The Romingers are involved in several projects that help with flood and erosion control, groundwater recharge, and decomposing rice stubble. These same projects also happen to benefit wildlife tremendously. For example, the

Romingers have been involved in efforts to

plant roadways and ditch banks with perennial grasses. These grasses provide excellent cover for wildlife while greatly aiding in erosion control. They use no-till planting practices on about 700 acres of wheat, safflower, and corn. The benefits of these practices include money savings due to less labor cost, higher water infiltration rates, and less runoff. They have also put in around 15 to 20 foothill ponds on the farm and plan for more, starting with the first ones put in by his uncle when Rominger was "a little kid." These ponds not only provide flood control and groundwater recharge, but nesting and feeding habitat for various species of waterfowl as well. The Romingers flood their rice fields to decompose the stubble in the winter, again providing habitat for waterfowl.

them almost year-round." Other populations are increasing as well, and according to Rominger, "we see ducks by the hundreds whereas before you'd see a duck in an irrigation ditch every once in a while." The Romingers used to use cost-share programs to develop their ponds, but now for the most part they do it on their own. Rominger explains, "even though [most cost-share programs] try to be user-friendly, most farmers would rather not have to bother with the paper work."

In fact, "the permit process takes longer and costs more in the end." Rominger recalls that in one application process they were told that they'd have to wait six months when it actually turned out to be two and a half years. The Romingers put in ponds at the rate of one to two per year, not including those they put in for neighbors. Nonetheless, implementing these projects takes

## Fifth Generation Diversified Farmer Considers Benefits of Helping Wildlife



grapes, organic vegetables and rice, but their farm is also home to wildlife, including ducks, geese, pheasants, turkeys, doves, deer, coyotes, muskrats, foxes, hawks, and owls. Many of the things that they do on the farm, according to Rominger, benefit not only their agricultural operation but the health of their land and wildlife populations as well.

These practices have led to increasing numbers of wildlife. Says Rominger, "We never used to see geese around here... now we see

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CQ589

time, labor, and equipment. Says Rominger, "It'll take us another 20 years" to plant all the grass strips they want, put in all the ponds they would like, and continue developing other programs such as the use of beneficial insects and silt traps. But, he explains, "There's going to be tremendous savings over the years as we get these things implemented."

The biggest challenge to implementing conservation practices is "right now there's no financial wiggle room. We can only do a project if it has a very minimal cost, or it shows a significant short-term pay-off," both of which are rare in conservation projects. There are some groups that ease the pressure, though. Rominger has worked extensively with the Audubon Society, planting native vegetation along irrigation canals, and building a tail water pond. "They've been great...they provided the funding for the project, and I don't even remember the paperwork. [Their program] is designed to be user-friendly, and it was!" He's had positive

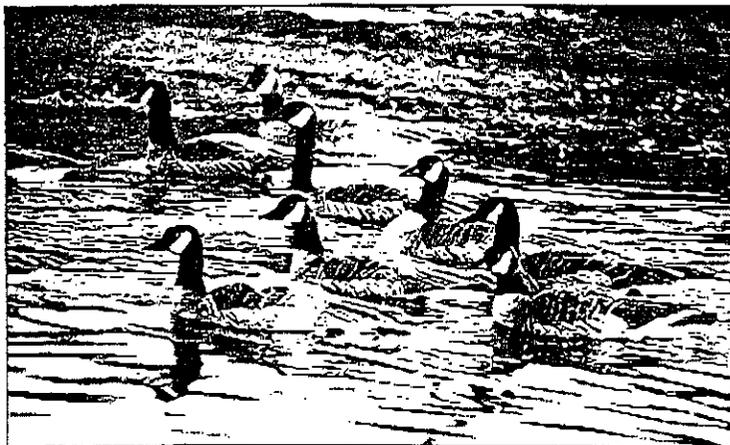
**ROMINGER BELIEVES  
WILDLIFE BENEFIT  
FROM RESPONSIBLE  
FARMING PRACTICES,  
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ARE IMPLEMENTED  
SOLELY FOR WILDLIFE.**

experiences with other groups as well. The USDA Agriculture Research Service is conducting a study on farming practices on some of his land now. "We have a 320-acre block with 5 fields: one certified organic, one perennial grasses, one no-till, and two conventional farming. The inlet water source is the same for all of them, and they all have silt traps. It's an excellent opportunity to study the effect of dif-

ferent practices in a side-by-side comparison." The USDA ARS service is doing the study and conducting the research, but Rominger benefits by being one of the first ones to get the information found in the study. It's a way to document the effects of different conservation practices, compare them, and see which work the best and are the most cost effective. He enjoys working with agencies in this kind of partnership, because it "creates a win-win situation."

All of the work the Romingers do to benefit wildlife is done on a voluntary basis, and as for his views on government mandates, Rominger says, "Incentive programs are the way to go." He believes that "incentive programs are probably some of the best money the government spends."

Rominger says that he enjoys seeing the large numbers of wildlife coming to the farm, and he is excited about the way "everything works together" as his family implements and carries out programs to benefit the operation, wildlife, and the environment. As he puts it, "the more tie-ins, the more benefits. It just keeps snowballing."



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*Charley Mathews, Yuba County*  
RICE FARMER

*Wildlife beneficiaries:*  
Great blue herons, egrets, ducks, geese, shorebirds, bald eagles and golden eagles

*Conservation practices:*  
Incorporation of rice straw with soil, land retirement, habitat creation, winter flooding, egg rescues

Charley Mathews was one of the first people to pioneer the use of rice rollers on his Yuba county farm just northeast of Marysville. The farm, which was bought by Mathews' great-grandfather in 1860, is located in an area known as District 10, a region noted for its waterfowl populations. The rice roller is used on the operation to in-

and he leaves the water on until early March, allowing adequate time for the later-migrating species to stop and find rest and feed on the farm. Flooding the fields also encourages populations of invertebrate species that provide a source of protein for the migrating birds. Although Mathews was concerned at first about the risk of disease, he hasn't burned any of his fields for many years. He has seen the occurrence of stem rot increase, but he says it's been controllable. Mathews' neighbors are involved in similar efforts and he adds that both he and his neighbors are able to do it without government assistance.

conservation practices: "Wildlife benefits have been phenomenal! In the last Audubon count of birds out here they identified about 65 species in just 24 hours."

Mathews is concerned about the rising costs of his practices: fighting stem rot and using rice rollers both have a hefty per acre price tag. He is also concerned about the Water Resource Control Board limiting water available for irrigation of artificial wetlands in the early winter months. If he doesn't have enough water from October to December, Mathews says botulism will be a big threat to his farm. He is discouraged that protection of threatened or endangered fish has impacted efforts to conserve many other species of wildlife in his area.

## Rice Farmer Helps Community Preserve Wildlife



corporate rice straw into the soil after harvest, allowing for easier breakdown and helping to establish "artificial wetlands" for migrating waterfowl. He has created around 200 acres of artificial wetlands by taking land he was using to farm rice out of production. On these wetlands, channels and islands are constructed along with plantings of trees and vegetation that create habitat for wildlife. Some of the 70 different species that frequent Mathews' ranch include great blue herons, egrets, ducks, geese, shorebirds, and even bald and golden eagles.

Mathews floods his rice fields after harvest around the first of October,

The people in his community, according to Mathews, recently came together to build an egg hatchery, putting up the money themselves. Mathews and his neighbors now conduct "egg rescues" in their fields before harvesting them, saving, hatching, and releasing 25,000 to 30,000 birds each year for the last several years. These efforts are having an effect on wildlife populations. Mathews, who has hunted in the area for 55 years, or "since my dad used to carry me out on his shoulders," comments that in the last 15 years he has seen species of birds that he'd never seen there before, such as golden and bald eagles. He also believes that the populations of some of the more uncommon species, including egrets and herons are growing as well. He is enthusiastic about the success of his

Mathews believes incentive payments will increase wildlife conservation practices on farms like his. Personally, he would like to see yearly incentives in the form of water bank payments to ensure water in the sometimes dry, early-winter months. "Winter irrigation is crucial to migrating species that use the artificial wetlands," and it is important for the health of his land as well.

Mathews likes to take people for bus tours on the farm so that they too have an opportunity to enjoy the wildlife that makes it their home. Says Mathews, "I'm interested in wildlife and it's part of our stewardship of the land to make it better than we found it."

"IN THE LAST  
AUDUBON COUNT  
OF BIRDS OUT HERE  
THEY IDENTIFIED  
65 SPECIES IN JUST  
24 HOURS."

*Wildlife beneficiaries:*  
Ducks and more

*Conservation practices:*  
Habitat enhancement, reduced tillage, duck nesting boxes,  
planting of native grasses and trees, IPM

Tom Muller, Yolo County  
VITICULTURIST AND FIELD CROP GROWER



Along with 900 acres of vineyards, Tom Muller and his partners farm 6,000 acres of crops in Yolo County, including tomatoes, bell peppers, corn, cabbage, sunflowers, safflower, wheat, and alfalfa. His farm is home to many species of wildlife, and much of what Muller does is aimed toward enhancing their habitat.

Muller explains that he likes to have nesting habitat on his farm, and he, along with an increasing number of farmers in California, lets his ditches and field lines be covered with grassy vegetation rather than be clean-farmed. In fact, Muller even plants native grasses and trees in these areas and at the low ends of fields to provide additional cover. These practices provide benefits to wildlife and the farm, reducing maintenance costs, increasing habitat, decreasing soil erosion, and increasing water infiltration rates. Muller also uses Integrated Pest Management (IPM) programs to reduce the need for spraying. Planting grasses between rows in his vineyards and alternately mowing them at certain times increases habitat, encourages beneficial insects, and reduces dust in the air by avoiding tillage.

All of these practices, according to Muller, have been a learning process. He says it's best to "go slow" because implementing some of these programs can be quite expensive at first. Muller adds, "You can't afford to put everything in at once."

Unfortunately, he's having trouble maintaining his conservation practices because low commodity prices are decreasing the farm's profit. "We'd do more, but with commodity prices so low it makes it impossible. There are cost savings with these practices, but initially you have to spend a large amount of money that's not available right now." Regardless, wildlife numbers are increasing due to the practices he

low?" He would like to see the government offer payments to help farmers voluntarily start and maintain conservation practices, especially when commodity prices are low. If the government offered more programs, Muller says he would expand his conservation practices, particularly setting up more nesting boxes for ducks and planting more native grasses for habitat.

## Managing for Wildlife in Field and Row Crops Proves Economically Sound



has already established, says Muller.

Commenting on voluntary actions versus government mandates, Muller says, "If we don't start [protecting wildlife] ourselves and be good stewards of the land it will all be mandated... We can do all these practices here on a local level with the agency people." He's worried about the government mandating the conservation techniques he usually practices on his farms because he won't be able to afford them when profit is low. "How are we supposed to [comply with mandates] with commodity prices so

Muller has had very positive experiences working with government agencies. He says, "We already work closely with our local RCD and the NRCS office in Woodland. They truly have a handle on how to establish and maintain habitat as well as filling the gap between hands-on experience and theory."

Muller hopes that programs such as his will eventually be used by the government as models for others to follow in implementing voluntary conservation measures.

MULLER IS  
HAVING TROUBLE  
MAINTAINING  
HIS CONSERVATION  
PRACTICES  
BECAUSE OF LOW  
COMMODITY PRICES.



*Les Heringer, Butte County*  
ORCHARDIST & FIELD CROPS FARMER

*Wildlife beneficiaries:*  
Chinook salmon, wood ducks, sand hill cranes, ospreys, owls, deer, Swainson's hawks, and turtles

*Conservation practices:*  
Maintenance of riparian areas, egg rescues, nesting boxes, fish screens

According to Les Heringer, "Most farmers who live and work on the land enjoy seeing different species of wildlife around them. Whatever I can do to make them a part of the farming operation I will certainly do." On the M&T Chico Ranch in Butte County, which is managed by Heringer, some of those species include the spring-run

pumps water from the Sacramento River, waterways that are also used in the migration of the salmon. With Heringer's active involvement a more "fish-friendly" ladder and screen were constructed at the Butte Creek Diversion site, and a new, screened pumping plant was put in on the Sacramento River. As Heringer explains, "we are now able to pump and divert water without

ing duck and pheasant eggs from nests before the equipment reaches them. The eggs are taken to a hatchery north of Marysville where

## Wildlife and Agriculture Both Winners on Diversified North Valley Ranch

"WITH THE PROPER INCENTIVES MUCH MORE COULD BE DONE."

Chinook salmon, a candidate for listing under the Endangered Species Act, wood ducks, sand hill cranes, ospreys, owls, yellow-billed cuckoos, Swainson's hawks, deer, several species of turtles, and even a bald eagle, which is a federally listed endangered species.

out fear of the farming operation being negatively impacted by the ESA."

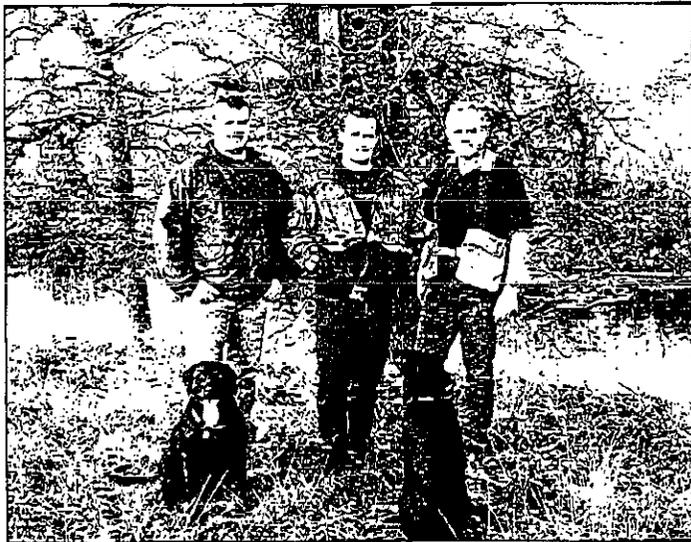
The M&T, located just west of the town of Chico, is an 8,000 acre diversified operation, producing beans, sunflowers, wheat, prunes, almonds, walnuts, safflower, and rice. Included on this tract of land are 1,100 acres of riparian forest along the Sacramento River, 200 acres of wood duck nesting habitat, and 200 acres of wild areas along the ranch's creeks and sloughs.

Heringer maintains, "The old saying, 'if you build it they will come' certainly holds true with conservation efforts," so he's been busy doing just that. Other projects on the M&T include a wood duck nesting box project, which is comprised of 40 nesting boxes along 200 acres of Edgar Slough and Little Chico Creek. Heringer's son, Scott, has also been actively involved in this project, helping to build, hang, and monitor boxes. Heringer has been able to pass his appreciation for wildlife and the outdoors down to his children, a heritage that he hopes will continue through future generations. Heringer has put up several owl-nesting boxes and plants feed plots of millet, to leave unharvested for the birds during the winter and to provide nesting cover in the spring. He also conducts egg rescues in the wheat fields collect-

FEDERAL MANDATES, ACCORDING TO HERINGER, ARE MORE PUNITIVE THAN INCENTIVE-BASED, CREATING THE FEELING OF "SOMEONE HOLDING A GUN TO YOUR HEAD AND TELLING YOU TO DO SOMETHING. FARMERS JUST DON'T RESPOND POSITIVELY TO THAT."

they are incubated, hatched, and cared for until they are released back on the ranch. Oak trees are also planted along the farm's waterways to provide habitat for

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wildlife. He maintains the riparian areas near the Sacramento River, which has seen a growing population of wild turkeys. "We provide a patrolman during certain times of the year to minimize hunting pressures in these areas," says Heringer.

"In an effort to increase upland game bird numbers on the ranch to what they once were, we have hired two retired Fish and Game biologists to assist us," says Heringer. He's also laid fallow 200 acres of row crop ground, planted a combination for feed and nesting cover, and added water for insect production and bird watering. He says they've also tried not to flood their harvested rice fields for rice straw disposal until later in the fall or winter, in order to provide more cover and feed sources for upland game birds.

Heringer would like to see the government provide a "safe harbor" to farmers on conserved acres, in case

an endangered species "shows up." Much of the habitat conservation and species protection occurs naturally on the ranch. For example, sand hill cranes winter on the M&T in the wheat and harvested rice and bean fields. Other bird species, such as the bald eagle and ospreys, take advantage of the large tracts of riparian areas on the ranch. According to Heringer, "with the proper incentives much more could be done. If this is what the world wants, we can do it, but we have a hard time doing it on our own in today's competitive climate... there's only so much you can do out of your own pocket."

Heringer realizes the government does have different programs to assist with wildlife enhancement programs, but "the problem with most of these programs is that they require a multi-year (10) commitment from the farmer. Most farmers are not sure what crops they are going to plant from one year to the

next." Heringer says, "The agreement term is way too long. More farmers or ranchers would be a lot more interested in assistance if the term was a lot shorter."

Heringer states "it is common knowledge in our area that there are a lot more species that depend on private farmland than the refuges for their existence. More short-term financial assistance and programs need to be offered to growers to make their land as attractive as possible for different species." He suggests the government could pay growers along the Sacramento River attractive annual lease payments "to maintain riparian habitat instead of burdening taxpayers with expensive land acquisitions and removal of private land from the county tax rolls."

Some incentives that could be effective include providing money to flood fields for waterfowl in the winter or build fish ladders and screens such as those now found on Butte Creek and the Sacramento River. Federal mandates, according to Heringer, are more punitive than incentive-based, creating the feeling of "someone holding a gun to your head and telling you to do something. Farmers just don't respond positively to that." He believes that voluntary efforts with incentives are the "best way to go." Or, as Heringer puts it, "One neighbor does it, then his neighbor gets interested... you just have to find the right farmer to get the ball rolling."

"MOST FARMERS WHO LIVE AND WORK ON THE LAND ENJOY SEEING DIFFERENT SPECIES OF WILDLIFE AROUND THEM. WHATEVER I CAN DO TO MAKE THEM A PART OF THE FARMING OPERATION I WILL CERTAINLY DO."

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Wildlife beneficiaries:

Pheasants, turkeys, quail, ducks, geese and deer

Conservation practices:

Habitat enhancement, irrigation water recycling program



John Ohm, Tehama County

CATTLE RANCHER, ALFALFA, AND ROW CROP FARMER

John Ohm's family has been farming since 1918 on a Red Bluff ranch where Ohm's father was born and raised. The Ohms' operation includes cattle, alfalfa, row crops, and irrigated pasture as well as large sections of riparian areas along the Sacramento River. According to Ohm, the property is home to many species of wildlife,

he sold it to California Fish and Game.

Ohm is especially proud of the family of geese that reside on his ranch. Several years ago there was only a pair, then it increased to seven, and now there are at least 20. Ohm says, "You can have all the windows shut in the winter and still hear them." While hundreds of

geese migrate through the ranch, this particular family



## Wildlife Preservation a Natural Extension of this Farming Operation

including pheasants, turkeys, quail, ducks, mountain lions, deer, and coyotes.

The Ohms practice a method of farming that is becoming increasingly popular in California as an alternative to the traditional "clean" farming. Fence lines and field edges are allowed to remain covered with vegetation rather than sprayed or mowed. Ohm explains, "we try to maintain as much cover as we can" for quail, pheasant, and the other wildlife species found on the property. In addition to providing cover, the irrigated pasture on the ranch is filled with clover, a favorite of the geese that live there. The deer enjoy the alfalfa fields and will come up to feed in the evenings. Ohm has also begun an irrigation water recycling program, and has developed reservoirs to catch run-off.

Eventually, the federally listed endangered elderberry beetle was found on the riparian property, "and it just got too costly to farm," so

comes back faithfully, year after year. For Ohm, it's a matter of "personal gratification" to see the wildlife

**"WE TRY TO MAINTAIN AS MUCH COVER AS WE CAN" FOR QUAIL, PHEASANT, AND THE OTHER WILDLIFE SPECIES FOUND ON THE PROPERTY.**

flourishing on his property, and he reports that wildlife populations are increasing.

Although Ohm feels positive about incentive programs, he believes that

voluntary actions to help wildlife are the way to go. He would like to see more financial incentives offered to farmers to develop conservation practices, especially since commodity prices are so low. He is also optimistic about the idea that voluntary actions like his own and those of other California farmers and ranchers will help preserve endangered species populations and habitat. And as for now, Ohm does "as much as possible without incentives."

All of the actions Ohm takes to promote wildlife on his property are completely voluntary. He says that "most people in agriculture...do a lot of voluntary stuff and don't even think about [it]." And as for his family, "the way we feel about it is that it's more personal for us."

*Wildlife beneficiaries:*

Various ducks and birds, deer, foxes, raccoons, squirrels, elderberry beetles, jackrabbits, owls and eagles

*Conservation practices:*

Preservation of natural habitat, protect land from development, owl boxes, creation of artificial water sources and habitat

Ken Lindauer, Tehama County  
PRUNE FARMER



**K**en Lindauer and his family farm 400 acres of prunes just south of Red Bluff in Tehama County. Part of the farm runs along the Sacramento River, and the Tehama-Colusa canal runs through the middle of the property. The farm is home to abundant wildlife including red tail hawks, ospreys, ducks, turkeys, deer, foxes, possums, raccoons, gray and ground squirrels, elderberry beetles, coyotes, and jackrabbits. Lindauer says that he sometimes sees eagles and bobcats on the farm as well, and several species of birds including doves, quail, robins, blackbirds, goldfinches, and owls make their home in the family's orchards.

Before irrigated agriculture was developed, Lindauer points out, the land was dry during the long, hot valley summers, and did not support the numbers and variety of wildlife that it does today.

The Lindauers have allowed 50 acres of river bottom, which includes



a natural slough, to remain wild after having run cattle on it in the past. They want others to enjoy the wildlife on their property as well, and often allow people to fish, camp, and ride horses in this area, which they refer to as "the jungle."

The family would like the area to remain wild because, as Lindauer puts it, he "likes to have an example of

what California was like before people got here." According to Lindauer, his family's mission statement for the farm includes the importance of preserving such natural habitat.

Although the Department of Fish and Game and the Nature Conservancy have expressed interest in purchasing the land from the Lindauers, they are reluctant to sell, knowing that "nothing will happen to it" as long as it's in their hands.

He believes the problem with government agencies is that, "they have all these great ideas and plans [for an area] and when they get it nothing happens." The farmer is the one who pays the taxes on his property, and he's the one who's "interested in what happens to it."

Lindauer has also put up owl boxes, with plans for more, and has been giving a lot of attention to the canal on his property. The canal has the dual purpose of providing

spawning habitat for salmon, and providing irrigation water to farms. Unfortunately, the U.S. Fish and Wildlife's plans for salmon spawning didn't materialize in the canal, so they are considering moving the gravel that covers the bottom and putting it back into the river. However, Lindauer would like to see them use the canal for other species of wildlife in the area, too, so he's

going to suggest instead of exporting the gravel, they use some of it to make banks on the canal. Once banks are established, they can be planted or naturally allowed to seed with willow, elderberry, and native grasses to provide habitat for many species other than just the salmon. "Concrete isn't real hospitable to wildlife, but gravel banks with vegetation will really benefit them." Lindauer also was happy to see the 1/2 acre pond near his house attract wildlife this year. A pair of Canadian geese wintered there, hatching and raising four goslings. The Lindauers were proud to see the six geese finally fly north, and look forward to their return next season.

## Prune Farmer Preserving an Example of What California "Used To Be"

HE BELIEVES THAT THE PROBLEM WITH GOVERNMENT AGENCIES IS THAT, "THEY HAVE ALL THESE GREAT IDEAS AND PLANS [FOR AN AREA] AND WHEN THEY GET IT NOTHING HAPPENS."

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CENTRAL VALLEY DELTA REGION

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*Wildlife beneficiaries:*

Fairy shrimp, elderberry beetle, Aleutian goose, and song birds

*Conservation practices:*

Maintenance of riparian areas, egg rescues, nesting boxes, fish screens, providing water and grain for wildlife



Chuck Lyons, Stanislaus County

CATTLE RANCHER

The Mapes Ranch, owned by the Lyons family of Stanislaus County, encompasses 10,000 acres of flat grasslands and wetlands nestled against the Stanislaus River. The ranch, a traditional stop for waterfowl along the Pacific Flyway, gained national recognition in early 2001 for its part in saving the Aleutian Canada goose, a federally listed

"I ENJOY WALKING OUT  
OF MY HOUSE AND  
SEEING THOUSANDS OF  
THESE BIRDS LIFT  
OFF THE PONDS. IT'S A  
WONDERFUL SIGHT."

## Endangered Geese Recover Due To Family's Efforts

endangered species, from extinction.

On the Mapes Ranch, Chuck Lyons is responsible for the irrigation system and for managing the commercial beef herd. Along with beef, the family farms and leases out the ranch's land to grow tomatoes, alfalfa, corn, wheat, barely, oats, nectarines, pluots, and other commodities. Many species are found on the property, including migrating waterfowl, river species, upland game birds, birds of prey, rabbits, coyotes, squirrels, skunks, opossums, and numerous songbirds.

The most notable species, though, have been the fairy shrimp, elderberry beetle, and Aleutian goose, all of which are, or were at one time, endangered species.

"We were raised to respect and appreciate the environment," said Lyons. "I enjoy walking out of my house and seeing thousands of these birds lift off the ponds. It's a wonderful sight." The thousands of acres of grain fields, pastures and wetlands have formed a sanctuary that's the centerpiece of an international effort responsible for the

Aleutian goose's resurgence, from a population of 790 in 1975 to around 45,000 today. The ranch constitutes the southernmost habitat in the winter migration of the goose. An estimated 98 percent of the Aleutian goose population can be found on the Mapes ranch in the winter. In fact, the comeback has been so successful, in February 2001 the Aleutian Goose was the 12th species to be "delisted" from the federal list of endangered species, which lists nearly 1,200 species.

The thousands of acres of grain, corn, waterways and ponds found on the ranch are perfect habitat for migrating waterfowl, including the Aleutian goose. Working with Ducks Unlimited and the U.S. Fish and Wildlife Service, Lyons plants extra fields of corn and grain. "We grow the corn, then harvest our share and leave the waterfowl's share on." They flush ponds to rid them of potentially harmful bacteria, and have established permanent lakes and ponds, complete with islands for safe nesting, to accommodate the geese's needs. Lyons works to clear waterways of choking brush, and keeps alfalfa fields irrigated at key times to provide habitat. The cattle play a part in preservation by keeping the pasture grass from getting too high. "The geese don't like tall grass or brush, because they can't see if there are any predators on the other side," said Lyons. The conservation efforts by the Lyons's have not been easy



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or inexpensive for the family. "It would have been easier to forget about the geese and focus just on raising cattle," said Lyons, "but we were taught to respect wildlife. The geese will always be a part of this ranch."

It's not easy to farm successfully with thousands of geese wintering on your property. "You've got thousands of geese, each about the size of a mallard duck, working their way through a field of grain," Lyons said. "When they get through eating, there's not much standing." The geese enjoy mowing their way through alfalfa, corn, barley, wheat, and oat fields on the ranch. Lyons loses the crops, but the family is surprisingly calm considering the cost of planting grain they reap no profit from. "It comes with living in the country," they say, "The birds are part of the ranch, like the cattle."

Lyons incurs most of the costs of the family's conservation practices. Keeping creeks, drains, sloughs, ponds, lakes, and fields wet in fall and winter months before the rains create a hefty water bill for the

ranch. The machinery work and labor associated with keeping the miles of waterways clear, flushing the ponds, maintaining the wetland habitat, and planting fields the Lyons's won't get to harvest is costly as well. But Lyons accepts those

**LYONS INCURS MOST  
OF THE COSTS OF THE  
FAMILY'S CONSERVATION  
PRACTICES. "IT'S  
WORTH IT JUST TO SEE  
THEM (THE GEESE),  
THAT'S HOW WE'RE  
PAID BACK."**

costs, saying calmly, "it's worth it just to see them (the geese), that's how we're paid back."

The Aleutian goose was in danger of extinction because in 1750 fur traders introduced arctic foxes to the Aleutian Islands to be "farmed" for the extensive fur trade. The islands were later abandoned, but the foxes multiplied and during the spring nesting season hunted the geese to near extinction. By 1938, the Aleutian goose was thought to be extinct, but in 1963 a few hundred were found on an isolated island, and the federal government took steps to list the bird, and rid several of the Aleutian islands of foxes. The safe northern nesting and southern feeding grounds produced a population of 6,300 by 1990. Russia, Japan and Canada also have played a role in the return of the Aleutian goose, but the winter grounds on the Mapes Ranch and adjacent Faith Ranch, owned by the Gallo family, are the crucial component, according to the U.S. Fish and Wildlife Service. USFWS honored the two families at a ceremony in February 2001.

(Source of some quotes: Modesto Bee, Feb. 18, 2001, "Aleutian Comeback" by Richard Estrada)



*Catherine Baranek, Sacramento County*  
VITICULTURIST

*02589*

*Wildlife beneficiaries:*  
Wood ducks

*Conservation practices:*  
Nesting boxes, seasonal wetlands, egg rescues,  
buffer strips, nesting cover

Catherine and John Baranek have been part of the Pierson district of the Sacramento River Delta for 30 years, but John's family has actually been there since 1902. Their son is the fourth generation to farm on their property near Courtland in Sacramento County. The Baraneks grow wine grapes, and in 1992 Catherine and

erations.

Baranek reports that the trust has installed 200 wood duck nesting boxes, and through this program over 900 ducklings have hatched this year. The trust also provides boxes, built by the local sportsman's club, to other growers around the delta. In addition to this program, Baranek is involved in wild duck egg rescues, in which equipment operators are instructed to stop their equipment when they see a hen fly up in front of them. Eggs that are found are collected and taken to Baranek, who hatches and cares for them until they are banded and released. She recalls that the trust released 150 birds the first year of the program. This year Baranek expects to release over 800 ducks. Band records show birds join the flyway. "It's a very successful program," she remarks, providing "immediate payback to the environment."

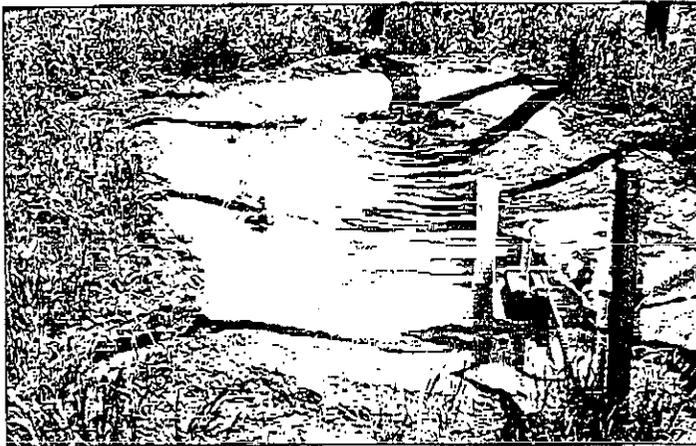
of seasonal wetlands. It works to "help farmers do conservation methods...that are more compatible with wildlife," she says, without having to deal with excessive government regulation and red tape.

Blackberry removal and native grass plantings are also endorsed and promoted by Baranek, who explains that blackberries harbor predator species, while native grasses tend to provide crucial nesting cover and feed for upland game birds. Baranek also uses buffer strips between her vineyards and waterways to help clean irrigation water before it makes its way back into the delta's waterways. The buffers consist of ditches and tree lines, and according to Baranek, "it's very effective."

"Funding is our biggest challenge. Since we are all volunteers-no paid staff-it is difficult to convince funding organizations to invest in our efforts."

"[Proving] that we can do this without the federal government's help or the state government's help" is what motivates Baranek in her conservation efforts. Voluntary measures are "a lot more cost-effective and time-efficient" than mandated or regulated efforts, she says, and they provide an alternative to "not only costly but also restrictive" government programs. But best of all, says Baranek, "it makes for a much nicer farming environment."

## Vineyard Farmer Leads Effort to Preserve Wildlife



### VOLUNTARY MEASURES

ARE "A LOT MORE

COST-EFFECTIVE AND

TIME-EFFICIENT"

THAN MANDATED OR

REGULATED EFFORTS.

other members of the Delta community formed a land trust called the North Delta Conservancy. Through this trust, Baranek has been able to grow wildlife along with her grapes. She establishes and maintains wood duck nesting boxes, seasonal wetlands, and wild duck egg rescues.

Her goal is to "try to educate landowners about conservation methods and help them with various types of farming techniques" that will enhance wildlife and habitat without hurting their farming op-

Baranek is also involved in an effort to establish more seasonal wetlands in the area. She explains that they use "very flexible contracts" that allow farmers to create wetland habitat on their property without entering into contracts with government agencies, an idea that frightens most farmers. Farmers are asked to lease their property for at least five years, but they are free at any time to take part of their land back and put it into agricultural production if they need to. Through this program, Baranek has been able to create a total of 165 acres

*Wildlife beneficiaries:*  
Quail and owls

*Randy Lange, San Joaquin County*  
WINEGRAPE CROWER



*Conservation practices:*

Promoting native trees and grasses, controlling noxious weeds, planting quail brush, reclaiming slough areas, owl boxes, cover crops, targeting of pesticide use

Brothers, Randy and Brad Lange farm 6500 acres of vineyards in San Joaquin County. According to Randy Lange, the "wine vision" for this family owned and operated farm is "bio-sustainable farming." To Lange, bio-sustainable farming means typical management practices include planting native trees; controlling star-thistle with a benign herbicide that only kills that specific weed; allowing native grasses to grow in fence rows; planting quail brush; and reclaiming slough areas that are devoid of trees and brush. They have installed 70-80 owl boxes, and planted cover crops in vineyard rows to encourage beneficial insects. They control disease and insect pests by applying chemicals only to a specific area, and at a very low rate. Lange explains they only apply chemicals when there's an urgent need, not at traditional times, by saying, "we're not calendar applicators."

Lange has worked with several government agencies, including Cal-EPA, the US-EPA, the California Department of Food and

Agriculture, and the USDA. The reduced application rates of chemicals have been made possible by developing superior cover crops and new machinery innovations. He has also run into the Endangered Species Act (ESA) on his farm, with the fairy shrimp found on his property. "Initially the experience wasn't very positive. We were ordered to cease and desist...which was partly due to ignorance on our part, but partly due to [the agency's] failure to get the word out." However, Lange says, "when the Act is used in what it's designed to do, I support it 100%." He just doesn't agree with the ESA being abused by using it to stop unpopular practices regardless of their impact on a species. He expresses frustration in the complexity of agencies involved with the ESA. "It's tough to figure out where the rules and regulations lie, who has them, who to believe, who to go to, and who to work with."

Lange also believes voluntary practices work far better than govern-

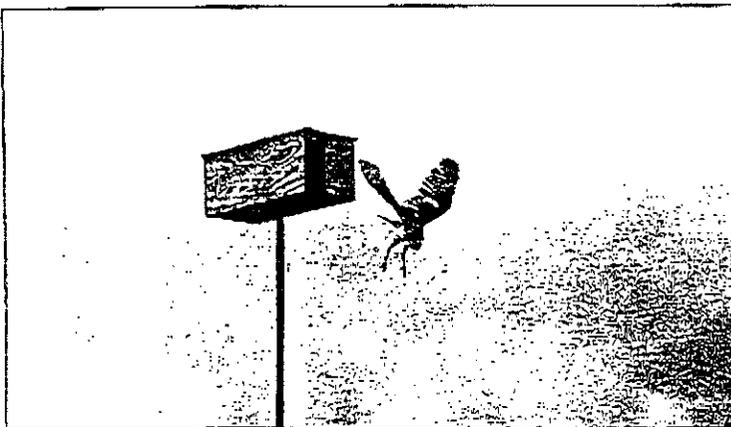
ment mandates. "Voluntary is a better way to go, because we do a better job than we do with regulations." This is due to greater interest on the part of a farmer who comes up with conservation practices on his own, contrasted with a farmer who is made to use certain practices, whether they seem to work on his property or not. "We're not trying to dodge a bullet," by using con-

## Winegrape Family Demonstrates Bio-Sustainable Farming

servation practices, "it's a mindset." But, Lange warns, "a mind-set change doesn't happen overnight. You have to show farmers why they should change and how they can change, so they will want to themselves." He believes education works far better than mandates.

Lange says they use conservation practices because "it's the right thing to do, and we're trying to find a better way to farm." He says the public is more aware these days as well, so it's important to show them the positive efforts involved in farming. That's a challenge, because "special interest groups tend to beat the drum with a lot of rhetoric." Undaunted, Lange sticks to his farm's goals, which include "staying in business, finding a better way to do business, and improving the environment."

"IT'S TOUGH TO FIGURE OUT WHERE THE RULES AND REGULATIONS LIE, WHO HAS THEM, WHO TO BELIEVE, WHO TO GO TO, AND WHO TO WORK WITH."



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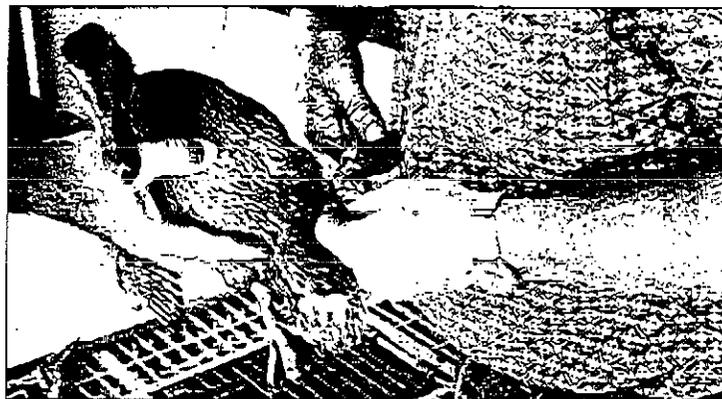


*Harley Graese, San Joaquin County*  
DISTRICT MANAGER, CALIFORNIA WATERFOWL ASSOCIATION

*CA589* Wildlife beneficiaries:  
Ducks and more

*Conservation practices:*  
Wood duck nesting boxes, provides habitat along  
distributing ponds, bands ducks, monitors predators

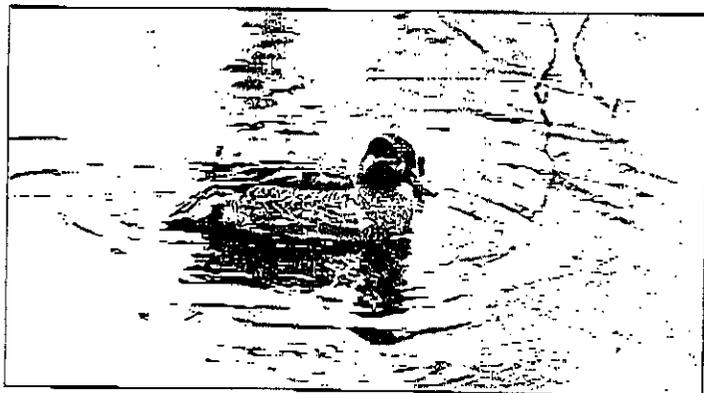
**H**arley Graese, a district manager for the California Waterfowl Association (CWA), worked for the now defunct Tri-Valley Growers, a tomato processing cooperative near Thornton in San Joaquin County, until his retirement in 1996. During the time that he worked there, he was involved in starting a wood duck nesting box



## California Waterfowl Association and Farmers Team Up

project on the 160 acres of Tri-Valley Growers' land. Now that he has retired, he has devoted more time and energy to the enterprise. It currently includes over 60 wood duck boxes, ponds and abundant habitat along the Mokelumne River.

Since the project started in 1988 the ducks have been banded and monitored, and Graese reports that often the hens come back to nest in the same boxes or in the same areas each year. Last year Graese counted 460 hatchlings, commenting that many of the nests are even "occupied twice" each year.



Many local farmers and landowners like to monitor and maintain their own nesting box projects.

Graese says that "from Lodi to Thornton we have 600 nesting boxes" established and maintained by

CWA. He remarks, "We're having a very good turnout on volunteers."

Since the CWA started the wood duck nesting program, Graese reports that they've had over 100,000 hatchlings in one year alone. "You have to give the farmers credit because they're the ones who let us on their farms to maintain the projects," says Graese, "they're very cooperative; more and more are letting us do this," which is significant due to hard times falling on many of the farms since Tri-Valley's bankruptcy. Graese continues to maintain part of the project, cleaning and preparing the boxes for nesting, keeping records, banding ducks, and monitoring predators, but as he ages he's been turning over many boxes to another manager. He is motivated to help wildlife because, as he explains, "I was an avid hunter for years, and I just thought it was time to give something back."

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SAN JOAQUIN VALLEY REGION

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*Mickey Saso, Stanislaus County*  
PRIVATE WILDLIFE PRESERVE MANAGER

*Wildlife beneficiaries:*

Pelicans, bald eagles, hawks, various other ducks and birds, beavers, river otters and cottontails

*Conservation practices:*

Engineered a series of ponds, silt traps, planted native grasses, nesting boxes

## Preserve's Aim is to Give Back to Wildlife



The Wingsetter Ranch in Stanislaus County is a 150-acre private wildlife preserve owned and managed by Mickey Saso, who is dedicated to creating habitat for the wildlife he so admires. The acreage started as messy bottomland, partially farmed and partially left wild, bordering the San Joaquin River. It sported some old valley oak

and willow trees, lots of dry sandbars and scrub, and sloughs

choked with tangled brush. It was a haven to some desperate critters, but the neglected land couldn't support a variety of wildlife. When Saso spotted the land, though, he looked past its current condition and saw only the possibilities it held.

Saso's grandfather and cousins have long been involved in farming almonds and grapes in Stanislaus County. The area around the bottomland is fertile and supports some farming operations, but Saso's attention was brought to a problem with the drainage and tail water from the local farmers who used the drains. With Saso's enthusiasm for wildlife, he realized the bottomland could serve the dual purpose of filtering the returning river water, and creating prime habitat for wildlife. In short order, Saso purchased the property and the work began.

Now the property is a sparkling chain of lakes, ponds and sloughs that wind through the acreage, with lush growth of native plants and

"THE WINGSETTER  
RANCH IS AN EXCELLENT  
EXAMPLE OF PRIVATE  
PEOPLE WORKING  
TOGETHER TO FIND  
PRIVATE SOLUTIONS  
FOR AGRICULTURE  
WHILE PROVIDING  
ENORMOUS BENEFITS  
TO WILDLIFE."

habitat around the water, and a few welcoming wildlife food plots of barley and safflower. It starts at a mile-long lake where diverted runoff and tail water from 2500 acres of farmland flows into the property. The water first goes through a large silt trap where lush smartweed helps to filter the water and provides forage for waterfowl. Then it flows into a sparkling lake with a few islands in the middle and provides a nesting place that's safe from land-dwelling predators for geese and other waterfowl.

From the main lake, the water meanders through a chain of smaller

ponds with silt traps and through sloughs that Saso cleaned out and improved with native grasses and willows. Between the lakes and ponds are wildlife food plots of safflower and barley, and stands of ancient oak, now thriving thanks to Saso's efforts. The safflower provides habitat and cover for migrating dove, and the barley helps to stabilize the banks of a new pond. In the fall, Saso mows the barley and plants grasses so waterfowl can forage through the cut grain and nest in native grasses near the food supply. The oaks provide prime habitat for wood ducks. With the help of Dr. Ed Channing, who works with the federal government to band wood ducks and doves, Saso established 25-30 nesting boxes, with plans for 50-100 more. Some of the ponds are open with grasses and fields around their edges, while others are dense with shrubs, willows and oak around the edges and small islands in the middle. The water in the sloughs is shallower, and the area around them has thick willows and shrubs, which is attractive habitat for quail. The diversity of habitat attracts and supports a variety of wildlife and migrating waterfowl year-round.

The ponds are connected with a system of concrete pipes donated by the City of Modesto. The large pipes weigh several tons, which is necessary, Saso says, "because the floods will wipe them out otherwise." Saso has suffered damage and setbacks due to floods, especially the

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disastrous flood of 1997, but "the floods are natural and also help invigorate the land," so Saso expects the floods and understands the dual nature of the elements.

Establishing the habitat was costly, but since it provides a community service, Saso found ready support from government agencies, Ducks Unlimited, California Waterfowl Association and several other groups in the community to contribute to his investment. In particular, the local USDA-NRCS provided funding for the projects on the property through the Wildlife Habitat Incentives Program.

The ponds and lake are the more expensive part of the property. Once the pond sites are dug and leveled, a layer of diatomaceous earth and bentonite clay is added. The earth filters the water, and the clay seals it so the ponds hold the water diverted to them. Saso gets the mixture from a winery that uses it in wine filtration. Then the pipes with gates are installed so Saso can divert the water wherever it is needed. NRCS donates native wild seeds that are planted in the area so when water is added, lush habitat springs from what once was a barren sand bar.

The area attracts a variety of wildlife, especially bird populations that include egrets, herons, pelicans, bald eagles, kite hawks, osprey, king fishers, red-tailed hawks, several species of geese, diver ducks, mud hens, cocklers, mallards, wood

ducks, pintails, shovel-beaks, shore birds, quail, dove, pheasant, and countless others. The 340-acre West Hilmar Wildlife Refuge is located just across the river from Saso's land, and the egrets that utilize the rookery there often come across the river to feed in the feed plots Saso has established. Saso also sees beaver, river otters, cottontails, coyotes, squirrels, and other land animals on the property.

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HABITAT AROUND THE  
WATER, AND A FEW  
WELCOMING WILDLIFE  
FOOD PLOTS OF BARLEY  
AND SAFFLOWER.

The success of the property as a wildlife preserve is unquestionable, and Saso displays a proud smile when he first shows visitors the murky, muddy-colored water that enters the preserve, and then shows them the crystal clear water running through the last gate and into the river. The fact that this project is a private effort where many local people cooperate to improve habitat for wildlife is an important aspect of this ranch. Local government agencies have been pleased to note



the increase of private efforts like Saso's in Stanislaus County, and are eager to support such endeavors. Saso says, "The Wingsetter Ranch is an excellent example of private people working together to find private solutions for agriculture while providing enormous benefits to wildlife."

Saso credits the Stanislaus County Natural Resources Conservation Service, under the direction of Michael McElhiney, as well as the USDA for their roles in the success of the project.

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*Wildlife beneficiaries:*  
Waterfowl and various other species

*Conservation practices:*  
Wastewater management, improving wastewater holding facilities, planting wildlife compatible crops, pasture rotation, restoring wetlands

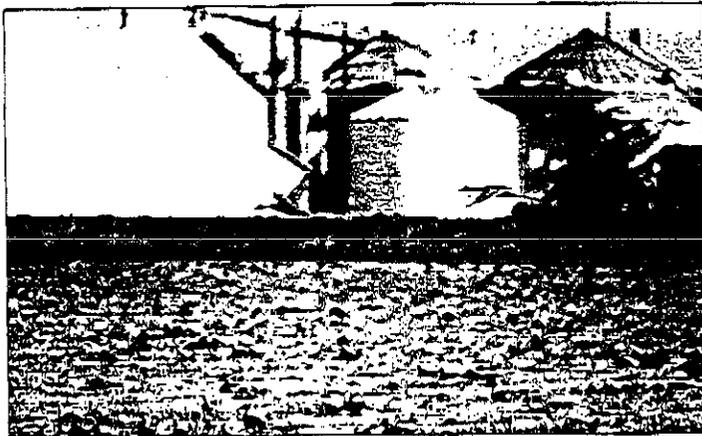


*Joseph Gallo Farms, Merced County*  
**DAIRY FARM**

**J**oseph Gallo Farms, located in central Merced County, is one of the largest dairy operations in the US with around 30,000 cows, 15,000 of which are milkers. Joseph Gallo Farms (JGF) is a family-owned company, and has 5 dairies along with 15,000 acres of corn, grain, and irrigated pastureland. Most of the milk from the

comply with regulatory requirements set forth by various public agencies." These practices include making sure wastewater doesn't get into streams, improving wastewater holding facilities, incorporating new lagoons, and continuing the "nitrogen balance" by fertilizing fields with manure, feeding the harvested hay to the cattle, and fertilizing the fields again.

## Valley Dairy Focuses on Environmental Compatibility



dairy operation goes to make cheese.

Randy Riviere is the director of JGF's Department of Environmental and Government Affairs, and he develops and oversees the dairy's conservation farming practices. Conservation is important to the family, says Riviere. "The Gallo family has always had an environmental ethic." He says the dairy's conservation practices fall under two categories, "compliance and compatibility." Compliance activities "ensure that all dairy functions

Riviere admits compatibility is the fun and interesting area for him, as it challenges the environmental manager with balancing the dairy's need for operations to be cost-effective, and making sure management practices benefit wildlife. This is particularly important since much of the farmland is located adjacent to one of the more important remnant wildlife habitat regions in California, the Grasslands Ecological Area, which includes more than 160,000 acres of national wildlife refuges, state wildlife areas and private wildlife habitats. The Grasslands Ecological Area is the largest contiguous block of wetlands remaining in the Central Valley. Riviere says compatibility practices include "planting wildlife compatible crops like cereal grains, corn, alfalfa, and irrigated pasture." Once these fields are planted, they are managed with wildlife in mind. "We work to reduce pesticide use, and we pay attention to the chronology of planting and harvesting." For instance, grain fields planted near the wildlife refuge are planted late to ensure short grasses for water-

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TO SAFELY FORAGE.

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fowl to safely forage. If the grain is to be cut for silage during the nesting season, it is planted far away from the wetlands. They plan to use flushing bars on harvesting equipment for any silage operations conducted during the nesting season. Irrigated pastures are grazed with wildlife in mind, rotating the cattle to keep the grass short enough to provide safe foraging habitat, but long enough to provide feed.

JGF has partnered with many different agencies and groups to help establish habitat restoration projects of wetlands and riparian areas. They include the US Fish and Wildlife Service, Ducks Unlimited, the Natural Resources Conservation Service and the California Department of Fish and Game. The habitat restoration projects are aimed at integrating farming operations with the Grasslands landscape. Wetlands have been restored on marginal farm ground, and JGF encourages their use to provide flood control and habitat for waterfowl and other species. Many of these projects are cost-share programs, though JGF's oth-

er conservation practices are viewed as normal management of the dairy, and JGF absorbs their cost.

JGF also has a unique partnership with US Fish and Wildlife Service on Joseph Gallo Bear Creek Ranch, which consists of over 2,000 acres of farmland and wetland habitat. On this ranch, wildlife compatible



Grassland Ecological Area. Forming the Bear Creek Ranch "agricultural easement" was an important step in the land protection strategies considered in the San Joaquin Valley, and serves as a blueprint for other easements currently under consideration.

Riviere is proud to be part of an organization that is progressive in wildlife-friendly farming techniques. "The Gallo family is committed to considering wildlife needs along with the requirements of a profitable operation."

Mike Gallo, the CEO of JGF, provides an added perspective to the ranch's commitment to the environment: "I grew up on this landscape and feel that it is very important to make sure its still here for future generations. Of course, I'm a business man as well, and I think its simply good business to do our best to work with the environment, not against it."

**RIVIERE SAYS**

**COMPATIBILITY**

**PRACTICES INCLUDE**

**"PLANTING WILDLIFE**

**COMPATIBLE CROPS LIKE**

**CEREAL GRAINS, CORN,**

**ALFALFA, AND**

**IRRIGATED PASTURE."**

cropping patterns such as cereal grain, corn alfalfa and irrigated pasture are integrated with wetland and riparian habitats and protected in perpetuity by a conservation easement.

Riviere maintains that JGF dairy operations are valuable as an open-space buffer against increased urban encroachment near the



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SIERRA REGION



Larry Hyder, El Dorado County  
FORESTER

CA589

*Wildlife beneficiaries:*  
Trout, deer, bears, foxes, raccoons, rabbits,  
turkeys, trout, frogs and lizards

*Conservation practices:*  
Prescribed burns, eradication of diseased stumps,  
creation and maintenance of stream habitat for fish,  
establishment of pools and spawning beds

Larry Hyder owns and manages several stands of Christmas trees and timber land in El Dorado County. He also operates a catch and release fly fishing program. His property is home to many species of wildlife including deer, bears, mountain lions, foxes, coyotes, raccoons, rabbits, turkeys, and trout. Hyder has worked extensively on

stream improvement on his home property as well as several other streams on separate lands. He says that it's "fun to show our place as an example of what can be done." He adds, "We have a motto that we've always had and always will have as long as the good Lord gives us the opportunity to manage these things: 'leave it better than you found it.'"

## Love for the Land Inspires Forester's Wildlife Commitment

This motto carries through to Hyder's everyday management practices. He does prescribed burns to help clean out and revive the land. He explains that these burns allow for the old, woody vegetation to be cleaned out encouraging new, tender vegetation and wildflowers to grow in. They also serve to burn out old, diseased stumps. This keeps disease and fungus from spreading, as well as providing new burrows for frogs, lizards, and snakes. He also says that as leaves, needles, and soil eventually fill up the holes left by the burned out stumps, "the finest growing medium in the world" is creat-

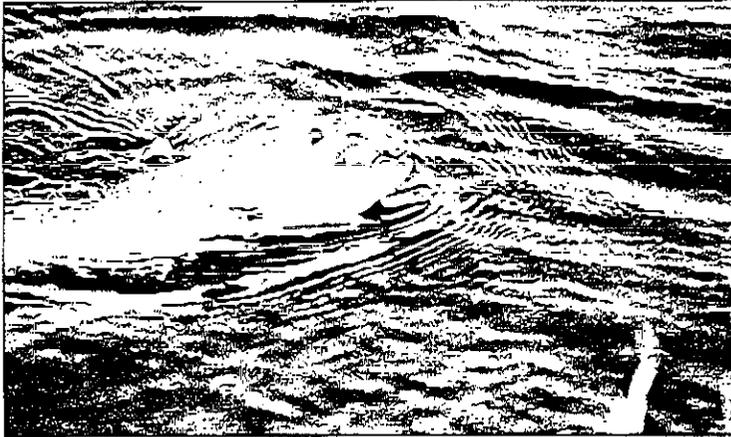
ed. The fires, of course, also help recycle nutrients back into the soil. According to Hyder, "Prescribed burning is the key...it's one of the most important things for wildlife."

Another thing that Hyder is heavily involved in is maintaining and creating stream habitat for fish. He comments on the fact that fish need to have deep pools to stay cool, as well as the more shallow gravel bars to spawn. He continuously cleans the trash and debris from his streams and hauls in gravel to make sure that there are enough pools and spawning beds for the fish, especially after large storms and floods, which can cause considerable damage to the streams. He is motivated to do these things because, he says, "We love the land - we love the land and the streams and everything that lives here."

"WE LOVE THE LAND—  
WE LOVE THE LAND  
AND THE STREAMS  
AND EVERYTHING  
THAT LIVES HERE."



CQ589



Hyder is disappointed that "the world does not understand how people fall in love with the land." When people who are unfamiliar with his efforts to help wildlife ques-

tion his motivations, he says, "that hurts me more than anything." He adds that, "people have no idea what [ranchers] go through...what they do in their everyday lives...to protect wildlife." Wildlife populations in his area have been increasing "unbelievably," says Hyder. This is no doubt due in large part to the efforts of Hyder and others to build and maintain wildlife habitat. He enjoys having other people come enjoy the wildlife on his property, and each year a group of physically challenged kids come out and spends the day fishing on his ranch.



He explains that his motto includes people as well. He wants to leave things better for his children, for his neighbors, and for anyone else who is touched by his efforts. Says Hyder, "It's a philosophy—it's a way of life."

Hyder is concerned that often, well meaning restrictions can get in the way of people's efforts to help wildlife by causing unnecessary headaches, waiting periods, and paperwork. Says Hyder, "Regulations are a curse to the people who genuinely want to help." He thinks that voluntary actions are the best way to approach helping wildlife. "People don't want to be told what to do...that's the key to it—you have to do it because you want to do it."

Hyder fears that he may sound "old fashioned" when he talks about his desire to learn about God's creation and "why it was so beautiful and why it was so good." Hyder simply wants to keep this process going as he continues in his efforts to protect and promote wildlife.

"WE HAVE A MOTTO  
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 YOU FOUND IT.'"



*Stan Hunewill, Mono County*  
**CATTLE RANCHER AND DUDE RANCH MANAGER**

**CQ584**

*Wildlife beneficiaries*  
 Bears, deer, ducks, geese, badgers, beavers, wolverines, raccoons, and trout

*Conservation practices*  
 Re-established 4-acre stock pond, water quality studies with UC Extension

Stan Hunewill is continuing a ranching tradition started by his great-grandfather in 1861. The ranch is located near Bridgeport in Mono County, and since the 1930s has been a dude ranch as well as an outside cattle operation. Running the dude ranch has given Hunewill a little more insight into the "environmentalists' thinking,"

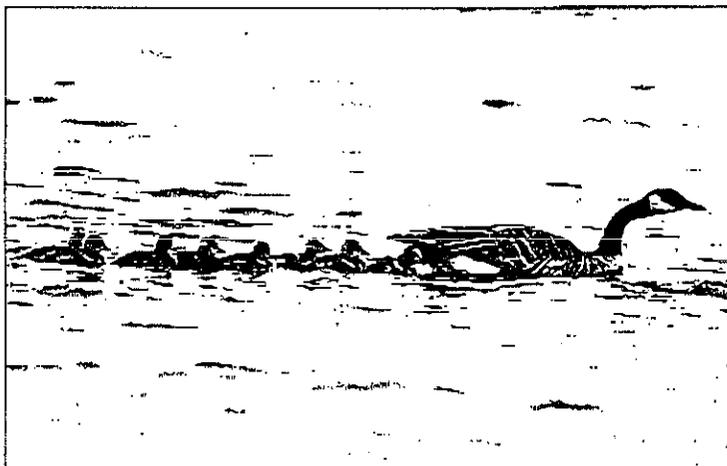
For the last several years, the Hunewills have practiced what is known as HRM, or "Holistic Resource Management," a philosophy and program that deals with grazing and land management practices. They are excited about the success of HRM on their ranch, and Hunewill says, "it's gratifying to see it really work on the land...it does make a difference." Using the

HRM model, the Hunewills have put up fencing that allows them to selectively graze

allowed UC Extension and other governmental agencies to conduct studies on his land, with the goal of improving water quality. Many of the studies have shown water quality in that watershed is not significantly affected by grazing operations. Instead, the water quality was impaired in higher elevations, above all the cattle land in that area. He is working with the agencies to find ways to improve the poor water quality he receives, so he can pass cleaner water downstream.

Hunewill has worked with many governmental agencies including the California Department of Forestry, The Natural Resource Conservation Service, and California Fish and Game. He has found

## Holistic Resource Management Is Key on Cattle Ranch



as many of the visitors to the ranch are members of environmental groups such as the Sierra Club. Some of the wildlife that the visitors come to see include bears, deer, ducks, geese, coyotes, badgers, skunks, beavers, wolverines, and raccoons. In fact, Hunewill recalls the visitors' scramble for cameras and camcorders as a bear came down from the hills and ran right through the compound where they were staying, giving them a closer look at the wildlife on the Hunewills' ranch than they bargained for.

their cattle. They use their cows to keep the riparian areas along the East Walker River and Robinson Creek healthy while at the same time they are able to keep them away from duck habitat during nesting season. According to Hunewill, "you can graze a lot of these areas if you manage it properly."

Hunewill has also re-established a 4-acre stock pond, where many species of trout are raised. In addition, many species of birds use the pond and area around it as nesting habitat. For several years he has

**"FEW PEOPLE KNOW  
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 WHO'VE LIVED ON IT  
 FOR SEVERAL  
 GENERATIONS...  
 WHO'VE SEEN  
 WHAT WORKS AND  
 WHAT DOESN'T."**

CQ589

in working with government agencies, "the local people are reasonable, but they have mandates from higher up," and often those mandates prove unreasonable. "We need to talk face-to-face with the high-up people [in the agencies], so we can figure out if they have a hidden agenda, or if they really care about the land." However, he has a strong desire to work with them, "because that's the only way the land benefits." He thinks that more ranchers would join forces with conservation agencies "if the higher-ups would meet with us and show real sincerity in dealing with the land."

Hunewill is concerned with regulations and government mandates. He believes that "there's a trend with federal mandates...[the government says] 'you're not a good manager and we'll help you do it right'...that kind of irritates a lot of folks." He understands that "few people know the land as well as the people who've lived on it for several generations...who've seen what works and what doesn't." But Hunewill says that it's equally important to

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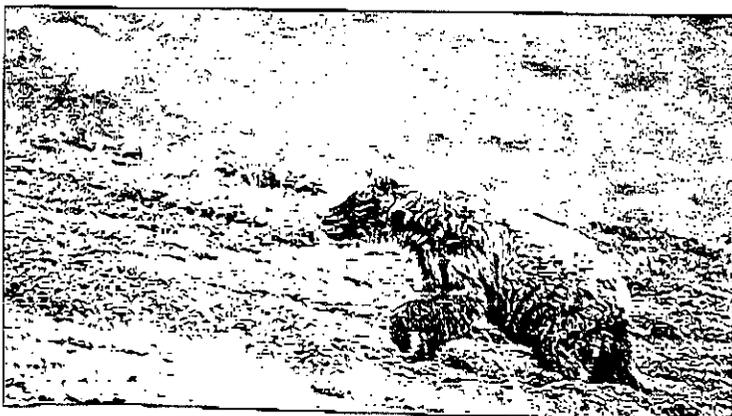
"be open to new ideas and new practices."

While "it should be obvious when you're feeding your family off the land that you're not going to exploit it," Hunewill maintains that he wants

"to work with the [government] agencies on a win-win basis, but when you're working with the government, that's not always easy because you're not on a level playing field." However, Hunewill's main concern is caring for wildlife and the land. He knows that "there's nothing to be gained by being an antagonist."

One of the questions the Hunewills ask themselves before making management decisions is, "is it socially, economically, and environmentally sound?" This attitude guides them in their management practices and Hunewill says, "We like to see everything living harmoniously and prosperously," and he's careful to explain that that's not just a "warm fuzzy feeling." He says that it requires constant monitoring and the assumption that you're not always right.

What it comes down to for Hunewill and his family is simply the fact that "we feel lucky to get to live here," and their family will continue to care for wildlife and the land as they have since their great-grandfather started it in 1861.





*Craig Ferrari, Nevada County*  
CHRISTMAS TREE FARMER

*Wildlife beneficiaries:*  
Wood ducks, owls, western bluebirds, sparrow hawks, quail, turkeys, and song birds

*Conservation practices:*  
Maintenance of wetland, nesting and brood areas, erosion control

Craig Ferrari purchased several acres north of Auburn in Nevada County 18 years ago, and uses it to grow retail, wholesale, and choose and cut Christmas trees; although he confesses that his first love is wildlife. After buying the property, the first thing he did was build a small, one-acre pond right in the center of it, explaining, "as



## Turning a Christmas Tree Farm into a Wildlife Refuge

they say, you build it, they will come." He's also involved in several other projects to attract wildlife to his farm.

Working with the California Waterfowl Association and Cornell University, Ferrari has installed 120 nesting boxes on his small farm for gray squirrels, bats, wood ducks, barn and screech owls, western bluebirds, and sparrow hawks. He says that one out of every ten Christmas trees has a songbird nest in it, and 500 wood ducks and 120 Canadian geese are raised on the farm each year. Some of the other species of wildlife on the property include quail, turkeys, deer, coyotes, bobcats, and cougars.

On his farm, says Ferrari, "everything's been designed around [wildlife]."

Each year, Ferrari plants "food plots" consisting of wheat, barley, vetch, rye, and peas for his birds. According to Ferrari, "the food plots

keep the animals close," giving them a "safe place to raise their young." Ferrari himself was raised in the city and he says simply, "I didn't like it there." An avid hunter, he enjoyed seeing wildlife during the hunting season, and he "wanted to see it year-round." With the exception of the deer population which he hunts to control, "nothing gets hunted" on his property now, "except with a camera." Says Ferrari, "I'm doing this for the love of wildlife."

In addition to these efforts, Ferrari creates brush piles to provide cover for birds, and maintains wetland, nesting, and brood areas. He also plants clover in his tree plots to help control erosion and recycle nitrogen back into the soil. All of these efforts are voluntary, and Ferrari and his wife, Leslie, supply all of the labor and resources to make it happen.

Although expensive, he reports that "it's been worth it," although "it doesn't happen overnight." He has worked with several government programs to help establish conser-

vation practices, and especially likes the Wetland Restoration Project programs, but is disappointed that "the good programs are being phased out."

Ferrari is also involved in a 320-acre project near Woodland, where he and the landowner, working closely with several government agencies, would like to turn the farm into a permanent wildlife refuge. But, according to Ferrari, they are often hesitant to take action and risk losing the right to farm the property in the future. For example, Ferrari would like to flood an area to create a pond for wildlife, but he is afraid to keep it flooded for over five years. After five years, the government will take away the right to farm it again, saying that the area would then be considered a permanent wetland. A concerned Ferrari comments, "that's not something I agree with when we're working to improve things and [the government] comes in and dictates that 'you can't farm this anymore.'" Says Ferrari, "They shouldn't be able to dictate how you run your farm."

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CQ589

CENTRAL COAST REGION



*Ed Holt, Santa Barbara County*  
CATTLE RANCHER AND VITICULTURIST

CA589

*Wildlife beneficiaries:*  
Various native species

*Conservation practices:*

Careful grazing and cattle management to match land cycles, land set aside, fencing sensitive areas near water sources, integrated pest management, cover crops

Wildlife is an important part of the landscape, and is of huge concern to the management on a 38,000-acre ranch in Santa Barbara County. The ranch was bought in 1952 by the Flood family, who live in San Francisco. They hired Ed Holt to work on the ranch 25 years ago, and Holt has been the manager of the cow-calf, vine-

so almost one-third of the growth remains when cattle are moved off the pasture. This goal can be high for the area, but it fits nicely with Holt's drought strategy, where he thins herds in dry years to match the slower plant growth, making his operation sustainable and consistent in quality through changes in weather patterns. "We're committed to no overgrazing," says Holt.

"Many ranchers think the ideal method [of grazing] is the wagon wheel," where sections are grazed in a constant rotation, but "we look at it as a larger system."

Holt uses rotational grazing, but in a more unconventional pattern. He looks at each pasture as a unique ecosystem; some require grazing every few months, others are more sensitive and require years of rest before cattle are needed again. Holt's rotation is characterized by short periods of grazing and long periods of rest, staggered to meet the diverse needs of each unique grazing area. Holt also manages the cattle herd to match the cycles of the land, changing calving times to January and February. That causes the time when pastures are most abundant to coincide when the cattle's feed requirements are the greatest.

Holt's conservation practices aren't all about economics, though. "We're also involved in setting aside pristine areas of the ranch, including riparian habitat," Holt identifies and fences off many sensitive

areas near water sources, and is developing a written management plan for each location. "You don't want to just fence it off and never touch it again," he says. "That's not managing it, that's just letting it go." These areas benefit from careful, site-specific management, and are "softly" grazed for a short time every three, four, or sometimes five years. Holt is also careful to fence many areas around the two creeks that run through the property, so he can keep the cattle out in the spring, when riparian species are the most susceptible. Holt comments, "When we rebuild springs and do other work, we're sensitive to the environment." Holt takes note of other species living and propagating in specific areas, and manages around their most sensitive times. "At certain times of the year we avoid certain areas" for the benefit of wildlife.

Holt also takes his habitat-friendly practices into the vineyards he man-

## Conservation Part of Heritage On Central Coast Ranch

yard and winery operations for the past 16 years. Holt believes in the importance of managing for wildlife and the whole ecosystem, as well as the commodities represented on the ranch, and says his voluntary conservation practices are "about heritage and education."

In this semi-arid coastal climate, where the ranch averages 15 inches of rainfall per year, grazing practices play a huge role in the health of the environment. Holt says, "We graze with a goal of 30% residue,"



**"WE'RE COMMITTED  
TO NO OVERGRAZING."**

ages. "We've used Integrated Pest Management in the vineyards since 1982," which, he says, was before many people knew what IPM was. In addition to releasing beneficial insects, Holt maintains cover crops in the rows. That has been

CQ589

interesting for Holt, who says, "we've gone through a whole cycle," of different cover crops, and "we've found the best are native species." The native species fertilize the ground, reduce erosion, and act as an insectary for beneficial insects. Holt is careful to be "very soft" on chemical usage, especially with regard to the amount and type of chemical applied. He uses specialized equipment that incorporates weather information into precision management practices. He uses data in disease modeling, and develops a high level of tolerance for pests and mildew. He also uses drip irrigation as a management tool, and to conserve water. Holt says, "We're spending less money and growing better quality fruit" using these practices, and they benefit the wildlife, too. Holt maintains "wildlife corridors" within the vineyard, through the middle and around all the edges. These areas contain thriving native species and Holt leaves them undisturbed throughout the year. Holt is not sure how he will manage these areas the best, since he won't bring cattle inside the vineyards to graze the corridors. Instead, he will probably burn pieces of the corridor sporadically to encourage growth and keep invasion of non-native species to a minimum.

While all of Holt's conservation practices benefit wildlife on the ranch, he admits, "economics is a motivation" for his habits.

The nature of his attitude about con-



servation practices often conflicts with his view of government involvement. Holt sees conservation as an ingrained attitude about the management of the land, where decisions are made conscious of the effects they will have a hundred years down the road. It involves constant education and change, improving awareness all the time. Government, by nature, is oriented towards a shorter time frame, as different administrations cycle through, and different values are placed at the forefront. He sees government employees as having a "god-like" approach, where their way is the right way, period. He says truly positive involvement by the government "would be more like a partnership." He also says, "Farmers and ranchers can believe in something strongly enough to pass it on to generation after generation," while the values of agencies are more cyclical. "They [the agencies] want instant results, and that's just not realistic." Holt sees that when the attitude towards private ownership

is negative, "the very thing they want to do," which is promote long-term conservation practices, "is what they're destroying."

Holt is frustrated by blanket environmental statements, which he says are unrealistic. "Each canyon, creek, and acre is a unique site that needs to be managed in a specific way. I know this property," says Holt. And he sees its management needs as varied. He knows conservation involves continual change, and farmers and ranchers understand that.

That's not to say all of Holt's experiences with government involvement have been bad. "I've had good luck with federal and state agencies," he says. "They have been very helpful." Holt has worked with the US Forest Service, the California Water Resources Control Board, and Cal-EPA. Holt's views are borne of his immense love of the land and the wildlife he encourages. He believes stewardship is part of the heritage of being a farmer or rancher that's passed on through generations. He says with every conservation practice, he needs to ask, "How do we make this part of the heritage of the ranch?" "I'm a farmer," Holt says, "but I'm also a manager of a wildlife habitat, and I'm trying to do a good job of it."

HOLT SEES  
GOVERNMENT  
EMPLOYEES AS  
HAVING A "GOD-LIKE"  
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HE SAYS TRULY  
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BY THE GOVERNMENT  
"WOULD BE MORE  
LIKE A PARTNERSHIP."

CQ589

Wildlife beneficiaries:

Bears, deer, hawks, kestrel, white-tailed kites, northern harriers, songbirds, quail, and dove

Conservation practices:

Protecting trees in a wildlife friendly manner, reduced use of herbicides, cover cropping, encouragement of beneficial insects, de-silting basins



Ken Doty, Santa Barbara County  
CITRUS AND AVOCADO GROWER

For Ken Doty, farming his 915 acres of citrus and avocados in Santa Barbara County is a family affair. His grandfather established the farm, and his father is still involved in it. Doty's daughter is a student at a college with one of the state's highest rated agriculture programs and is excited about her future in agriculture as well. Doty's

He uses repellants and wire cages around young trees to discourage deer instead of chasing them off the property, cutting back of pre-emergent herbicides, and growing cover crops between rows to cut down on erosion, while encouraging beneficial insects and increased wildlife habitat. He also utilizes de-silting basins for his runoff, and happily recounts the numerous waterfowl that frequent the areas.

DOTY FEELS THAT FARMERS TOO OFTEN ARE THE TARGET AND DON'T RECEIVE THE RIGHT ENCOURAGEMENT.

### Citrus and Avocado Farmer Enthusiastic About Wildlife



"If I can't enjoy the wildlife, what's the use of farming?" Doty asks. He's committed to conservation on his property, though he admits it's not always easy. "We've had to re-learn and re-think practices and timing on our operation, which has caused a lot of heavier machinery use and the resulting rescheduling nightmares." Doty does all of his conservation without the help of outside agencies, but he's "tired of coming to the table. We're always the target, and we never get anything back." He is frustrated with superior attitudes and the belief that environmental groups could and should "call all the shots" on his private land and operation. However,

Doty has shown private, voluntary efforts can be very successful. "We've just accepted the costs as part of the package."

Doty is good-natured about his wildlife-friendly farming practices, and says "our job as farmers and stewards of the land, is to do as much as we can to pass the land on to the next generation in as good or better condition than we found it in."

family enjoys the wildlife that frequents their farm, which include bear, mountain lions, deer, and many smaller species. Doty even describes himself as a "redneck bird watcher," identifying red tailed hawks, red shouldered hawks, Cooper's hawks, sharp shinned hawks, kestrel, white-tailed kites, northern harriers, countless songbirds, quail and dove on his property.

Doty says, "Some conservation practices are just smart farming."

"IF I CAN'T ENJOY THE WILDLIFE, WHAT'S THE USE OF FARMING?"

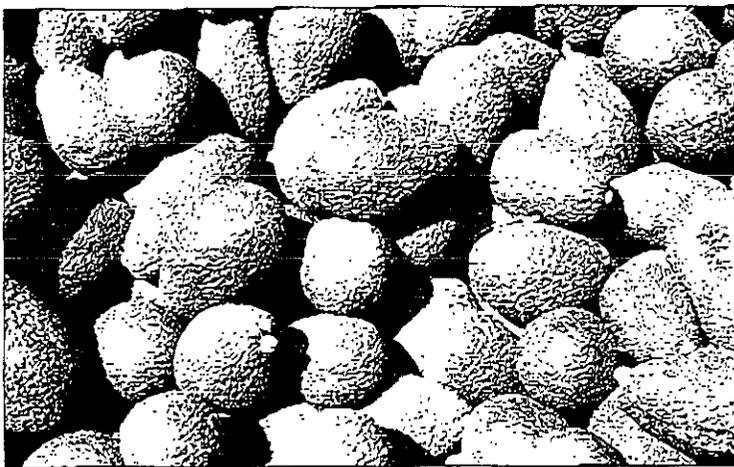


*Wildlife beneficiaries:*

Hawks, vultures, squirrels, songbirds, numerous creek species of fowl, amphibians, and fish

*Conservation practices:*

Cover-cropping to encourage beneficial insects, no-till farming, canopy management, runoff management, careful chemical management



**R**ick Shade is a custom grove manager in Santa Barbara County. He currently manages 20 acres of citrus groves, and 280 acres of avocado groves. This property is home to more than just fruit, though, boasting populations of hawks, vultures, coyotes, squirrel, countless songbirds, and numerous creek species of fowl, amphibians, and fish, including steelhead.

On this ranch, conservation is the key. Shade uses cover cropping to encourage beneficial insects and maintain soil quality and health, no-till farming to improve air quality and habitat, and is involved in canopy management for conservation.

The creek running through the ranch is of special importance to Shade. "We manage runoff and we use no pre-emergent chemicals," which contributes to the health of the watershed. In fact, Shade has worked with the Resource Conservation District (RCD) and "a slew of other agencies from federal to county to local" to develop a habitat im-

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CONSERVATION PLAN.

*Rick Shade, Santa Barbara County*  
CITRUS AND AVOCADO GROWER



provement and creek restoration plan. It will be a cost-share venture with the RCD initiated by Shade and the landowners he manages for. He believes it will benefit the species found in the creek, improve the watershed, and also be beneficial for the farm he manages.

Shade believes voluntary conservation practices are the most ben-

## Conservation Integral Part of Farm Operations

eficial to wildlife. "Most farmers want to [use conservation practices], but mandates end up discouraging them by throwing up a wall." He points out that farmers are independent and work well with flexible programs, where they can use their knowledge of their specific land and the wildlife that inhabits it to develop a site-specific conservation plan. But overall, most farmers are motivated to use conservation practices on their own. Shade says the motivation behind his conservation efforts is "we just want to be good neighbors."



CQ589

*Wildlife beneficiaries:*

Squirrels, gophers, rabbits, bobcats, hawks, deer, badgers, predator and song birds, spade-footed toads, and tiger salamander

*Conservation practices:*

14-acre buffer zone around vernal pool, planting of oak trees to create habitat, use of oak logs, owl boxes, permanent cover crops



*Kevin Merrill, Santa Barbara County*  
VINEYARD MANAGER

**K**evin Merrill oversees about 1200 acres of premium wine grape vineyards for the Mesa Vineyard Management Company in Santa Barbara County, which manages a total of 10,000 acres of vineyards in three coastal counties. Wildlife abounds on the land he manages, including squirrels, gophers, rabbits, bobcats, coyotas,

chinery work. The salamanders live in squirrel or gopher holes for several years, and then look for a pond to breed in, so "it's an issue of timing." Merrill is planting oak trees and bringing oak logs into the protected area to encourage squirrel populations. So the rodents don't get out of control in the vineyard, he has installed owl boxes away from the vernal pool for biological control, and occasionally traps gophers, but never poisons them. He's also established permanent cover crops in the area. These practices allow normal farming operations while protecting the fragile area and species around the vernal pool.

once it was listed it was too late to share the cost with the government.

"The ESA was created to protect a public good, but the landowner has to pay for the protection, and bears the brunt of the costs, while the public doesn't pay a thing. The landowner should be compensated," he believes. Still, Merrill thinks most landowners are interested in management practices that benefit wildlife, pointing out they initiated the biological studies and plans for the area themselves, knowing full well such an action invited interference and restrictions from the government. To them, the benefits of preserving sensitive areas outweighed the costs.

"In today's world many people are environmentally conscious and watch over other people's property. We need to learn to work together and educate those people about what we're doing, before we're hemmed in by the federal government and the Endangered Species Act and we can't do anything at all." Merrill believes voluntary conservation practices work better to protect wildlife than federal mandates. "The voluntary practices of farmers are what's kept the species here all along." Merrill believes, "Farmers are willing to help and learn," and with cooperation, everyone, especially the wildlife, will benefit.

## Vineyard Company Works With Endangered Species

"... WE NEED TO LEARN TO WORK TOGETHER AND EDUCATE PEOPLE ABOUT WHAT WE'RE DOING, BEFORE WE'RE HEMMED IN BY THE FEDERAL GOVERNMENT AND THE ENDANGERED SPECIES ACT AND WE CAN'T DO ANYTHING AT ALL."

hawks, deer, badgers, many insects, countless predator and song birds, as well as the spade-footed toad, and the federally listed endangered Tiger Salamander.

The Tiger Salamander is at the center of a management plan the company developed with the U.S. Fish and Wildlife Services (F&WS), the Army Corps of Engineers, and the county long before the Tiger Salamander was a candidate for listing. "We had a vernal pool on the property to be developed, so we hired a county biologist to come and develop a plan for the entire acreage." That's when they found the Tiger Salamander. Knowing the county was concerned about the species, Merrill invited F&WS, as well as the Army Corps of Engineers, to come out to the property and help them develop a plan to work around the sensitive area.

They now have a 14-acre buffer zone around the vernal pool where they do no vineyard planting or ma-

After developing this plan "we invited Fish and Wildlife out to do a count (of the Tiger Salamander), and they found about 30 from the get go," which was very encouraging. Since then, Merrill has encouraged the county and other agencies to visit the ranch and monitor the population to show his practices help encourage the endangered salamander.

The Tiger Salamander was listed under the Endangered Species Act (ESA) during the development of the management plan for the vernal pool. As a result, the management plan left the landowners with a \$100,000 bill, which came out of the profits of the ranch. "We had no opportunity to work with the U.S. Fish and Wildlife Service [for a cost-share program]." The Tiger Salamander had an emergency listing, so it occurred very fast, and

CQ589

**SOUTH MOUNTAIN / VALLEY REGION**

CB589

*Wildlife beneficiaries:*

Chuckers, three species of quail, two species of dove, red tail hawks, golden eagles, big horn sheep, mule deer and desert tortoise

*Conservation practices:*

Water development in hills and canyons, careful grazing management

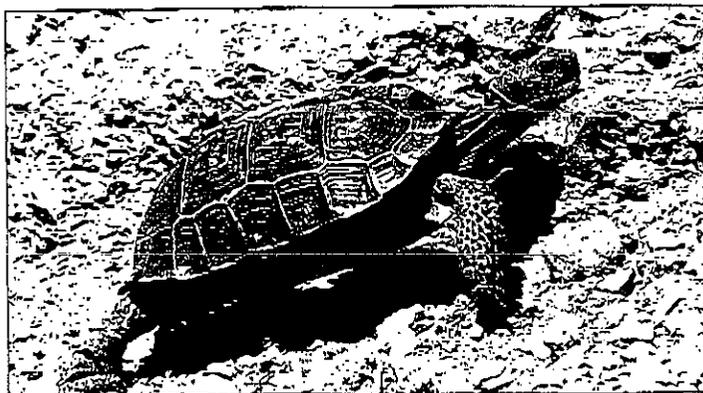


*Dave Fisher, San Bernardino County*  
CATTLE RANCHER

**D**ave Fisher, a high desert cattleman, lives and works on a San Bernardino County ranch that's been in operation over 150 years. The ranch is located about 25 miles southeast of Barstow and is home to many species of wildlife, including chuckers, three species of quail, two species of dove, red tail hawks, golden eagles, big horn sheep,

and mule deer where the plants are green and tender. He has put quite a bit of effort into developing water in the hills and canyons of his ranch. These water sources benefit not only the cattle, but the wildlife populations as well. According to Fisher, "when you develop water you literally develop an ecosystem around [it]." He also notes that some species of migratory animals now migrate through his ranch to take advantage of the water supplies.

## Wildlife Management is Tradition on 150 Year Old Cattle Ranch



mule deer, coyotes, foxes, and desert tortoise. Fisher is especially proud of the flourishing population of big horn sheep, which he attributes to his water developments. He also mentions that his ranch is home to the "most viable population" of desert tortoise in California.

Fisher practices responsible grazing management and comments that the plants and grasses on his land are very productive, thrifty, and vigorous where his cattle graze. If plants are not grazed, he says, they become "stagnant and woody." Wildlife avoids those areas and often grazes right along with the cat-

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AROUND [IT]."

Wildlife populations are thriving on his property, and, adds Fisher, "It's almost evident as soon as you cross the boundaries of our ranch." He is proud of the strong populations of wildlife on his land, but is upset that often government agencies get credit for such successes when it is actually due to the voluntary efforts of farmers and ranchers. Says Fisher, "We live here—this is our life—not only our livelihood but our life." He adds that voluntary efforts like his are simply "all a part of our operation—it's a part of our life...a part of us. It's the way we operate."

Fisher wonders about government mandates, asking, "Does that [mandate] mean that the majority of the American people mandate...that someone goes out and tells ranchers and farmers what to do with their land?"

But Fisher will continue in his efforts regardless of fear of regulation, saying, "There's nothing like seeing

wildlife do well because of your effort...because of your activities. But he is also humble in these efforts, commenting, "This nation is so young—what do we know about the environment anyway? It's with the grace of God that we've got what we've got."

*Wildlife beneficiaries:*  
Badgers, deer, quail, dove,  
and golden eagles

*Conservation practices:*  
Maintains water supplies for wildlife, controlled burns,  
vegetative management

*William Tulloch, San Diego County*  
CATTLE RANCHER



William Tulloch and his wife have operated a cattle ranch in eastern San Diego County for most of their lives, and according to Tulloch, his wife's family has been in the business for over 100 years. The management of the ranch reflects the Tulloch's desire to see wildlife prosper there. They believe that most of the ranchers in their area feel the same way—doing what they can to leave wildlife undisturbed. Some of the species on the ranch include bobcats, coyotes, mountain lions, badgers, ground squirrels, possums, deer, quail, doves, roadrunners, and golden eagles. Woodpeckers and starlings nest in the Tulloch's yard.

Tulloch keeps his windmills running on sections of land that have already been grazed. He says, "I do this mainly for the wildlife," allowing for a constant supply of water for the animals after the natural springs have dried up. He has many soil conservation projects, and he would like to do more to control the mountain lion population because of their significant effect, especially recently, on the deer population. However, he says that he's only able to get depredation permits to trap them if one is found killing a calf.

This is frustrating because according to Tulloch, "the deer population has really suffered."

The most effective conservation tool Tulloch uses has been controlled burns, which discourage non-native annuals and encourage native perennial grasses. The burns cut down on woody overgrowth the wildlife can't eat and encourages young green shoots, which are a favorite of the deer, particularly. However, lately he's run into problems with the Air Resources Control Board, which has issued an edict that holds a farmer or rancher responsible and financially liable for air pollution caused by controlled burns. Tulloch is nervous to take on that liability, so he is holding off on controlled burns until the issue is resolved. Currently, he says, the California Department of Forestry is trying to resolve the issue, once they see the benefits of controlled burns. Tulloch is positive about the burns because "burning opens up areas and brings springs back to life, providing a better food source for wildlife."

Tulloch believes that larger parcels of land like his provide a "refuge" for wildlife. Tulloch enjoys the in-

creased populations of wildlife on his lands. "We enjoy having them around. They're part of the natural scheme of things." He believes the government doesn't give wildlife enough credit. "Wildlife generally have the ability to take care of themselves." He still believes in using practices that help them, though. "Wildlife will take advantage of any improvements you make on the

## Southern California Cattle Rancher Provides Refuge for Wildlife

land," and that kind of reaction is what encourages him to use conservation practices.

Tulloch is discouraged by the management of public lands, especially in his area, commenting that "the quality of the public lands has deteriorated drastically in the last 40 years or so." He believes that this is due to the "no-burn policies" and other similar management practices. "Government lands are overgrown with weeds, which take up all available water and choke out feed vegetation." When the food and water disappear, "the animals go someplace else. But with proper management, good water and a secure food supply, they'll come back."

Tulloch is opposed to the use of federal mandates, believing them to be a "crutch" to control private land. He will continue in his voluntary efforts to promote wildlife on his ranch, simply because he likes to see wildlife.

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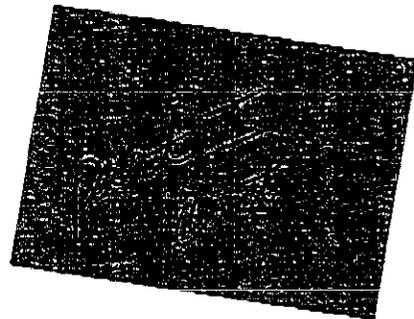
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