

Chapter 3

EWP PROGRAM ALTERNATIVES

Alternatives—This section is the heart of the environmental impact statement. Based on information and analysis presented in the sections on the Affected Environment (1502.15) and the Environmental Consequences (1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining issues and providing a clear basis for choice among options by the decisionmaker and the public. (40 CFR 1502.14)

This chapter describes how NRCS identified the alternatives evaluated in the Draft EWP PEIS and selected the Preferred Alternative for this Final EWP PEIS. It describes the:

- Scoping process that gathered input on the EWP Program from NRCS personnel, other agencies, and members of the public and used that input to define the Program alternatives that were analyzed in the Draft PEIS;
- EWP Program alternatives that were analyzed in detail in the Draft PEIS—the No Action alternative, the Draft PEIS Proposed Action, and the Prioritized Watershed Planning and Management alternative;
- Preferred Alternative that would fully or partially implement many of the elements of the Draft PEIS Proposed Action and that is analyzed in detail in this Final EWP PEIS; and
- Alternatives that were identified in the scoping process, but not considered in detail in the PEIS analysis, and why NRCS eliminated those alternatives.

The chapter provides text and tabular comparisons of the important aspects of the alternatives that would likely cause differences in environmental impacts and summarizes and compares the beneficial and adverse environmental impacts of the Program alternatives based on the detailed analysis presented in Chapter 5. It compares the socioeconomic impacts of the alternatives on affected human communities and compares the cumulative effects of the alternatives in affected watersheds. It then describes mitigation measures developed in the course of evaluating the alternatives that NRCS could employ to reduce or eliminate adverse environmental impacts. **[Please Note:** The text comparisons address the alternatives in sequence from 1 through 4. However, to emphasize their similarities, the tabular comparisons present NRCS' Preferred Alternative (Alternative 4), next to Alternative 2, the Draft PEIS Proposed Action, because Alternative 4 would adopt, in whole or in part, most of the elements of Alternative 2. In contrast, Alternative 3 would constitute a major change in the scope of the program.]

3.1 FORMULATION OF THE EWP PROGRAM ALTERNATIVES

As noted in Chapter 1, the purpose and need for the NRCS Preferred Alternative action is to incorporate changes into the Program recommended to improve the Program's effectiveness and to address environmental and other concerns. Authorization of floodplain easements for the Program in the 1996 Farm Bill and the recommendations of the O&E team were the first items to factor into defining the proposed action.

3.1.1 Ensuring Public and Agency Participation in the PEIS

In September 1998, NRCS announced its intent to prepare an EIS on the EWP Program (see 1998 NOI in Appendix A) and initiated a formal scoping process to solicit input on issues, concerns, and opportunities for Program improvement from the public and other local and Federal agencies. To ensure the public had an opportunity to comment, public scoping meetings were advertised in regional and local newspapers and held in Kansas City, Atlanta, Sacramento, Minneapolis, Albany, and Washington, DC. The first five cities were chosen because they are centrally located in regions where most EWP Program activities were being carried out and are accessible to the public by air, automobile, and rail transport. Meetings at these locations were expected to facilitate the involvement of State agencies, as well. Washington, D.C., was included to facilitate participation of interested Federal agencies. Public comments also were received by mail, e-mail, and toll-free phone line.

NRCS also held discussions with other agencies, including FSA, EPA, USFS, FEMA, U.S. Army Corps of Engineers (USACE), and USFWS, as well as NRCS field personnel who routinely deal with EWP projects.

In addition to the Federal agencies, 19 State agencies in 14 states and 20 County agencies in 12 states commented, as did regional agencies, a Native American tribe, and environmental groups.

Scoping: There shall be an early and open process for determining the scope of issues to be addressed and for identifying the significant issues related to a proposed action. ... the lead agency shall...invite the participation of affected ... agencies, and affected Indian tribe[s], and other interested persons ... determine the specific issues to be analyzed in depth ... [and] identify and eliminate from detailed study the issues which are not significant (CEQ NEPA Regulations, 40CFR1501.7).

3.1.2 Issues Identified through Scoping

A number of issues surfaced repeatedly during the scoping process. Most of the commenters said that the EWP Program is a good program because it works and that purchasing floodplain easements is a good idea because so much effort and money are spent to fix recurrent problems. Many said that methods more environmentally friendly than armoring should be used, that the exigency category is inconsistently and improperly used, that bureaucratic red tape delays projects, and proactive measures such as interagency pre-planning and coordination are critical.

Some commenters said that operating and maintaining floodplain easements might place too heavy a burden on landowners and that NRCS monitoring and maintenance of easements might be a problem. Others said that purchasing floodplain easements could lead to the introduction of threatened and endangered (T&E) species where none existed before, creating serious concerns for their protection. A few commenters said that the EWP Program is so good that it should stay exactly as it is—it should not be altered in any way. Other commenters said that NRCS should include relocation of households out of flood damaged locations as an alternative to installing restoration practices, and that NRCS should reduce funding for repairs on recurrent impairments. Some commenters urged NRCS to include drainage ditches, unstable channels, and lakeshores in the Program, and allow for substitution projects in which funds could be used, for example, to rebuild a recurrently damaged bridge at a different location. Details of the EWP PEIS scoping process and a review of each comment received are provided in Appendix A.

3.1.3 Comments on the Draft EWP PEIS

NRCS also solicited comments from the public and agencies on the Draft EWP PEIS. NRCS compiled and reviewed all Draft EWP PEIS comments submitted by Federal, State, and local government agencies, organizations, and members of the public and all substantive comments were considered in preparing this Final EWP PEIS. NRCS developed responses to the 202 substantive comments, including 119 comments from Federal agencies, 47 from State agencies, 14 from local agencies and tribal organizations, and 22 from a private individual. The comments and responses are provided in a separate section at the end of this Final PEIS. As noted in Chapter 1, the Preferred Alternative was developed based on those comments and on internal agency considerations concerning management, funding, and implementation feasibility.

3.2 ALTERNATIVES EVALUATED IN DETAIL

NRCS considered six EWP Program alternatives and evaluated the environmental impacts of four of those alternatives in detail in this Final EWP PEIS. The alternatives that were evaluated in detail are described here and summarized in Table 3.2-1.

Table 3.2-1 Progressive Increments of Program Change across Alternatives

	Alternative 1	Alternative 2	Alternative 4	Alternative 3
	No Action— Continue the Current EWP Program	Draft PEIS Proposed Action EWP Program Improvement and Expansion	Preferred Alternative EWP Program Improvement and Expansion	Prioritized Watershed Planning and Management
Types of watershed impairments NRCS would address	Address traditional types of watershed impairments—in-stream, near-stream on floodplain, and in critical upland areas	Include more types of watershed impairments—in floodplains away from stream, upland debris sites, enduring conservation practices	Include more types of watershed impairments—in floodplains away from stream, upland debris sites, enduring conservation practices	Include more types of watershed impairments—address impairments in floodplain away from stream, upland debris sites, enduring conservation practices, and others
Improvements in EWP Program delivery and defensibility	No EWP Program improvements would be made	Institute Program improvements to deal with current and new types of impairment work	Institute Program improvements to deal with current and new types of impairment work	Institute Program improvements to deal with current and new types of impairment work
New program planning and management structure	No new planning and management structure would be instituted	No new planning and management structure would be instituted	No new planning and management structure would be instituted	Institute prioritized watershed planning and management

3.2.1 Alternative 1—No Action—Continue the Current Program

Under the No Action alternative, NRCS would continue to administer the EWP Program as it does now. NRCS would not make substantive changes in administering the Program, in the procedures for review of projects before funding, or in follow-up on the Program's procedures after completion. NRCS would continue to purchase floodplain easements on agricultural lands but would not institute purchase of floodplain easements in the non-agricultural lands of small flood-prone rural communities. NRCS would not expand the EWP Program to include watershed impairments it does not currently address, such as damaged streambanks in agricultural lands, nor would NRCS make any other changes that have been recommended to improve the delivery or defensibility of the Program. This alternative simply continues the current Program described in Chapter 2.

3.2.1.1 Elements of the No Action Alternative

Fifteen elements of the current EWP Program that would remain in effect under the No Action Alternative are described here. These Program elements were the specific areas of improvement and expansion that were used to define the alternatives to the current program in the Draft EWP PEIS and the Preferred Alternative in this Final EWP PEIS. [Note: Changes have been made in the EWP Program to meet legal requirements since the time the Draft EWP PEIS was published and those are highlighted.]

EWP Element 1 - Emergency Terminology

No Action: Continue using the terms “exigency” and “non-exigency” as they are now used.

Under the No Action Alternative, watershed emergencies would continue to be classified, according to the current EWP regulation (7 CFR 624), as either exigency or nonexigency situations. An exigency exists when the near-term probability of damage to life or property is high enough to demand immediate Federal action. An exigency continues to exist as long as the probability of damage continues at a high enough level. A nonexigency situation exists when the near-term probability of damage to life or property is high enough to constitute an emergency but not sufficiently high to be considered an exigency.

EWP Element 2 - Exigency Funding and Completion Requirements

No Action: Continue current exigency response procedures.

Under the No Action Alternative, NRCS NHQ would continue to respond to State requests to provide funding for exigency responses as they are received by NHQ and would not provide each State with separate “pre-disaster” funding for “on the spot” State-level responses. NRCS would continue to allow 30 days to address exigencies.

EWP Element 3 - Prioritization of Project Funding

No Action: Continue using current procedures for project prioritization.

Under the No Action Alternative, NRCS State Conservationists would continue to prioritize EWP projects for their States in non-Presidentially-declared disasters as they deem appropriate and may include input from the sponsors in these decisions. In Presidentialy-declared disasters, NRCS would continue working with FEMA and the USACE in establishing priorities.

EWP Element 4 - NRCS and Local Sponsor's Cost-share Rates

No Action: Continue to Administer EWP under Current Cost-Share Rates.

Under the No Action Alternative, NRCS would continue to provide EWP funding at a Federal cost-share of up to 100 percent for exigencies and up to 80 percent for non-exigencies. [Note: Although current regulations tie cost-sharing to the exigency/non-exigency designation, NRCS has not been applying the 100 percent Federal cost sharing rate originally allowed for exigencies or the 80 percent rate allowed for non-exigencies for the past 10 years, but instead has been applying a single cost-share rate of 75 percent to both exigency and non-exigency situations.]

EWP Element 5 - Project Defensibility Review Criteria

No Action: Continue to employ current defensibility review requirements.

Under the No Action Alternative, NRCS would continue to be review EWP recovery practices to determine whether they are economically and environmentally defensible.

EWP Element 6 - Level of Inter-agency Coordination, Planning, and Training

No Action: Continue current EWP Program coordination, training and planning.

Under the No Action Alternative, NRCS would continue its current level of interagency coordination, training, and planning in each State with no specific national provisions to improve interagency coordination, training, and planning.

EWP Element 7 - Eligibility of Repairs to Agricultural Lands

No Action: Continue to disallow repair of impairments to agricultural lands.

Under the No Action Alternative, NRCS would continue to disallow repair of impairments to agricultural lands. This would preclude use of restoration measures such as streambank armoring to protect high-value croplands from continued erosion caused by future flooding.

EWP Element 8 - Eligibility of Repeated Repairs to the Same Site

No Action: Continue to allow repeated repairs to EWP sites.

Under the No Action Alternative, NRCS would impose no restrictions on the number of repeated repairs of damaged EWP sites that could be funded. For example, a flood-damaged levee could be rebuilt at the same location any number of times additional flood damage occurs.

EWP Element 9 - Multiple Beneficiary Eligibility Requirement

No Action: Continue to require multiple beneficiaries for non-exigency measures.

Under the No Action Alternative, NRCS would continue to require that multiple beneficiaries be identified and documented in the project Damage Survey Report (DSR) for site repair of non-exigency emergencies. This is not a requirement for exigencies where sites with single beneficiaries are eligible for EWP repairs.

EWP Element 10 - Eligible Restoration Methods

No Action: Continue to employ only least-cost restoration measures.

Under the No Action Alternative, NRCS would continue to fund disaster recovery measures on a least-cost basis for repair of site damage alone, so long as they are environmentally defensible, without regard to ancillary environmental considerations or benefits.

EWP Element 11 - Compatible Uses of Floodplain Easement

No Action: Continue to allow land-owner uses of floodplain easements under the three existing compatible-use categories.

Under the No Action Alternative published in the Draft EWP PEIS, NRCS would have continued to fund agricultural floodplain easement purchases under three compatible land-use categories. Since that time, NRCS has been required to restrict compatible uses to a single category of uses. This change is consistent with the improvement proposed under the Draft PEIS Proposed Action and Alternative 3 and this Final PEIS Preferred Alternative.

EWP Element 12 - Eligibility of Repairs to Enduring Conservation Practices

No Action: Continue to disallow repairs of enduring conservation practices.

Under the No Action Alternative, NRCS would continue to disallow repair of enduring (structural or long-life) conservation practices (to which the Chief previously allowed a blanket exception).

EWP Element 13 - Eligibility of Improved Alternative Recovery Solutions

No Action: Continue to disallow funding of improved alternative solutions.

Under the No Action Alternative, NRCS would continue to disallow partial funding of improved alternative solutions. NRCS would fund projects based on a least-cost design to achieve the specific site restoration objectives only, without regard to any additional benefits sponsors may wish to gain with an expanded but more expensive design.

EWP Element 14 - Eligibility of Recovery Work Away from Streams and Critical Areas

No Action: Continue to disallow disaster-recovery work away from streams and critical areas.

Under the No Action Alternative, NRCS would continue to disallow disaster-recovery work in floodplains away from streams or in upland areas, except in critical areas or in cases of drought or fire.

EWP Element 15 - Floodplain Easement Eligibility on Improved Lands

No Action: Continue to disallow purchase of floodplain easements on improved lands.

Under the No Action Alternative published in the Draft EWP PEIS, NRCS would have continued to disallow purchase of floodplain easements on improved lands. Since that time, NRCS has instituted procedures to acquire improved lands in connection with floodplain easement purchases where continued use of those lands would affect NRCS ability to attain the benefits of the floodplain easement by restoring full floodplain function. This change is not fully consistent with the improvement proposed under the Draft PEIS Proposed Action and Alternative 3 but is consistent with this Final PEIS Preferred Alternative.

3.2.2 Alternative 2—EWP Program Improvement and Expansion under the Draft PEIS Proposed Action

3.2.2.1 Elements of the Draft PEIS Proposed Action

In the Draft EWP PEIS, NRCS proposed to implement changes in the 15 program areas to improve and expand the EWP Program. The first 11 Draft PEIS proposed changes were in how the EWP Program is conducted. Under four additional changes, NRCS had considered incorporating new types of disaster recovery work that were currently covered to some extent by other USDA programs or State or local authorities, or that were not covered at all. The details of these Draft PEIS proposed changes are described here.

EWP Element 1 - Emergency Terminology

Draft PEIS Proposed Action: Eliminate the terms “exigency” and “non-exigency.”

In many cases, the term “exigency” has been applied too liberally and implemented for purposes for which it was not intended because the Federal government covered 100 percent of the repair costs. Interpretations of “exigency” and “non-exigency” vary so widely among NRCS personnel and are so ingrained, that uniform definitions cannot be reached. In some cases, an “exigency” allows certain contracting procedures to be waived; in others, an “exigency” ensures funding of a project; and in still others, sponsors use “exigency” to obtain a better cost-share rate and to circumvent normal permitting requirements. These interpretations are not what NRCS intended when the two categories were established. Rather, the original intent was to allow NRCS to respond quickly to only those situations that needed immediate attention and that could be addressed within 30 days. Current regulations tie cost-sharing to this designation, although NRCS has not applied the higher cost sharing rate originally set for exigencies for the past 5 years, applying a single cost-share rate of 75 percent to exigency and non-exigency situations.

Under the Draft PEIS Proposed Action, both terms would be eliminated and all sites would be considered simply emergency sites. Recognizing that certain situations require immediate attention, a second related change also has been proposed and is discussed under Element 2.

The most substantive implication of eliminating the terms “exigency” and “non-exigency” is that the term “exigency” is cited in a nationwide 404 permit issued by the USACE for work within waters of the U.S. This permit allows emergency recovery work to proceed quickly without the issuance of an individual 404 permit for each site. Other agencies’ documents may need to be changed, as well. [Note: As of January 2002, USACE NWP-37 no longer used the terms.]

This change would result in more uniform delivery of the EWP Program across the nation. A single emergency category would leave no room for interpretation. Eliminating “immediate need” for action would allow the Damage Survey Report (DSR) team the time to evaluate all aspects of a site from economic, environmental, and social standpoints. This change should not affect Program funding. This change would necessitate parallel changes by other agencies (including the historic preservation agencies that follow the definitions of emergency in 36 CFR Part 800) and may cause confusion until agencies and sponsors adjust to new terminology.

EWP Element 2 - Exigency Funding and Completion Requirements

Draft PEIS Proposed Action: Stipulate that “urgent and compelling” situations are to be addressed immediately upon discovery.

“Urgent and compelling” situations exhibit an extremely high potential for loss of life or significant property damage unless immediate action is taken. Instituting this element of the Draft PEIS Proposed Action would allow NRCS to provide immediate funding and contract emergency-response measures on the spot.

Occasionally a situation demands immediate action to avoid potential loss of life or property should another disaster event occur shortly thereafter. An urgent and compelling situation cannot be ignored in good conscience. Examples of such a situation are debris jamming a bridge or culvert, causing water to back up and possibly endanger nearby buildings or the bridge itself; and a building being undercut by a streambank that, if not stabilized immediately, could result in loss of the building.

This change to the EWP Program would allow immediate action when no reasonable alternative is available. The NRCS damage survey team leader would be authorized to carry out the needed remedial work to alleviate the urgent and compelling situation once:

- A DSR is completed
- A team member has, or can secure, procurement authority
- EWP funds are available
- A determination is made that cost-share funds are available from the sponsor(s)
- Necessary land rights have been acquired.

Relieving an urgent and compelling situation could entail a simple temporary correction until a more permanent solution can be designed and implemented. The “urgent and compelling” designation would not be used to circumvent the permitting process, although permits could be obtained after the fact in accordance with emergency permitting procedures. Other agencies would be notified as quickly as possible after the fact. All work on urgent and compelling situations would be completed within five days of the site becoming accessible.

Staff members with appropriate procurement authority would be permitted to hire a contractor and relieve the immediate threat after a site is evaluated. Funding of up to \$25,000 per event would be immediately available without request from a special fund established in the national office of NRCS for these situations. This would allow NRCS field personnel to react quickly and appropriately. Table 3.2-2 addresses actions a State can take based on the availability of funds.

The changes introduced by this and the previous elements of the Draft PEIS Proposed Action would reduce the number of situations when immediate action is taken, limiting immediate action to situations of an extremely critical nature. It would save time and better respond to local needs.

Table 3.2-2 Actions Available for Urgent and Compelling Situations

Availability of Funds	Cost \$25,000 or less	Cost > \$25,000
EWP funds available in state	Proceed immediately	Proceed immediately
State does not have sufficient EWP funds available	<ul style="list-style-type: none"> ➤ Proceed immediately ➤ Funds available from national office ➤ Notify national office when job is complete 	<ul style="list-style-type: none"> ➤ Contact national office for funding over \$25,000 ➤ Proceed when notified funds are available

EWP Element 3 - Prioritization of Project Funding

Draft PEIS Proposed Action: Set priorities for funding EWP practices.

In some situations, more EWP work needs to be carried out than can be covered with available funds. In other cases, damage is so great that an extended period is necessary to complete work on all eligible sites. When a State Conservationist declares a local disaster, this element of Alternative 2 recommends the following priorities to determine the order in which sites/counties/areas would be repaired.

Table 3.2-3 Priority Order of EWP Funding

PRIORITY	DAMAGE SITUATION
1	Urgent and compelling situations
2	Sites where there is a serious, but not immediate, threat to human life
3	Sites where buildings, utilities, or other important infrastructure components are threatened
4	Sites with Federally Protected Resources, including: <ul style="list-style-type: none"> ➤ Sites inhabited by federally listed T&E species or containing the species' designated critical habitat where the individuals of the species or the critical habitat would be in jeopardy without the EWP practice ➤ Sites that contain or are in proximity to historical and cultural sites listed on or eligible for listing on the National Register of Historic Places where the listed resource would be jeopardized if the EWP practice were not installed ➤ Sites where prime farmland supporting high value crops is threatened ➤ Sites containing wetlands that would be damaged or destroyed without the EWP practice ➤ Sites that have a major affect on water quality
5	Sites containing unique habitat– supporting State-listed T&E species or species of concern, recreation, or State-identified sensitive habitats other than wetlands
6	Other lands

Currently, in a Presidentially-declared disaster, NRCS takes its direction from FEMA (or the State agency having emergency recovery responsibilities). NRCS would continue to do so after the implementation of this change, following priorities set by those agencies. This could result in some deviation from the above priority list in those circumstances.

EWP Element 4 - NRCS and Local Sponsor's Cost-share Rates

Draft PEIS Proposed Action: Establish a cost-share rate of up to 75 percent for all projects (except for those in limited-resource areas, where sponsors may receive up to 90 percent).

Under current EWP Program regulations, exigencies receive up to 100 percent Federal funding and non-exigencies up to 80 percent Federal funding. Eliminating the exigency and non-exigency categories would also eliminate the differential cost sharing and make these regulations moot. A single category of emergency would require a single cost-share rate. In addition, NRCS would reduce the general cost share ceiling to align it with the rate used in related Federal programs. Under the Draft PEIS Proposed Action, NRCS would reduce the general cost share rate, funding all emergencies up to 75 percent.

However, some increase in the Federal cost-share rate appears warranted for sponsors with limited resources because NRCS recognizes the needs of those who might not be able to participate in the Program at the 75 percent cost-share rate. Therefore, NRCS would make limited-resource sponsors eligible to receive up to 90 percent Federal funding.

A limited-resource area (normally a county or tribal lands) would be defined as an area where housing values are less than 75 percent of the state average, per capita income is less than 75 percent of the national median income, and unemployment during the preceding three years is twice the U.S. average. All 3 criteria would have to be met to qualify. The most recent U.S. census data for an entire county would be used regardless of the income of individual communities. About 10 percent of U.S. counties are expected to qualify as limited-resource areas.

If a natural disaster strikes a limited-resource community in a non-limited-resource area, the NRCS State Conservationist would have the authority to document the limited-resource status using state census data for the three factors mentioned above, and thus approve the 90 percent cost-share rate for that community. In no case would this procedure be used for a unit smaller than a community, which is defined as a unit of government, an American Indian tribe on tribal land or a reservation, or a group of people within a bounded geographical area who interact within shared institutions, and who possess a common sense of interdependence and belonging. Communities would be categorized as limited-resource communities based on their median housing values, per capita income, and level of unemployment. Implications of this change are that participation in the Program would be more readily available.

Reducing the rate from 100 percent to 75 percent would not change Program operation since the 100 percent rate has not been used for the past 5 years, but it could result in a need for additional Program funds to cover the higher rate for limited resource areas. This change also would keep the EWP Program aligned closely with the emergency programs of other agencies.

EWP Element 5 - Project Defensibility Review Criteria

Draft PEIS Proposed Action: Stipulate that practices be economically, environmentally, and socially defensible and identify the criteria to meet those requirements.

Current EWP Program review standards require NRCS staff to review proposed EWP emergency practices for environmental and economic defensibility as well as for technical soundness. Under the Draft PEIS Proposed Action, NRCS would add a social defensibility review requirement, which would require review of alternatives based on the ideals and background of the community, including an American Indian tribe, and individuals directly affected by the recovery activity. All three categories would be used to determine a project’s overall defensibility. Further, a project that is not economically defensible could be eligible for EWP Program funding if there were a compelling social or environmental justification for the work. This principle is implemented in the new rule with the elimination of the least-cost requirement for restoration design selection.

Because more values are at issue in decisions concerning EWP practices than can be expressed in strictly economic terms, NRCS proposes to change its policy to ensure that all benefits—not just dollar benefits—are included in site evaluations. The Government tends to deal strictly with a cost-benefit ratio and does not generally account for benefits that cannot be expressed in dollar terms. However, environmental and social factors have a direct impact on or are affected by EWP work but cannot be expressed easily in terms of dollars. This change is proposed to ensure that environmental and community values as well as economics are taken into

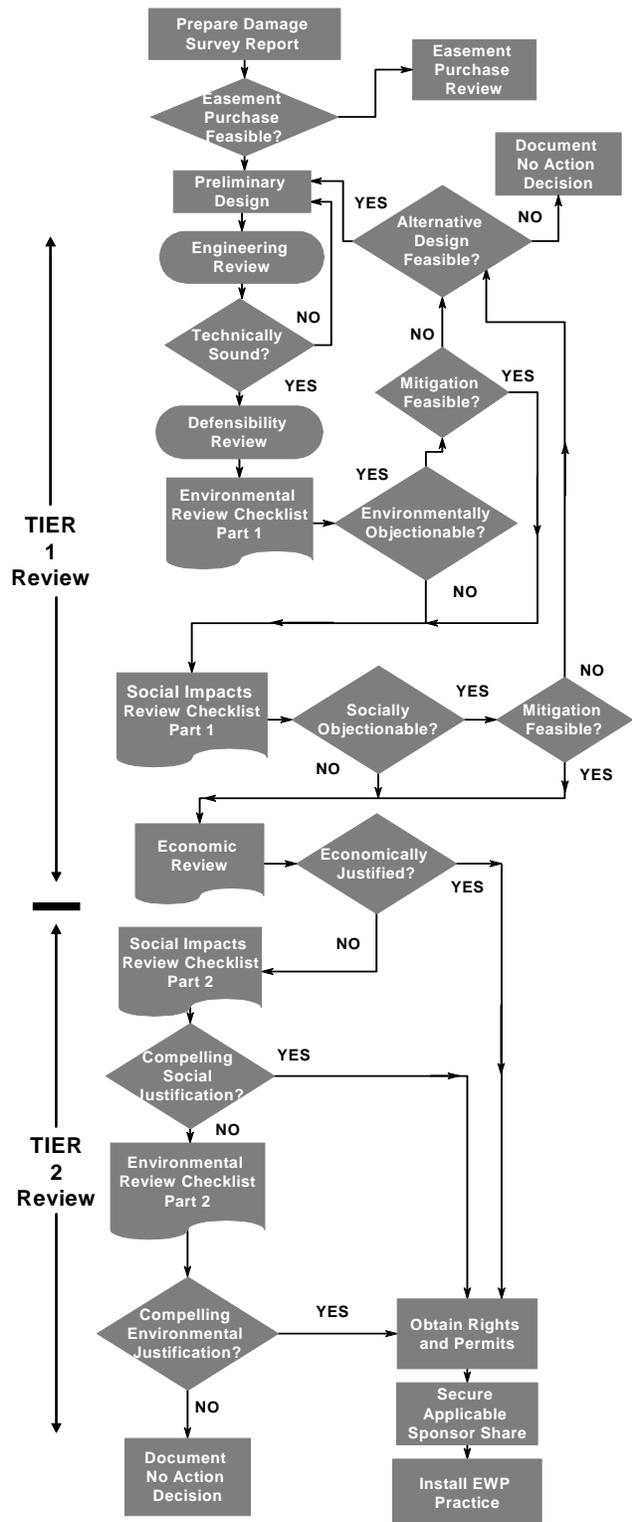


Fig. 3.2-1 Flow Logic for Defensibility Review of EWP Practices

consideration. If a more expensive, but more environmentally or socially compelling solution is available, EWP may proceed with the higher cost solution.

Only EWP sites that meet the overall defensibility criteria would be installed with EWP Program funding. The EWP work proposed for a site would be considered defensible if the practices installed:

- Comply with Federal, State, and local laws
- Are acceptable to affected individuals and communities
- Protect natural and cultural/historic resources effectively
- Include all necessary physical components
- Reduce targeted threats to life and property effectively.

A logical sequence of steps (Fig. 3.2-1) would be taken in reviewing the decisions to be made at an EWP site.

The two-tiered process assumes that NRCS has determined that life or property is being threatened by a watershed impairment as a result of a natural disaster. The Tier 1 review gauges the technical, environmental, social, and economic defensibility of the proposed solution. The Tier 2 review examines impairments with compelling environmental or social impacts that could outweigh economic defensibility requirements in the best interests of society.

At the start of every EWP site repair, a determination is made as to whether an easement would be feasible for the site. If not, a preliminary design for an appropriate EWP practice is prepared and reviewed for technical soundness. Then, the environmental, social, and economic defensibility of the proposed practices are evaluated. The Tier 1 environmental and social defensibility reviews employ checklists to determine if the installed EWP practice or some aspect of the EWP project could potentially harm some important element of the environmental or social communities in the locality. Where such adverse effects are likely and may be significant, mitigation to reduce the effect below a level of concern is considered. Where such mitigation is not feasible, redesign is considered, and if implemented, would be included as part of the project costs and shared by NRCS and the sponsor. Where redesign would not help, the proposal would not go forward.

Under Tier 1 review, EWP work would be environmentally defensible if 1) the proposed recovery work would not adversely affect the environment or 2) any adverse effects could be adequately mitigated. If there were a potential for a significant environmental impact at a site, for example, a potential for the EWP work to jeopardize a T&E species, mitigation would be required before any work would proceed. The mitigation might involve delaying the work or employing some alternative restoration measure, or the decision might be made to not do any work at all. Work in a stream that supports salmon reproduction might need to be delayed to ensure that no impact to their spawning occurs. Where adverse impacts might occur that would not be significant, all reasonable mitigation efforts to minimize the adverse effects would be accomplished as feasible, and the proposed work would proceed.

NRCS is considering how to consistently evaluate the social defensibility of EWP Program practices at the field level. The approach under consideration is based on a checklist of social, socioeconomic, and local/community cultural values that EWP Program field personnel would use when filling out the DSR for a site. This checklist would be in line with the economic and natural and cultural/historic environmental evaluation checklists that are part of the DSR described in the National EWP Handbook. NRCS would ensure that this checklist is consistent with the social impact evaluation in the PEIS. For example, installation of a large debris basin may protect individual homes but might disrupt the pattern of social life in the affected neighborhood. Consideration would be given in this case to possible redesign or relocation of the debris basin, if feasible, to minimize the effect.

To determine economic defensibility, near and long-term probable damages to the property, not the market value of the property being protected, would be evaluated (see proposed revised DSR in Appendix C).

Tier 2 checks are undertaken if the determination is made in the economic evaluation that the proposed practice is not economically justified simply in terms of the monetary value of the protected property and related dollar values. Where compelling environmental or social values would be protected, the recommendation may be to proceed with the installation of the EWP practice, even though the economic defensibility review was not favorable. Examples might be sites where critical spawning habitat or a low value home would be protected. Where neither case could be made, the proposal would not go forward.

EWP Element 6 - Level of Inter-agency Coordination, Planning, and Training

Draft PEIS Proposed Action: Improve disaster-recovery readiness through interagency coordination, planning, and training.

To improve disaster recovery readiness under the Draft PEIS Proposed Action, NRCS would:

- Seek to improve coordination between EWP and other emergency programs;
- Require that State conservationists prepare Emergency Recovery Plans (ERPs) that detail working relationships with other groups on the Federal, State, and local levels; and
- Employ disaster assistance recovery training (DART) teams to train its employees.

Interagency coordination: NRCS would evaluate and implement ways to improve coordination between the EWP Program and other emergency programs. Coordination would help each agency understand better the roles and responsibilities of the other agencies. This would entail working more closely with EPA, USFWS, FEMA, NMFS, USACE, USFS, Bureau of Land Management (BLM), tribal governments, State Historic Preservation and Archaeologist's Office, and State emergency response and recovery agencies before a disaster to avoid problems with permits, regulatory consultation, and duplication of work. This was a key point brought out at public scoping meetings.

Planning: NRCS would request State Conservationists to prepare Emergency Recovery Plans (ERPs) to define working relationships among Federal, State (including historic preservation offices), and local groups, as well as tribal governments. The State conservationist would

activate an ERP when a natural disaster occurs or an emergency is declared. In those cases where a state plan already exists, and NRCS is a major partner in that plan, a separate ERP would not be required.

State conservationists would take the lead in establishing and coordinating EWP disaster-readiness teams to develop State ERPs for implementation in case of emergency. A State team should consist of leaders of the USFS, USFWS, EPA, USACE, FEMA, other USDA agencies, State agencies, State associations of conservation districts, tribal governments, and other agencies and partners needed to accomplish the task of this team. A State disaster-readiness team should meet periodically (at least annually) to review procedures, update the ERP if appropriate, and meet other agencies' emergency-preparedness personnel. The ERP would address:

- The role of each cooperating agency
- Coordination of immediate disaster response
- Potential sponsors of EWP work
- Typical practices used in recovery work
- Expediting the permitting and mandatory consultation processes
- Contracting procedures
- Environmental concerns, especially identifying critical habitat of T&E species, wetlands, and cultural/historic resources
- Environmental justice
- Appropriate public outreach and on-going consultation efforts to keep the public informed
- Other issues as needed

This plan is expected also to include a record of those areas that would require consultation with the USFWS and National Marine Fisheries Service (NMFS) on threatened and endangered (T&E) species and coordination under the Anadromous Fish Conservation Act (AFCA); State Historic Preservation Officer, Tribal Government, Tribal Historic Preservation Officer (THPO), and other consulting parties including federally recognized tribes on cultural resources (as per the nationwide Memorandum of Agreement (MOA)); EPA and USACE on permitting under Section 404 of the Clean Water Act; and State Department of Natural Resources (or other cognizant State agency) on State permits and State-listed species. EWP Program planning would identify environmental baseline information, including T&E species, cultural resources, and other sensitive resources such as wetlands and fisheries deemed important by the State and other resource agencies, including the USFWS and the NMFS. All these resources would be identified in the ERP. This PEIS hereby incorporates by reference the latest listing of T&E species, as published in 50 CFR 17.11 and 17.12, as revised.

Training: NRCS would employ interdisciplinary DART teams with up-to-date knowledge of the EWP Program to provide disaster-readiness training to NRCS employees on a non-emergency basis. The teams also could be dispatched to disaster sites to train employees, sponsors and others in emergencies. DART team services would be provided upon request of a State Conservationist and could be adapted to meet specific needs.

In an emergency, the team would help a State Conservationist establish an emergency recovery office, train local personnel, and recommend operating procedures. Once a work force is trained,

DART team members would return to their duty stations but remain available for consultation. DART would uniformly execute the EWP Program across state lines.

DART disaster-readiness training would emphasize how best to be prepared in the event of a disaster. Teams would focus on developing ERPs and coordinating with other agencies, including SHPOs, THPOs, State fish and game departments, and others, to avoid having to make fundamental decisions under duress.

Implications of this element include the establishment of more uniformity in Program delivery, improved cooperation between agencies involved in recovery work, and a more efficient response to disaster.

EWP Element 7 - Eligibility of Repairs to Agricultural Lands

Draft PEIS Proposed Action: Allow repair of impairments to agricultural lands using sound conservation alternatives.

Under current regulations, long-term structural protective practices are not implemented on unimproved agricultural land. The Draft PEIS Proposed Action would allow NRCS to install sound structural practices on unimproved lands where economically, environmentally, and socially defensible. Current policy does not allow permanent structures such as riprap to protect agricultural lands, including high-value agricultural lands. However, in the past riprap was used indiscriminately to stabilize streambanks. This was not in the best interest of conservation and the process often raised questions about the economic defensibility of the work.

This policy is being dropped because the USDA is moving away from riprap as the invariable solution of choice due to the increased emphasis on defensibility to justify carrying out needed work. NRCS technical specialists would be encouraged to use combinations of armoring, bioengineering, and vegetation to protect streambanks where appropriate.

The intent of this Proposed Action Element is not to resume use of riprap for all high-value agricultural lands, but as would be the case for the improved EWP Program in general, to emphasize use of restoration design based on natural stream dynamics and bioengineering. Nevertheless, riprap may prove to be the only technically feasible solution on certain sites, particularly where high flow velocities occur.

Implications of this action are increased streambank work carried out under the Program and thus increased Program costs. In addition, landowners would have equal chances of receiving needed benefits.

EWP Element 8 - Eligibility of Repeated Repairs to the Same Site

Draft PEIS Proposed Action: Limit repair of sites to twice in a 10-year period.

Successive disasters may strike one area within a relatively short period and require repeated emergency EWP interventions at one location. Under the Draft PEIS Proposed Action, NRCS would limit repairs to twice within a 10-year period. If a site already has been restored twice and less than 10 years have elapsed between the disaster that triggered the first repair and the disaster

now triggering a third repair, the only options available would be to purchase a floodplain easement on the damaged site or to take no action at all.

If a building is protected, it is considered one EWP site. Regardless of what practice was used or in what specific location it was restored to protect the building the first two times, any third restoration to protect the building would not be allowed. Where multiple residences are at risk from repeated flooding, local sponsors may request assistance from NRCS for flood protection measures under the agency's PL-566 watershed protection program, which would employ cost-effective structural or non-structural flood protection measures to reduce risks to life and property from recurrent events.

Because dikes (or levees) can run contiguously for miles, a specific location on a dike (or levee) is considered one EWP site for the determination of where a recurrent failure occurs along the dike. Repairs can be made repetitively on a dike so long as the same location on the dike is not repetitively repaired.

Other programs are available to landowners and sponsors to plan and implement protective practices to solve resource problems that continue to recur. The Federal Government does not have funds to indemnify those reluctant to relocate homes, businesses, and farming operations out of harm's way. If a landowner is not interested in selling a floodplain easement, the needed recovery work would not be accomplished.

Other emergency programs limit the number of times the Federal Government would compensate individuals who suffer disaster damages. This proposal would bring the EWP Program in line with this general trend in Government. EWP Program guidance would stress the need for sufficient local documentation of EWP Program implementation to monitor this requirement.

EWP is a recovery program, not a prevention program. Other programs are available to plan and implement protective practices to solve recurrent problems. This Program change would encourage individuals and project sponsors to use those programs to solve existing resource problems.

Implications of this change are not great. Cases where a site is repeatedly damaged are generally limited to certain disaster-prone locations. Therefore, additional costs to the Program are expected to be minimal. This change would encourage people to allow the floodplain to perform its natural function.

EWP Element 9 - Multiple Beneficiary Eligibility Requirement

Draft PEIS Proposed Action: Eliminate the requirement that multiple beneficiaries (property owners) be threatened before an impairment location site would be eligible for EWP Program repairs.

NRCS policy has always required an EWP practice to have multiple beneficiaries to be eligible for funding (except in exigencies when single beneficiaries are allowed), primarily to avoid windfall benefits to a single landowner and to ensure that the general public benefits from the

Federal funds spent. However, experience with the Program indicates that only rarely does EWP site work result in substantial benefits to only a single landowner. Under the Draft PEIS Proposed Action, NRCS would eliminate the multiple-beneficiaries requirement.

This change would be implemented because NRCS recognizes that natural resource issues affect areas that are not bounded by property ownership lines. Areas downstream of repaired sites benefit from repairs in ways that include sediment reduction and habitat preservation. Recognizing that these downstream benefits do result, it was decided to eliminate the multiple-beneficiaries requirement.

In current practice, DSRs are complete enough that the defensibility of work in terms of multiple beneficiaries should not be at issue. These benefits already were being specified in most cases. This change therefore would not change Program costs or NRCS staff time spent on Program activities because this proposal simply codifies current practice.

EWP Element 10 - Eligible Restoration Methods

Draft PEIS Proposed Action: Apply the principles of natural stream dynamics and, where appropriate, use bioengineering in the design of EWP restoration practices.

This element of the Draft PEIS Proposed Action would be implemented by incorporating design techniques published in the NRCS Handbook “Stream Corridor Restoration: Principles, Processes, and Procedures” developed by 15 Federal agencies under the leadership of NRCS, as well as Chapters 13, 16, and 18 of the NRCS Engineering Field Handbook. DART teams would incorporate these concepts into training presentations, and NRCS employees responsible for EWP practice design or review would be encouraged to take training in the principles of stream restoration.

Specifically, future EWP sites will make greater use of the application of the principles of natural stream dynamics, which includes the installation of rock weirs, rootwads, plant fascines, engineered meanders, and other techniques. Bioengineering, in the form of willow plantings, the use of geotextile fabrics, and other practices, will also be more widely applied. In conjunction with increased floodplain easement purchases (Proposed Action Elements 11 and 15), NRCS is shifting EWP repair work towards methods that offer greater environmental benefits wherever possible. Armoring will not be eliminated entirely, as there may be some situations where bioengineering would not be effective, and in these instances, structural engineering may be required. Every EWP site plan must first be deemed technically sound before undergoing other defensibility tests, as outlined in Proposed Action Element 5.

For the past five years, NRCS has encouraged technical assistance to be more sensitive to the environment in the design and installation of EWP practices. Much has been accomplished, but the agency seeks to carry this concept further. It proposes that NRCS look at more than just site damage alone; that they also consider the dynamics of the overall stream environment and design practices that lead to a more stable hydraulic and environmental condition. These techniques are effective only in certain situations, and sites would be evaluated individually according to the resources affected. By eliminating the least-cost requirement for restoration design selection, a

more expensive, yet highly environmentally or socially compelling solution may be implemented.

The implications of this proposal in terms of increased training costs would be compensated by the cost savings from better design of stream restoration practices. Channels would be more stable and aquatic species would be able to reestablish themselves in a shorter period. Fewer failures would occur if the stream environment was stable and in equilibrium, which would decrease costs in the long-term.

Element 11 - Compatible Uses of Floodplain Easement

Draft PEIS Proposed Action: Simplify purchase of agricultural floodplain easements.

For this change, NRCS would establish a single agricultural floodplain easement category and would specify compatible landowner uses. Current NRCS easement guidelines, which are presented in National Watersheds Manual Circular 4, define three categories of floodplain easements that differ in the level of restriction on landowner uses, from prohibiting uses such as cropping, grazing, or timber harvest (under Category 1) to allowing the landowner to retain rights for cropping, haying, grazing, or timber harvest (under Category 3 which pays only 50 percent of the easement value). Category 2, which allows compatible uses would be the single category retained. Landowners would have the right to request compatible uses including, but not limited to, managed timber harvest, periodic haying, or grazing. To be approved as a compatible use, the activity would have to be consistent with long-term protection and enhancement of the flood control, erosion control, and conservation purposes for which the easement was established. NRCS would make the final decision relative to the amount, method, timing, intensity, and duration of any compatible use that might be authorized. Cropping would not be authorized as a compatible use and haying or grazing would not be authorized as a compatible use on lands that are being returned to woody vegetation. In establishing floodplain easements, NRCS will fully comply with the consultation requirements under Section 7 of the Endangered Species Act.

Category 1 easements are being eliminated because of the cost and time of acquisition. Surveys are required on all Category 1 easements, adding substantial costs to the purchase price. Additionally, experience has shown that Category 1 easements are often small acreages, further reducing the benefits gained for the time and funds expended. To help offset the elimination of Category 1 easements, all EWP floodplain easements will be required to maintain a buffer strip of a fixed width. If the stream meanders to a different course, the same requirements for buffer width still apply, and additional buffer may need to be created. For easement lands where grazing is identified as a compatible use, fencing will also be required to keep livestock a reasonable distance from streams.

Element 12 - Eligibility of Repairs to Enduring Conservation Practices

Draft PEIS Proposed Action: Allow repairs of enduring (structural or long-life) conservation practices.

Currently the EWP Program does not repair structural conservation practices, such as irrigation systems. The Program only repairs NRCS-assisted structures, such as dams, under a blanket exception. This change would incorporate both types of work into the Program.

Conservation practices

Under the Draft PEIS Proposed Action, NRCS would make enduring conservation practices that are damaged during disaster events eligible for EWP Program cost-share assistance. Nonstructural management practices such as conservation tillage would not be eligible. This provision would include repair of such conservation practices as waterways, terraces, embankment ponds, diversions, irrigation systems, and animal waste systems.

NRCS Program Assisted Structures

This change to the EWP rule would formalize the current policy set by the blanket exception to the EWP rule made by the NRCS Chief in 1996 for NRCS-assisted dams. It would permit repair of NRCS-assisted structural practices constructed under the Small Watershed Protection and Flood Control Program (Watershed Protection and Flood Prevention Act of 1954, "PL 83-566"), Flood Prevention Program (Flood Control Act of 1944, "PL 78-534"), Resource Conservation and Development Program, and the Watershed Rehabilitation Program.

When a disaster strikes, NRCS-assisted, project-type flood control structures may be damaged beyond the level that would normally be dealt with under routine operation and maintenance activities and beyond the sponsor's ability to make needed repairs. For example, when an emergency spillway is damaged, extensive repairs can be required to allow it to function properly in the future. However, in many cases these dams are high-hazard structures above towns where failure cannot be tolerated. The EWP Program regulations currently prohibit providing structural assistance unless the chief of the NRCS grants an exception. In 1996, the chief granted a blanket exception to this requirement and assistance has been provided on several occasions.

With respect to enduring conservation practices, structure damage will be corrected using the latest technology and construction techniques that do not have adverse effects on the environment. Project structures will be repaired to a like condition that existed prior to the event with the exception of those structures where the State or local entity requires a permit to correct the damage or to operate the repaired structure. Project structure requiring a permit will be designed to meet minimum State or local entity requirements with due consideration of the environmental impacts.

Implications of adopting this proposal include:

- The repair work would address conservation needs that may not be addressed elsewhere
- It would help ensure that practices remain functional rather than being abandoned

- It would allow the EWP Program to assist more landowners
- Rapid treatment by the EWP Program might prevent further damage on and off site
- It might lead to repairing practices that were poorly designed or inadequately maintained
- Needed repairs could be made in a timely manner if sponsors know they would receive help to make them
- It would increase the dollar amount in NRCS supplemental appropriations requests for EWP Program funds to cover the additional work.

Element 13 - Eligibility of Improved Alternative Recovery Solutions

Draft PEIS Proposed Action: Partially fund improved alternative solutions.

There are some situations where the necessary and sufficient EWP restoration solution proposed by NRCS could be less than the sponsor would like. Under the proposed Program change, if a sponsor would want to increase the level of protection provided by a proposed EWP practice or extend the protection afforded by the practice beyond what is justified under EWP policy and guidelines, the sponsor would have to pay 100 percent of the upgrade or additional work (in addition to the required 25 percent of basic EWP cost). NRCS would do the environmental evaluation and design work as part of the total package, but any necessary additional permits and/or mitigation would be the sponsor's responsibility. For example, NRCS might consider a 200-foot structural practice sufficient to meet the streambank restoration need at an EWP site but a sponsor might want greater protection with a 300-foot design. In this case, NRCS would assist in the design and defensibility evaluation of a 300-foot structural practice but would fund only 75 percent of the cost of the 200-foot design. The sponsor would pay their 25 percent share of the 200-foot installation plus 100 percent of the cost of the extra 100-feet. NRCS would assist with the design and their limited share of the funding of this larger installation so long as the increased-size work was otherwise environmentally and socially defensible.

Substitution of one practice for another would be allowed if the benefits of the practice were not reduced, the sponsor paid additional costs associated with the change, and the new practice was environmentally and technically sound and compatible with local zoning and environmental or historic preservation ordinances. NRCS would determine if the proposed change is acceptable. Changes that appreciably increase the time NRCS would have put into the original planning, design, or installation may require reimbursement of NRCS by the sponsor for additional time spent.

This policy change would make the Program more locally-led by giving sponsors and landowners more opportunity to determine what is in their best interests but would ensure that Federal funds would be used only for public benefit. This added element also would allow more work to be carried out under NRCS supervision, rather than a sponsor deciding to do the work on their own without EWP assistance. This is not expected to cause much change in Program operation because requests in the past have not been numerous and the sponsor will be required to pay for additional costs. However, it is possible that the number of requests was low because sponsors knew substitution was not permitted.

NRCS recognizes that there are times when a sponsor may decide to do additional work after the initial EWP work is completed and accepted. In some cases, this is work that NRCS would not

approve or install under any circumstances. Landowners have also been known to hire the contractor for “after hours” work for a cash payment. NRCS would discourage this type of activity (including contract termination), if there were reason to believe it might occur, to ensure that the additional work does not jeopardize the EWP work or is environmentally or socially indefensible.

Element 14 - Eligibility of Recovery Work Away from Streams and Critical Areas

Draft PEIS Proposed Action: Allow disaster-recovery work in floodplain areas away from streams and in upland areas.

Currently, EWP Program work is normally confined to watercourses and areas immediately adjacent, except in case of drought or fire, when work may be carried out on critical areas in upland portions of a watershed. However, agricultural productivity, public health and safety, and the natural and cultural environment often are threatened in the aftermath of disasters that occur outside these limits. NRCS proposes that the EWP Program expand to include practices needed on all lands.

This element of the Draft PEIS Proposed Action would expand the EWP Program to include areas away from streams. It would allow the removal of sediment and other disaster debris from agricultural land (croplands, orchards, vineyards, and pastures) and other debris (generally windblown) from upland areas, particularly in environmentally sensitive areas.

EWP Floodplain Deposition Recovery Practices

Deposition of excessively large quantities of sediments on floodplains may result from heavy flooding. Such materials are usually coarse and infertile, and they often destroy or smother plants. This is a normal occurrence in the dynamics of floodplain systems but it can jeopardize the productivity of agricultural lands. Alternative practices that are considered in these cases would include:

- Purchase of a floodplain easement
- Removal and disposal of the sediment
- Incorporating the sediment into the underlying soil

The purchase of a floodplain easement would be encouraged as the first alternative, thus removing the land and resources from further concerns over flood damages. Barring floodplain easement purchase, the most effective alternative treatment depends upon many factors such as the size of the particles, depth of material deposited, lateral extent of the deposit, land use and soil type of the underlying material, and value of the land to the entire agricultural operation. When the extent of the sediment is not great, heavy equipment can usually be used to scrape it up and load it into trucks. Some type of disposal area is required with this solution. Without NRCS assistance, it may be pushed to the side of the field to form a low berm, which would reduce the productive acreage of the agricultural land, but more importantly, would serve as a sediment storage area that would wash further downstream to affect some other agricultural land. In those situations where the affected area is large, this solution often is not an alternative.

Floodplain easements are usually a viable option in cases when there is too much deposition to incorporate and it is not feasible to dispose of the debris. EWP funds can be used to purchase rights to the affected acreage that would then be allowed to function as a natural floodplain. A one-time payment is made in exchange for the agricultural and development rights to the land. No future disaster payments would be made to the landowner once the easement has been purchased.

The practice components used to deal with floodplain deposition include:

- Creating access when needed to move trucks and heavy equipment to the site
- Using heavy equipment to plow in or remove the sediment
- Grading and shaping the area affected by the debris operation
- Using or disposing of the sediment off-site

EWP Upland Debris Removal Practices

Most debris deposited on upland areas is wind-borne, and it is the result of hurricanes and tornadoes. Such debris usually consists of downed trees, telephone poles, fence posts, hazardous or toxic household materials such as paints, petroleum-based organic liquids, propane and other gas tanks, or building materials, such as insulation, shingles, metal roofing, metal siding, and similar non-biodegradable materials, which may cover portions of several watersheds. These items may constitute a public health and safety threat, as well as a threat to water quality and above-ground or near-surface cultural resources. They are potentially harmful to wildlife within the area, and may pose a fire hazard or a breeding ground for undesirable pest species.

NRCS recognized that much of the necessary debris removal in these situations is not eligible for assistance through any Federal program and can be cost prohibitive for a landowner to deal with. Much of the debris may be scattered in rural or sparsely populated areas on private lands. As with other EWP work, upland debris will only be removed when it poses a threat and the removal is defensible. Woody debris that does not create a hazard will not be removed using EWP funding since it does not meet eligibility criteria.

The practice components used to deal with upland debris deposition include:

- Creating access when needed to move trucks and heavy equipment to a debris site
- Using chain saws, other power tools, winches and other machinery and heavy equipment to gather and process the debris for onsite disposal or removal
- Disposing of debris onsite by burial, chipping, or burning
- Loading on trucks for removal and disposal off site
- Obtaining special technical assistance and personnel to handle hazardous materials such as asbestos, petroleum products, propane or other compressed gas containers, or other potentially hazardous or toxic compounds or materials
- Grading, shaping, and revegetating, by seeding or planting, any portion of the area affected by the debris removal operation

Element 15 - Floodplain Easement Eligibility on Improved Lands

Draft PEIS Proposed Action: Purchase floodplain easements on non-agricultural lands.

In 1996, the EWP Program was expanded to include the purchase of floodplain easements as a tool in the disaster-recovery process to reduce future Government outlays for damages. Currently, purchasing floodplain easements is allowed on agricultural lands only. (Agricultural lands are predominantly cropland, including orchards and vineyards, pasture, hayland, and forested land, adjacent to watercourses.) This change would allow NRCS to purchase easements on both unimproved and improved rural lands regardless of land use. Current procedure for purchasing unimproved-lands floodplain easements is described in Chapter 2. Purchase of non-agricultural land simply would be added to this procedure. In establishing floodplain easements, NRCS will fully comply with the consultation requirements under Section 7 of the Endangered Species Act and, if necessary and appropriate, the Section 106 consultation requirements of the ACHP regulations.

For improved land, NRCS would provide 100 percent of the predisaster cost of the floodplain easements with all interests and rights included. A deed restriction would permit uses compatible with the natural floodplain functions as determined by NRCS. Since this would be a voluntary selling, the Uniform Relocation Act may not apply. Structures would be demolished and removed or relocated outside the 100-year floodplain, whichever is least-cost, based on a 75 percent Federal/25 percent Sponsor cost-share. Landowners would be responsible for finding new housing and moving their belongings. The floodplain easement rights would be held by the Secretary of Agriculture, but the title to the land could be held by the seller or a sponsoring local organization who would also carry out any monitoring of use, enhancement, or operation and maintenance needed. A deed restriction would permit only uses compatible with the natural floodplain functions as determined by NRCS.

This element of the Draft PEIS Proposed Action would tend to increase Program costs in the short run, but reduce costs to the Federal government in the long run, as people are relocated out of the floodplain. As more acreage is returned to an open condition, the floodplain would be able to function in a more natural fashion. Since, in most cases, the holder of the easement restrictions would be a town or local municipality, it would be easier for the sponsor to control its use and reserve the land for appropriate floodplain uses. For floodplain easement lands where grazing is identified as a compatible use, fencing will also be required to keep livestock a reasonable distance from streams.

3.2.2.2 Correspondence between Draft PEIS Proposed Action Elements and Scoping Recommendations

The Draft EWP PEIS included a Table that summarized how the elements of the Draft PEIS Proposed Action would have addressed the recommendations made by the O&E Team and others during scoping. That table has been replaced in this Final PEIS by Table 3.2-6 (Section 3.2.4.2), which summarizes those findings with respect to the Preferred EWP Program Alternative.

3.2.3 Alternative 3--Prioritized Watershed Planning & Management

Under this alternative, NRCS would integrate the EWP Program into the broader NRCS mission and mandate of watershed management and restoration through regulatory, policy, and directive changes that would address all of the important aspects of watershed management. This alternative anticipates that decisions about specific EWP projects would be made in the context of knowledge of the overall watershed values and dynamics at issue. This would make the Program more comprehensive and proactive than the Draft PEIS Proposed Action in several respects because it would integrate and enhance many of the features of the proposed action and place them in a broader management context. Some EWP work would be undertaken within the context of broader interests in the watershed natural resources goals and other objectives identified in the locally led process. Included in this integrated Program would be acquisition of baseline resource information, analysis, and management; planning and interagency coordination; training and technical assistance; and integrated watershed-based decision-making. Prioritized watershed planning would combine the specific Program improvements and expansion of the Draft PEIS Proposed Action alternative with focused, “program-neutral”, disaster-readiness and mitigation planning for selected, high-priority watersheds.

Alternative 3 would include the following components:

1. **Continue to deliver EWP project funding and technical assistance to address immediate threats to life and property as required by law.**

This would continue to be the highest, but not sole, priority in the EWP Program. EWP Program funding and technical assistance would be applied, post-disaster, when and where it is needed for eligible projects in a manner consistent with the changes identified in the Draft PEIS Proposed Action.

2. **Institute the 15 improvement and expansion items of the proposed action noted above.**

3. **Facilitate a locally led disaster-readiness and mitigation planning effort.**

This component of the alternative would be a locally-led effort initiated and coordinated by NRCS. It would address concerns about recurrent applications of EWP repair practices in watersheds with a history of frequent disasters and integrate EWP Program activities in those watersheds with other NRCS programs that deal with other watershed issues. The steps required to implement this aspect of the Program would include:

- Categorizing watersheds (8-digit hydrologic units) according to the degree to which they are disaster-prone and according to important priorities in a state such as water quality.
- Integrating a watershed's score in each category into an overall priority score that incorporates the disaster-prone ranking and other important criteria.
- Ranking the watersheds in each state as high, medium, or low priority.

4. Fund priority watersheds in each state for disaster-readiness and mitigation planning and management.

High-priority watersheds (and, as funding permits, medium-priority watersheds) would undergo disaster-readiness planning and management if a state, county, tribal organization, or other eligible entity agrees to sponsor the pre-disaster planning. The Federal portion of the funding to do pre-disaster planning (75 percent) would come in equal parts from 25 percent of the current year's supplemental appropriations for EWP Program work and matching funds from other NRCS program(s) active in the watershed(s).

Part of planning funds would be used to hire an executive director to facilitate the process of planning and public involvement. Funding to implement the plan would come from applicable Government agency programs and would be cost-shared at each agency's applicable rate.

5. Coordinate disaster-readiness and mitigation planning and management efforts with Federal, State, and local agencies and interested stakeholders.

- Establish an overall watershed management plan for the priority watershed that includes preventive and restorative practices that take watershed functions and values into account
- Integrate NRCS program authorities and practices with the overall EWP Program goal of reducing the likelihood of catastrophic consequences from natural events and restoring watershed functions and values
- Purchase floodplain easements on a stepwise, proactive, risk-reducing basis as an integrated part of overall watershed management rather than a program-specific post-disaster measure
- Combine the EWP Program with other program authorities to enhance watershed values, including fish and wildlife habitat improvements such as pool and riffle installation on individual EWP sites where economically feasible, rather than simply restoring the site to pre-disaster conditions.

This alternative offers a comprehensive approach that would most fully address the impacts of the broad variety of activities in a watershed, the natural processes at work in shaping the watershed, and the risk of threats to life and property from floods or other disaster events. It would form a sound basis for ongoing NEPA-based analyses and documentation of cumulative watershed effects. Environmental aspects of EWP Program projects and of other NRCS projects in the watershed would be evaluated and reviewed within the context of a specific watershed.

NRCS recognizes that Alternative 3 would likely be the environmentally preferable alternative. However, the agency supports Alternative 4 as its Preferred Alternative for the following reasons:

1. Current law, as interpreted by NRCS legal counsel, limits activities conducted under EWP primarily to disaster recovery work. Alternative 3 would add a substantial increment of preventative measures to reduce future flood damages. Legislative authority would be required to implement such a major expansion of the purpose of EWP under Alternative 3;
2. To a large extent, NRCS has integrated the management of its watershed programs as described in Alternative 3 within the Water Resources Branch of the NHQ Financial

Assistance Programs Division working closely with the NHQ Easement Programs Branch. Together they oversee the recovery practices and floodplain easements portions of EWP and provide funding and technical assistance and training to the NRCS State Offices. But NRCS is limited in fully implementing the scope of Alternative 3 primarily by funding constraints. Several NRCS watershed programs currently exist under P.L. 566 and P.L. 534 that address watershed planning and management and include measures for watershed protection and flood prevention, as well as the cooperative river basin surveys and investigations. Under the new Watershed Rehabilitation Program, NRCS works with local communities and watershed project sponsors to address public health and safety concerns and potential adverse environmental impacts of aging dams. NRCS so far has undertaken 118 projects in 20 States to assess the condition of and repair of more than 10,000 upstream flood control structures built since 1948. EWP must remain available to deal with the aftermath of major disasters regardless of improvements under the other watershed programs, the structural and non-structural practices implemented and the floodplain easements purchased under those programs have greatly reduced the need for future EWP measures in project watersheds.

3.2.4 Alternative 4 – EWP Program Improvement and Expansion under the Preferred Alternative

NRCS implementation of the Preferred Alternative would incorporate many of the EWP Program improvements of the Draft PEIS Proposed Action, with important exceptions. NRCS would not eliminate the key term “exigency” because of its broad interagency use and would not expand the Program to address disaster situations that are currently addressed by FEMA (floodplain easements on improved lands) or FSA (ECP on commodity croplands). Funding would not be set aside in each of the States to immediately address exigencies, and disaster assistance recovery teams (DART) would not become a major Program element, although technical teams for specific disasters would be assembled, if requested.

An important aspect of the EWP Program that would be implemented under the Preferred Alternative is the waiver provision in the EWP rule (7 CFR 624). The waiver provision would apply to all of the specific elements of the Program described below. It states: *§ Sec 624.11 Waivers. To the extent allowed by law, the NRCS Deputy Chief for Programs may waive any provision of these regulations when the agency makes a written determination that such waiver is in the best interest of the Federal government.* Waivers are likely to be requested on a case-by-case basis to address such elements as cost-share rates as discussed under Element 4 below.

Table 3.2-4 summarizes the proposed changes in the rule governing EWP administration that constitute the basis for proposed implementation of the Preferred Alternative in this PEIS.

Table 3.2-4 Proposed Changes to the EWP Rule to be Implemented under the Preferred Alternative

Existing EWP Program	Proposed EWP Program
Use terms exigency and nonexigency	Term exigency retained, and the term emergency used to denote all emergency situations not deemed exigencies
Cost-share NRCS contribution: <ul style="list-style-type: none"> ➤ Exigency up to 100 percent ➤ Nonexigency up to 80 percent 	Cost-share NRCS contribution: <ul style="list-style-type: none"> ➤ Up to 75 percent irrespective of exigency designation; up to 90 percent for limited resource areas; ➤ up to 100 percent for situations where a waiver is granted; and 100 percent for floodplain easements
Limitations: <ul style="list-style-type: none"> ➤ Work must yield benefits to more than one person, except in exigency situations ➤ Work cannot be performed on other Federally-installed structures/ practices, except if installed by USFS ➤ Chief has to make an exception to conduct work on NRCS PL 83-566 and PL 78-534 projects 	Limitations: <ul style="list-style-type: none"> ➤ Documentation of multiple beneficiaries not required ➤ Limit repair of the same structural measure at the same location for the same type of disaster event to twice in 10 years ➤ Clarified recovery measures can include work outside of the floodplain (i.e., storm deposited debris removal) ➤ Added the ability to remove sediment and debris from the floodplain on agricultural land ➤ Added ability to allow sponsor to increase level of protection when the sponsor pays 100 percent of such increase ➤ Work cannot be performed on any other Federally installed structures/practices (the USFS is responsible for installing EWP practices on USFS lands) ➤ Added the ability to receive assistance for structural/enduring/long-life conservation practices which do not qualify for ECP assistance ➤ Added the provision to conduct work on certain PL 83-566 and PL 78-534 constructed projects without the need for Chief exception
Documentation: <ul style="list-style-type: none"> ➤ Economic and environmental effects of watershed impairment must be documented in DSR 	Documentation: <ul style="list-style-type: none"> ➤ Economic, social, and environmental effects of watershed impairment must be documented in DSR
Implementation: <ul style="list-style-type: none"> ➤ Work measures represent the least-cost alternative 	Implementation: <ul style="list-style-type: none"> ➤ Work measures represent the least-cost alternative while using the least damaging practical construction techniques and equipment that would retain as much of the existing characteristics of the landscape and habitat as possible
Time limits: <ul style="list-style-type: none"> ➤ Exigency work must be completed within 30 days ➤ Nonexigency work completed within 220 days (Chief may grant an extension) 	Time limits: <ul style="list-style-type: none"> ➤ Exigency work completed within 10 days (after the date funds are made available) ➤ Emergency work completed within 220 days (after the date funds are made available)
Funding priorities: <ul style="list-style-type: none"> ➤ Exigencies ➤ Non-exigencies <p>For non-Presidentially declared disasters, the STC prioritizes EWP projects which may include input from the sponsor.</p>	Funding priorities: <ol style="list-style-type: none"> 1. Exigency situations 2. Sites where there is a serious, but not immediate threat to human life 3. Sites where buildings, utilities, or other important infrastructure components are threatened 4. Other resource areas and/or funding priorities established by the Chief of NRCS
Floodplain easements: <ul style="list-style-type: none"> ➤ Pilot program to acquire agricultural land ➤ Designation of land categories (1, 2, or 3) within the floodplain easement 	Floodplain easements: <ul style="list-style-type: none"> ➤ Expanded nationwide ➤ Acquire both agricultural and nonagricultural land ➤ Ability to remove structures ➤ Removed land designation categories within floodplain easement

3.2.4.1 Elements of the Preferred EWP Program Alternative

An element-by-element description of the Preferred Alternative is provided here, comparing what would be done under this alternative to what was initially proposed under each of the 15 elements of the Draft EWP PEIS Proposed Action.

EWP Element 1 - Emergency Terminology

Preferred Alternative: Retain the term “exigency” but eliminate the term “non-exigency.”

Under the Preferred Alternative, NRCS would partially implement the Program changes described under Element 1 of the Draft PEIS Proposed Action. Under the Preferred Alternative, the term “exigency” would be retained and used to describe emergencies requiring immediate action. This would maintain consistency in use of the term by NRCS and other agencies and eliminate any potential for confusion among agencies and sponsors that might occur if the terminology were changed. However, the term “non-exigency” would be eliminated; emergencies that are not exigencies would simply be referred to as “emergencies.” NRCS would focus oversight on proper use of the exigency category by thorough review of DSRs to reduce instances where the exigency category is misapplied as it was in the past.

EWP Element 2 - Exigency Funding and Completion Requirements

Preferred Alternative: Continue current NHQ role in funding exigencies and extend time to institute exigency repairs to within 10 days after funding is authorized.

Under the Preferred Alternative, NRCS would not implement the Program changes described under Element 2 of the Draft PEIS Proposed Action. Rather than adopting the term “urgent and compelling,” NRCS would continue to use the term “exigency” to refer to situations posing substantial risk to life or property which require immediate implementation of EWP measures.

Because of funding constraints, NRCS cannot guarantee NRCS State Offices funding would be available for exigency measures as previously proposed by allowing State Conservationists to obligate up to \$25,000 per event without contacting NRCS NHQ. NRCS State Offices will still need to request funding and authorization from the NRCS National Office to proceed to install exigency measures.

Based upon further review of agency experience, NRCS has reconsidered the time frame proposed to respond to exigency situations under the Draft PEIS Proposed Action and would extend the time frame under the Preferred Alternative to 10 days rather than attempt to implement a process under which measures would be implemented “on the spot” and completed within 5 days. The extended timeframe would allow more time to request and secure funding from NHQ, to conduct appropriate procurement procedures under the Federal Acquisition Regulations (FAR), to aid sponsors in their effort to secure their cost-share, and to allow NRCS and sponsors to secure any necessary emergency permits and comply with any applicable Federal laws or regulations.

EWP Element 3 - Prioritization of Project Funding

Preferred Alternative: Set priorities for funding EWP practices and clarify their use.

Under the Preferred Alternative, NRCS would fully implement the Program changes described under Element 3 of the Draft PEIS Proposed Action, but with some clarification about how the prioritization is to be interpreted. NRCS would provide funding assistance based on the same priorities initially proposed under the Draft PEIS Proposed Action (Table 3.2-5), with the exception that the term “urgent and compelling” would not be used to connote exigency situations.

Table 3.2-5 Priority Order of EWP Funding under the Preferred Alternative

PRIORITY	DAMAGE SITUATION
1	Exigency situations
2	Sites where there is a serious, but not immediate, threat to human life
3	Sites where buildings, utilities, or other important infrastructure components are threatened
4	Other funding priorities established by the Chief of NRCS

When evaluating projects in accordance with priorities 1 to 3 above, NRCS will take into account the following resources:

- a. Sites inhabited by federally listed T&E species or containing federally designated critical habitat where the species or the critical habitat could be jeopardized, destroyed, or adversely modified without the EWP practice;
- b. Sites that contain, or are in the proximity of, cultural resources sites listed on the National Register of Historic Places (NRHP) where the listed resource could be jeopardized if the EWP practice is not installed;
- c. Sites where prime farmland supporting high value crops is threatened;
- d. Sites containing wetlands that would be damaged or destroyed without the EWP practice;
- e. Sites that have a major affect on water quality; and
- f. Sites containing unique habitat, including but not limited to, areas inhabited by State-listed threatened and endangered species, fish and wildlife management areas, or State-identified sensitive habitats.

Funding priorities would be based on projects that have been evaluated and found economically defensible. The priorities are not to be interpreted as giving a higher priority to installing projects that would only protect environmental resources, such as T&E species or wetlands that are federally-protected, although that could be an ancillary benefit. The authorization for the EWP Program stipulates that it is to protect human lives and property, so projects that would protect T&E species or wetlands alone would not be eligible for EWP funding. Rather, when different EWP measures are equally economically defensible, and one also protects a T&E species or wetland and the other does not, the former would take priority.

Funding for floodplain easement acquisition would continue to be managed separately from EWP funding for recovery measures. This is due to Congressional language as part of the EWP

funding appropriation that has designated the amount of funding that could be used to purchase floodplain easements. States will typically establish ranking prior to accepting applications for floodplain easements.

EWP Element 4 - NRCS and Local Sponsor's Cost-share Rates

Preferred Alternative: Establish a cost-share rate of up to 75 percent for EWP projects, up to 90 percent for projects in limited-resource areas, and up to 100 percent where a waiver is requested.

Under the Preferred Alternative, NRCS would fully implement the Program changes described under Element 4 of the Draft PEIS Proposed Action. NRCS would apply a cost-share rate of 75 percent to all emergencies, whether they are exigencies or not. If NRCS determines that an area qualifies as a limited resource area in accordance with National census data, the Federal contribution toward the implementation of emergency measures shall not exceed 90 percent of the construction cost of such emergency measures.

Because NRCS recognizes there may be unique situations that require a waiver from these cost-sharing rates, NRCS has adopted in the EWP final rule Section 624.11 Waivers, which allows the NRCS Deputy Chief for Programs to waive any provision of these regulations to the extent allowed by law when the agency makes a written determination that such waiver is in the best interest of the Federal government. An example may include allowing up to 100 percent cost-sharing for a sponsor when the sponsor demonstrates they have insufficient resources or finances to contribute the 25 percent cost-share in an exigency situation. All exigency situations do not warrant 100 percent Federal cost-share. However, through the waiver provision of the final rule, the agency recognizes that there may be situations where 100 percent cost-share is warranted.

EWP Element 5 - Project Defensibility Review Criteria:

Preferred Alternative: Stipulate that practices be economically, environmentally, and socially defensible and identify the criteria to meet those requirements.

Under the Preferred Alternative, NRCS would fully implement the Program changes described under Element 5 of the Draft PEIS Proposed Action. NRCS would review proposed EWP practices for economic, environmental, and social defensibility as described under the Draft PEIS Proposed Action.

NRCS would mitigate adverse effects to the environment or the affected community in cases where adverse effects would cause a project to be either environmentally or socially not defensible. If redesign or other mitigation was not sufficient to adequately reduce such adverse effects, the project would not be installed. For example, NRCS would not install a project that would harm a federally listed T&E species or its critical habitat or a project that would cause disproportionately high and adverse effects to a low-income or minority community.

A project is economically defensible when the cost of installation is less than or equal to the economic benefits of the project in terms of the value of property protected. In general, NRCS would not fund a project that is not economically defensible. However, where a sponsor requests that a project be installed or modified to protect additional environmental or social values and the project or modification is otherwise not defensible on a strictly economic basis, the project could

still be funded so long as the DSR includes sufficient documentation of the compelling environmental or social values, that would add to the economic value of the human property to be protected as justification for installation of the measure.

EWP Element 6 - Level of Inter-agency Coordination, Planning, and Training

Preferred Alternative: Improve disaster-recovery readiness through interagency coordination, planning, and training.

Under the Preferred Alternative, NRCS would partially implement the Program changes described under Element 6 of the Draft PEIS Proposed Action. NRCS would implement the interagency coordination and planning described in the Draft PEIS Proposed Action. Technical advisory assistance would be made available from the national office, if requested. However, training by DART teams would not be implemented.

EWP Element 7 - Eligibility of Repairs to Agricultural Lands

Preferred Alternative: Allow repair of impairments to agricultural lands using sound conservation alternatives.

Under the Preferred Alternative, NRCS would fully implement the Program changes described under Element 7 of the Draft PEIS Proposed Action. NRCS would allow installation of long-term practices to protect high-value agricultural lands where the project is economically, environmentally, and socially defensible. Emphasis would be placed on use of bioengineering solutions and vegetation and natural materials over armoring in these situations where flow rates allow.

EWP Element 8 - Eligibility of Repeated Repairs to the Same Site

Preferred Alternative: Limit repair of sites to twice in a 10-year period.

Under the Preferred Alternative, NRCS would fully implement the Program changes described under Element 8 of the Draft PEIS Proposed Action. In cases where the same type of natural event occurs within a 10-year period and a structural measure has been installed or repaired twice within that period using EWP assistance, any additional EWP assistance would be limited to those sites eligible for the purchase of a floodplain easement or where NRCS might cost-share in a sponsored buyout as described below under Element 15. NRCS would not apply this restriction to repeated debris removal from the same location.

EWP Element 9 - Multiple Beneficiary Eligibility Requirement

Preferred Alternative: Eliminate the requirement that multiple beneficiaries (property owners) be threatened before an impairment location site would be eligible for EWP Program repairs.

Under the Preferred Alternative, NRCS would fully implement the Program changes described under Element 9 of the Draft PEIS Proposed Action. NRCS would no longer require documentation of multiple beneficiaries as a criterion of eligibility for installation of an EWP practice.

EWP Element 10 - Eligible Restoration Methods

Preferred Alternative: Apply the principles of natural stream dynamics and bioengineering to the design of EWP restoration practices where they constitute the defensible solution.

Under the Preferred Alternative, NRCS would fully implement the Program changes described under Element 10 of the Draft PEIS Proposed Action. NRCS would promote use of bioengineering practices in watershed restoration and would describe the use of these practices in the EWP Manual and Handbook.

EWP Element 11 - Compatible Uses of Floodplain Easement

Preferred Alternative: Simplify purchase of agricultural floodplain easements.

Under the Preferred Alternative, NRCS would conduct simplified purchases of agricultural floodplain easements as described under Element 11 of the Draft PEIS Proposed Action. Beginning in 2001, as a result of a USDA Office of Inspector General (OIG) investigation, NRCS has operated the floodplain easement portion of the EWP Program by purchasing a single type of floodplain easement—restoration with compatible uses—which is category 2 under the previous categorization. This is fully consistent with the Preferred Alternative goal of simplifying easement purchases.

EWP Element 12 - Eligibility of Repairs to Enduring Conservation Practices.

Preferred Alternative: Repair enduring (structural or long-life) conservation practices.

Under the Preferred Alternative, NRCS would fully implement the Program changes described under Element 12 of the Draft PEIS Proposed Action. NRCS would make enduring conservation practices that are damaged during disaster events eligible for EWP Program cost-share assistance. Nonstructural management practices such as conservation tillage would not be eligible. This provision would include repair of such conservation practices as waterways, terraces, embankment ponds, diversions, irrigation systems, and animal waste systems. However, practices that are eligible for emergency assistance for such disaster recovery under the Emergency Conservation Program (ECP) would not be eligible under EWP. EWP differs significantly from ECP because a sponsor is required for EWP recovery work but not for ECP; EWP recovery assistance does not provide financial assistance directly to individuals but rather to eligible sponsors.

EWP Element 13 - Eligibility of Improved Alternative Recovery Solutions

Preferred Alternative: Partially fund improved alternative solutions.

Under the Preferred Alternative, NRCS would fully implement the Program changes described under Element 13 of the Draft PEIS Proposed Action. If a sponsor desires to increase the level of protection that would be provided by an EWP practice, NRCS would require the sponsor to pay 100 percent of the upgrade or additional work unless the upgrade is the result of permit requirements necessary to implement the recovery. NRCS can provide EWP assistance toward upgrading damaged or undersized practices for structural, enduring, and long-life conservation practices when technology advances or construction techniques warrant. Such modifications will be cost shared in accordance with Section 624.7. All structural, enduring, and long-life

conservation practices for which the sponsor is required to obtain a permit issued by a Federal, State, or local entity shall be designed and installed to meet the permit requirements or NRCS standards, whichever is greater. If a structure has to be upgraded to meet Federal permitting or other requirements, such modifications will be cost shared in accordance with Section 624.7.

EWP Element 14 - Eligibility of Recovery Work Away from Streams and Critical Upland Areas

Preferred Alternative: Allow disaster-recovery work in floodplain areas away from streams and in upland areas.

Under the Preferred Alternative, NRCS would partially implement the Program changes described under Element 14 of the Draft PEIS Proposed Action. NRCS would expand the EWP Program to provide assistance for the removal of sediment and other debris from agricultural land (croplands, orchards, vineyards, and pastures) and windblown debris. However, practices that are eligible for emergency assistance for such disaster recovery under ECP would not be eligible under EWP.

EWP Element 15 - Floodplain Easement Eligibility on Improved Lands

Preferred Alternative: Purchase floodplain easements on non-agricultural lands.

Under the Preferred Alternative, NRCS would partially implement the Program changes described under Element 15 of the Draft PEIS Proposed Action. NRCS would purchase floodplain easements on non-agricultural lands for the purpose of creating a manageable easement area and to maximize all floodplain functions. NRCS would maintain the flexibility to acquire on a voluntary basis structures such as barns, silos, and other outbuildings and structures as well as residential structures in situations where their acquisition and removal or demolition is necessary to allow full floodplain functioning to be restored. For example, where dikes are to be removed to allow flooding of an agricultural area on which a floodplain easement has been purchased, and that flooding would affect such structures, the land would be also purchased as part of the easement and the structures would be removed or demolished. No permanent structures would be allowed to be built on the floodplain easement property. NRCS would not offer to purchase an easement if there are unresolved hazardous materials issues related to the site. If such a situation is cleaned up at the owner's expense, NRCS would then consider an easement purchase.

However, NRCS would not purchase floodplain easements on lands with multiple property owners and residences for the sole purpose of relocating small flood-prone rural communities under the floodplain easement portion of the EWP Program. This would duplicate the programs of other agencies, such as FEMA. However, as an EWP recovery measure, NRCS would consider cost-sharing with a sponsor to fund buyouts of residents in such flood-prone circumstances because it would be the most cost-effective and environmentally preferable recovery measure. Cost sharing would be 75 percent Federal in general or 90 percent for limited resource areas. Sponsors would be required to work with landowners directly to purchase fee title, easement, or similar deed restrictions in these cases.

3.2.4.2 Correspondence between Preferred Alternative Elements and Scoping Recommendations

Table 3.2-6 summarizes how the elements of the EWP proposed Program changes address the recommendations made by the O&E Team and others during scoping. Some changes that are being implemented but that would not cause environmental impacts are noted but are documented elsewhere. Recommended changes that were not included in the Preferred Alternative are also noted.

Table 3.2-6. Correspondence between O&E Team and other Recommendations and Elements of NRCS EWP Program Preferred Alternative

Oversight & Evaluation Team Recommendations	
Objective 1 Recommendations	Resolution
Provide training to NRCS employees and partners.	Element 6 of the Preferred Alternative (PA) would provide for additional training of NRCS staff to improve Program effectiveness. Workshops were conducted in 2000 and additional workshops are planned for spring of 2005.
Limit use of the exigent classification to situations where funding is immediately available, the near-term probability of damage to life and property is high enough to warrant immediate NRCS action, funds can be obligated within 10 days, and construction completed in 30 days.	The Preferred Alternative would fully implement this recommendation (see Element 1).
Limit assistance at road crossings to instances where the facility is not covered by an Operation and Maintenance Agreement with a division of state government or is not under other agency jurisdiction.	The current EWP Program allows for protection of only non-federally assisted roads.
Objective 2 Recommendations	Resolution
Revise policy to emphasize restoration of the ecological functions of a system at an eligible site. Emphasize use of bioengineering, fluvial geomorphology, and similar techniques. Require an interdisciplinary team approach for site assessments, alternative selection, and design.	Preferred Alternative Elements 5 and 10 would stress design of restoration work using the principles of natural stream dynamics. Element 6 would foster further training, coordination, and planning.
Develop new and strengthen existing national, regional, and state partnerships by entering into EWP-specific agreements with agencies and organizations to address coordination, permit issuance, training, outreach, responsibilities, and follow-up to completed work.	Preferred Alternative Element 6 would facilitate improved coordination with other agencies.
Record EWP sites geo-spatially; use these data to locate recurrent EWP activity; then fund studies to identify more permanent solutions in the watershed.	PA Element 8 would require NRCS to track the number of repairs at each site so that no site is repaired more than twice in 10 years.
Provide national guidance to evaluate an appropriate sample of EWP repairs in state quality-assurance plans.	This objective was considered but not evaluated in detail.
Objective 3 Recommendations	Resolution
Institute outreach procedures during EWP activation in each state.	Outreach procedures are part of the planning process under PA Element 6.
Restructure Operation and Maintenance agreements to accommodate sponsors with limited resources and reduce their responsibilities to a shorter time frame.	PA Element 4 would provide for a larger Federal cost share in resource-limited areas.
Revise Part 509 of the National Watershed Manual to encourage use of sponsors or contracting for these activities and revise the handbook accordingly.	This process is underway.
Seek an annual allocation to fund exigent situations, maintain a level of preparedness, and fund interdisciplinary EWP response teams.	Funding constraints do not allow NRCS to set aside annual allocations for exigent situations. PA Element 6 would provide for further training and disaster preparedness.
Revise national policy to emphasize inter-state uniformity in the application of EWP; regions should establish collectively a process to ensure such uniformity.	The policy to coordinate multi-state disasters is identified in the proposed revised EWP Manual.
Revise policy to streamline data requirements and develop an electronic process to request funds, document partner activities, submit final reports, and record site damages.	The proposed revised EWP Manual contains these changes.

Table 3.2-6 (Continued) Correspondence between O&E Team and other Recommendations and Elements of NRCS EWP Program Preferred Alternative

Other Recommendations From Scoping	
Floodplain Easements	Resolution
Floodplain easements are appropriate as a preventative tool or as an alternative to engineering solutions, especially where repeated use of engineering solutions has been unsuccessful.	PA Element 8 would limit repairs to twice in 10 years. Elements 11 and 15 would allow purchase of easements at those sites.
The policy on using floodplain easements should be clarified. Provide sufficient guidance on the use of easements- specifically, on what criteria trigger use of easements, the applicability of repeated flooding as a trigger and what cost/benefit considerations apply.	PA Elements 11 and 15 and the revised EWP Manual clarify easement policy.
Floodplain easement use would require additional funding and staffing. Purchasing easements would increase the burden on NRCS staff. Hire additional staff dedicated to EWP.	Funding is typically provided through emergency supplemental appropriations that are provided sporadically and therefore would not be suitable to support additional full time staff.
Easement use where there are residences should include relocation of residents.	NRCS would consider purchase of floodplain easements on non-agricultural lands but would not purchase and demolish multiple residences and relocate small communities.
Focus easement purchases in flood-prone areas, purchasing contiguous plots of land to avoid a patchwork system.	PA Elements 11 and 15 would promote purchase of contiguous plots where feasible.
Eliminate Category 1 of the proposed action, and purchase cropping and development rights along with easement purchases.	PA Element 11 eliminates category 1 easements. Purchase would include development rights and would not allow cropping.
Allow some level of funding for the maintenance of easements because of potential problems outside the easement if no maintenance is done. Employ a land management company to manage the easements.	NRCS is considering this recommendation, within its full easement portfolio, including easement maintenance under the Wetland Reserve Program (WRP) and Farm and Ranch Land Protection Program (FPP)
Extend easements to urban areas.	PA Element 15 would extend easement purchase to improved lands but NRCS does not anticipate easement purchase in major urban areas.
Speed the easement purchasing process to take advantage of land that comes on the market.	NRCS would continue to conduct analyses for the easement acquisition process to streamline it consistent with Federal and State requirements.
Inform the seller of tax implications.	NRCS provides participants with available IRS tax code information and advises to direct any further questions to the IRS.
Coordinate easement purchases with other Federal programs pooling funds from several agencies to purchase easements.	NRCS has adopted an approach that includes pooling resources with other agencies where there are common goals and objectives, e.g. Missouri River Restoration Project with the USACE, USFWS, and State agencies
Floodplain easements do not fit in the EWP mandate to relieve imminent threats to life and property.	NRCS believes that easements are a realistic alternative to repetitive repairs and government outlays in disaster-prone areas.
Use easements in certain low relief and developed areas only if set-back levees are used. Some areas in CA are farmed in summer, flooded in winter.	Use of setback levees with easement purchase is part of the current Program. PA Element 11 would eliminate cropping as a compatible use and thus address this practice.

Table 3.2-6 (Continued) Correspondence between O&E Team and other Recommendations and Elements of NRCS EWP Program Preferred Alternative

Limited Resource Sponsors	Resolution
<p>What constitutes a limited-resource sponsor be defined clearly, fairly, and objectively.</p>	<p>PA Element 4 identifies a practical equitable approach for determination of a limited resource area. NRCS has adopted the Nat Census Data to identify limited resource counties. There would be no limited resource sponsors per se. Waivers would be considered in instances where sponsors cannot meet their cost share obligations.</p>
Economic, Environmental, & Social Defensibility	Resolution
<p>For the installed EWP measures to be environmentally defensible, they need to take into consideration T&E species and shallow-water habitats for fish, wildlife, and invertebrates.</p>	<p>PA Element 5 would ensure that environmental review of proposed solutions would cause no significant adverse effects to these ecosystem components. Coordination with the USFWS would ensure no T&E species is jeopardized.</p>
<p>Where the installed measures are found to be not completely defensible environmentally, EWP funds should be made available for mitigation work.</p>	<p>PA Element 5 would ensure that mitigation for adverse effects would be accomplished before implementing a restoration practice.</p>
<p>NRCS should consider alternative funding mechanisms in cases of recurring requests, for example, the Federal cost-share could be reduced to less than 75 percent for second and subsequent projects that deal with watershed impairments in the same location.</p>	<p>NRCS has proposed instead under PA Element 8 to not fund a third repair at all at the site in a 10-year period. EWP assistance would be limited to those sites eligible for the purchase of a floodplain easement or where NRCS might provide cost-share funding of a sponsored buyout as described under Element 15.</p>
<p>The defensibility categories should have clearly defined criteria to evaluate them.</p>	<p>PA Element 5 identifies the criteria that would be used to evaluate economic, environmental, and social defensibility.</p>
<p>Upgrading the environmental defensibility of the Program was necessary and to do this, the review process would need to provide more backup documentation.</p>	<p>The revised DSR would provide such documentation.</p>
DART Team Training	Resolution
<p>Training needs to be conducted before disaster strikes so that local, rather than Federal personnel can respond. The locally trained teams know the areas and should write the DSRs.</p>	<p>Disaster-readiness training would be provided under PA Element 6.</p>
<p>Countrywide meetings would help ensure uniform policy application and interpretation.</p>	<p>A series of six regional workshops were conducted in the spring of 2000 and additional workshops are planned for spring of 2005.</p>
Eligible Impairments	Resolution
<p>EWP-eligible work should include broadening the scope of EWP work to include lakeshores, single landowner or windfall benefits, dams, concrete spillways, substitution projects.</p>	<p>Lakeshores were considered but eliminated from the PA because they constitute O&M situations. Single beneficiaries are allowed under PA Element 9 but the economic review would not allow windfall benefits. Dam and spillway repair are allowed under the current Program. Substitution projects were considered but eliminated from the PA as noted under PA Element 13.</p>
<p>Include repair of storm water detention basins.</p>	<p>EWP is a recovery, not a preventative, program. Stormwater detention basins are a flood prevention structure so repair is considered normal operation and maintenance work not recovery work.</p>

Table 3.2-6 (Continued) Correspondence between O&E Team and other Recommendations and Elements of NRCS EWP Program Preferred Alternative

Permanent Solutions to Watershed Damage	Resolution
The EWP Program should adopt a program approach, involving natural hydrology, floodplain management, bioengineering, vegetation, and relocation solutions. Permanent solutions are many times more cost effective in the long term than short-term fixes. Permanent solutions are important even in an emergency situation and should be implemented.	The Preferred Alternative does move the EWP Program toward more permanent solutions, particularly use of the principles of natural stream dynamics for repairs and use of agricultural and improved lands floodplain easements.
Program Monitoring	Resolution
Initiate a series of long-term monitoring projects that would allow personnel to implement proven environmentally sound projects that would function on a holistic level. Establish a long-term monitoring database to help exchange information on successful projects among states.	Monitoring projects are considered beyond the scope of the EWP Program because of the major increase in staff that would be needed to do an adequate job.
A national database should be set up at NRCS headquarters to help track EWP projects. The database should include GIS, fund tracking, efficacy of the installed practice, costs, and benefits. Use Newton pads for DSR completion.	A national database has been set up to do this tracking that includes costs, type and amount of EWP measures installed, and benefits or the EWP measures. At the State level, the NRCS State Offices will be required to track location-specific project information to track such data as installation date to monitor repeated installations.
Coordination, Planning, and Outreach	Resolution
Interagency coordination and advance planning are essential in the emergency-response process, that red tape bogs down the process, and that permits need to be issued faster and more easily. T&E species and permitting issues should be handled in these pre-emergency interagency coordination meetings.	PA Element 6 would address this concern.
Remedy misuse of the 400-mi ² standard.	A memorandum of understanding would be entered into with the USACE to reach an agreement on this matter.
Pre-disaster planning needs to be better staffed and to include public outreach to address environmental justice.	PA Element 6 would go a long way to helping solve this concern. Public outreach is part of the planning process.

3.3 ALTERNATIVES THAT WERE CONSIDERED BUT NOT EVALUATED IN DETAIL

3.3.1 Other EWP Program Alternatives

Two EWP Program alternatives were considered but eliminated from detailed evaluation in the PEIS. These alternatives would provide certain benefits in terms of diminishing NRCS workloads and oversight requirements. Overall, these alternatives were deemed unacceptable because NRCS judged that they would not improve the delivery or defensibility of the Program. They also would limit NRCS's ability to fulfill the agency's consultation responsibilities under Section 7 of the ESA and Section 106 of the NHPA or decisionmaking responsibilities under these authorities or NEPA.

3.3.1.1 Reduced Federal Role

Under this alternative, NRCS would maintain its role in the EWP Program administration and provision of technical assistance. However, it would shift greater responsibility and authority to the States for project evaluation and monitoring. NRCS would rely upon the efforts of the State emergency management organization (EMO) to accomplish the needed work. NRCS employees would continue to determine eligibility of all sites. Funds needed to accomplish the work would be given to the EMO by the State Conservationist. The EMO would be responsible for designing and installing the needed practices. NRCS would follow up to ensure that the job is done and that documentation is complete and in order. NRCS would also monitor any needed operation and maintenance activities. This alternative would allow NRCS employees to continue to service normal, everyday workload requests without interruption.

3.3.1.2 Total Grant to Sponsors

Under this alternative, NRCS would not maintain its role in EWP program administration and provision of technical assistance. Instead, it would provide EWP program grant funds to qualified sponsors in each State. Sponsors would complete a Damage Survey Report (DSR) and determine eligibility of the damage sites. This information would provide the basis for an application for funding from the appropriate regional NRCS office. Design, installation, and operation and maintenance, where warranted, would be carried out by the sponsor. There would be minimal oversight by NRCS, enough to ensure that the sponsor conducts EWP activities in compliance with eligibility requirements.

3.3.2 Other Proposed Action Elements

A number of other changes were recommended during scoping as elements of the proposed action but were eliminated from detailed evaluation for various reasons. Among these are the use of non-profit organizations as floodplain easement sponsors, repair of lakeshore damage, and removing threats to Federal-aid highways.

3.3.2.1 Nonprofit Sponsors

It was originally thought that organizations that promote natural floodplains be permitted to act as sponsors for the acquisition of floodplain easements. Although non-profits did not have all the requirements of regular sponsors, they had the best interest of the floodplains at heart. However, since all easements are voluntary and the Federal Government holds the easement, sponsors are not necessary. NRCS policy already has provisions for the agency to enter into partnerships with other organizations to carry out aspects of the Program without them having to be a sponsor.

3.3.2.2 Repair of Lakeshore Damage

A proposal that NRCS allow repair of lakeshore damage as part of the EWP Program was raised during the scoping sessions. Such repair has not been permitted in the past since most lakeside damage is due to ongoing wave action from winds and boats. It is difficult to determine whether a disaster or simply an ongoing erosive process is the cause of the damage. Therefore, a decision was made to not include this option in the Program.

3.3.2.3 Repair of Federal Highways

This is another proposal resulting from the scoping meetings. The Federal Highway Administration (FHA) already has a program called the “Emergency Relief for Federally Owned Roads” (ERFO) which provides 100 percent of the cost to repair these highways. In addition, the Federal-aid Highway Emergency Relief Program provides cost-share funds to State highway departments to repair damage to Federal-aid Highways. These are Interstates, National Highways, major rural and urban arterial and collector roads. It would be a duplication of effort for the EWP Program to do this work and therefore the proposal was not pursued.

3.4 COMPARISON OF THE ALTERNATIVES

This section presents the impacts of the EWP Program alternatives in comparative form to define the issues that clearly distinguish the alternatives and provide a clear basis for choice among the alternatives by the decision-maker and the public (CEQ Regulations 40 CFR 1502.14).

3.4.1 Comparison of Implementation Aspects likely to Affect Impacts

Major aspects of the current EWP Program (the No Action alternative) that would change under the Preferred Alternative, under the Draft PEIS Proposed Action, and under Alternative 3, and that have implications in terms of potential effects on watershed ecosystems and human communities, are summarized in Table 3.4-1. A summary of specific Program elements under each of the Program alternatives is presented in Table 3.4-2.

Table 3.4-1 Summary of Major Implementation Differences of EWP Program Alternatives

Major EWP Program Aspect	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Reliance on use of armoring versus “greener” methods¹ for stream restoration where feasible	Slow, steady shift to “greener” methods where feasible	Accelerated shift to “greener” methods	Accelerated shift to “greener” methods	Accelerated shift to “greener” methods
Relative number of armoring practices contracted	Likely to be the Highest of the 3 alternatives	Reduced due to emphasis on bioengineering methods and increased number of floodplain easements purchased	Reduced due to emphasis on bioengineering methods and increased number of floodplain easements purchased	Greatest reduction due to emphasis on bio-engineering methods and greatest number of floodplain easements purchased
Debris Removal Practices and Channel Restoration¹	Slowest improvement in adopting natural designs	Accelerated use of natural designs and focus on leaving some debris in place	Accelerated use of natural designs and focus on leaving some debris in place	Improved channel design and debris removal practices integrated into overall watershed program
Use of Floodplain Easements on Agricultural Land	Retain 3 categories of agricultural floodplain easements	Floodplain easement categories 1 & 3 eliminated	Floodplain easement categories 1 & 3 eliminated	Floodplain easement categories 1 & 3 eliminated
Floodplain Easement Purchase on Improved Lands	None	Purchase improved lands floodplain easements, including small flood-prone communities	Purchase of improved land floodplain easements is limited to those that ensure full floodplain function. EWP recovery program may fund buyouts in small flood-prone communities	Purchase improved lands floodplain easements and focus on broad easement purchase in disaster-prone watersheds

¹ design based on the principles of natural stream dynamics and bioengineering

3.4.1.1 Major Differences Among the Alternatives Likely to Affect Impacts

The principal changes that would influence Program-wide differences in environmental impacts among the four EWP Program alternatives (Table 3.4-1) involve changes in the design of restoration practices and in the Program's emphasis on, and eligibility criteria for, purchase of floodplain easements. Under the No Action alternative, armoring would continue to be the principal method of restoration to repair and protect streambanks. Alternatives 2, 3, and 4 would involve training and emphasis on design of restoration based on the principles of natural stream dynamics and the use of natural materials, and planting and seeding, alone or in combination with “hard” structural materials and geotextiles. This would involve addressing more than just site damage alone, as NRCS staff would also consider the design practices that would lead to a more stable hydraulic and environmental condition in which aquatic species would be able to reestablish themselves in a shorter time. Program-wide, there would likely be installation of

more natural or “greener” measures under Alternatives 2, 3, and 4, and fewer simple armoring practices.

Use of floodplain easements would change in terms of the types of compatible uses allowed on agricultural floodplain easements and the criteria for purchase of floodplain easements on improved lands. Under Alternative 1, NRCS would continue to purchase agricultural floodplain easements, some of which would allow cropping as a compatible use. Under the Draft PEIS Proposed Action, NRCS would eliminate cropping as a compatible use on agricultural floodplain easements and would allow additional floodplain easement purchases on improved lands, to include sponsor-involved floodplain easement purchases of multiple residences in small flood-prone rural communities. Under Alternative 3, NRCS would focus a broad, multi-program, locally-led effort in disaster-prone watersheds on purchase of contiguous blocks of easements. Under Alternative 4, the Preferred Alternative, floodplain easement purchase would be simplified but purchase of easements on improved lands would be limited to situations where required to ensure restoration of full floodplain function.

3.4.1.2 Specific Elements of Alternatives Likely to Affect Impacts

Specific elements of each of the alternatives (Table 3.4-2) likely would cause several differences in environmental effects Program-wide. The specific Program changes under each of the alternatives that would influence Program-wide differences in environmental impacts involve changes in the priority designation of sites seeking funding, the Federal cost-share of proposed measures, what restoration practices may be available under each of the alternatives, the design of restoration practices, and the inclusion of and emphasis on agricultural and improved lands floodplain easements.

Table 3.4-2 Specific EWP Program Changes under the Program Alternatives

<i>Element of EWP Program</i>	<i>Current Program Provisions Retained under the No Action Alternative (Alt 1)</i>	<i>Draft PEIS Proposed Action (Alt 2) and Prioritized Watershed Planning and Management (Alt 3)</i>	<i>Changes that would be Implemented under the Preferred Alternative (Alt 4)</i>
1. Emergency Terminology	Continue use of the terms “exigency” and “non-exigency.”	Eliminate the terms “exigency” and “non-exigency.”	Retain the term “exigency”; eliminate “non-exigency.”
2. Exigency Funding and Completion Requirements	No State level funding for immediate exigency response. Continue to allow 30 days to address exigencies.	Stipulate that “urgent and compelling” situations be addressed immediately with State level funds. Change exigency allowed time to 5 days.	No State level funding for immediate exigency response. Change allowed time to address exigencies to 10 days.
3. Prioritization of Project Funding	For non-Presidentially declared disasters, the STC prioritizes EWP projects which may include input from the sponsor.	Set priorities for funding of EWP practices.	Set priorities for funding of EWP practices.
4. NRCS and Local Sponsor’s Cost-share Rates	Cost-share of up to 100% for exigencies; up to 80% for non-exigencies.	Establish cost-share of up to 75%; up to 90% in limited-resource areas.	Establish cost-share of up to 75%; up to 90% in limited-resource areas; and add a waiver provision allowing up to 100% in unique situations.
5. Project Defensibility Review Criteria	Practices must be economically and environmentally defensible.	Stipulate that practices be economically, environmentally, and socially defensible.	Stipulate that practices be economically, environmentally, and socially defensible.

Table 3.4-2 (Continued) Specific EWP Program Changes under the Program Alternatives

Element of EWP Program	Current Program Provisions Retained under the No Action Alternative (Alt 1)	Draft PEIS Proposed Action (Alt 2) and Prioritized Watershed Planning and Management (Alt 3)	Changes that would be Implemented under the Preferred Alternative (Alt 4)
6. Level of Inter-agency Coordination, Planning, and Training	No specific provisions to facilitate interagency coordination, training, and planning.	Improve disaster-readiness through interagency coordination, planning, and training, including DART teams.	Improve disaster-readiness through interagency coordination, planning, and training, without DART teams.
7. Eligibility of Repairs to Agricultural Lands	No repair of impairments to agricultural lands allowed.	Allow repair of impairments to agricultural lands using sound engineering alternatives.	Allow repair of impairments to agricultural lands using sound engineering alternatives.
8. Eligibility of Repeated Repairs to the Same Site	No limit to the repeated repair of sites.	Limit repair of sites to twice in any ten-year period.	Limit repair of sites to twice in any ten-year period.
9. Multiple Beneficiary Eligibility Requirement	Continue multiple-beneficiary requirement for site repairs.	Eliminate multiple-beneficiary requirement for site repairs.	Eliminate multiple-beneficiary requirement for site repairs.
10. Eligible Restoration Methods	Least-cost restoration practices focused on the repair of site damage alone.	Apply the principles of natural stream dynamics and bio-engineering in restoration.	Apply the principles of natural stream dynamics and bio-engineering in restoration.
11. Compatible Uses of Floodplain Easement	Agricultural floodplain easement purchase would retain complex designation of land categories (1,2, 3) within easements.	Simplify purchase of agricultural floodplain easements; eliminate land designation categories.	Simplify purchase of agricultural floodplain easements; eliminate land designation categories.
12. Eligibility of Repairs to Enduring Conservation Practices	No repair of enduring (structural or long-life) conservation practices allowed under Program Rule, however Chief has granted a blanket exception.	Repair enduring (structural or long-life) conservation practices.	Repair enduring (structural or long-life) conservation practices, except when such measures are under ECP jurisdiction.
13. Eligibility of Improved Alternative Recovery Solutions	No partial funding of improved alternative solutions allowed.	Partially fund improved alternative solutions.	Partially fund improved alternative solutions.
14. Eligibility of Recovery Work Away from Streams and Critical Areas	No disaster-recovery work allowed in floodplains away from streams or in upland areas, except in critical areas in cases of drought or fire.	Allow disaster-recovery work in floodplains away from streams and in upland areas.	Allow disaster-recovery work in floodplains away from streams and in upland areas, where such measures are not under ECP jurisdiction.
15. Floodplain Easement Eligibility on Improved Lands	No purchase of floodplain easements on non-agricultural lands allowed.	Allow purchase of floodplain easements on non-agricultural lands.	Allow purchase of floodplain easements on non-agricultural lands only to fully restore floodplain function but not where small rural communities are at issue. Fund buyouts for recovery of small flood-prone communities through sponsors.

The effect of replacing exigency terminology with “urgent and compelling” terminology under Alternatives 2 and 3 would have the same Program implications as simply clarifying the exigency terminology under Alternative 4. In either case, the number of instances in the past that may have been labeled exigencies, but that were not truly situations requiring immediate measures should be reduced. This should lead to a Program-wide decrease in situations that are considered a serious enough threat to warrant immediate EWP action.

Setting priorities for EWP funding under Alternatives 2, 3, and 4 would tend to focus agency work on economically defensible projects where there are also federally protected resources at issue before lower priority EWP work is undertaken. Reducing the general Federal cost-share from 80 percent under Alternative 1, to 75 percent under Alternatives 2, 3, and 4, likely would not have much effect in terms of reducing numbers of sites restored because 75 percent has been the level applied in practice for about the last 10 years. However, establishing a higher Federal cost-share rate for limited resource areas and adding a social defensibility requirement to proposed restoration measures under Alternatives 2, 3, and 4, would tend to increase the number of restoration practices installed in limited resource areas. The addition of the waiver provision under Alternative 4, where the Federal cost-share could be up to 100 percent in situations where sponsors do not have sufficient funds to provide their percentage share, would further support this potential trend.

Improvements in disaster readiness under Alternatives 2, 3, and 4, would tend to make the process of coordinating the activities of sponsors and reviewing agencies more efficient, speed the work of restoration, and educate the public about the benefits of the “greener” restoration methods and of floodplain easements. Several of the other proposed changes under these alternatives could, however, have somewhat offsetting effects. Allowing structural repairs to agricultural lands would tend to increase the use of armoring in some watersheds to protect cropping while limiting repairs to twice in 10 years would tend to decrease the Program-wide use of armoring and increase purchase of floodplain easements. Simplifying agricultural floodplain easement purchase would tend to foster reduced production of agricultural crops in the floodplain. Also tending to decrease Program-wide use of armoring would be the shift in emphasis on restoration design using the principles of natural stream dynamics and bioengineering. Repair of enduring conservation practices and disaster recovery work in uplands should help minimize the possibility of disaster-caused impacts on water quality.

3.4.1.2.1 Alternative 1 (No Action Alternative)

The No Action alternative would not involve any changes in the current Program. The impacts to the environment would be essentially the impacts described under each practice, in Sections 5.2.2, 5.2.3, and 5.2.4. Refer to these sections for the detailed discussions of the environmental impacts of the Current Program. Refer to discussions and tables later in this Chapter for summary of No Action impacts.

3.4.1.2.2 Alternative 2 (Draft PEIS Proposed Action)

The 15 changes proposed under the Draft PEIS Proposed Action are organized here in three general categories: Execution of EWP Recovery Practices, Floodplain Easements, and Environmental Review. *Execution of Practices* refers to changes made in the way an existing practice is planned or conducted, or the addition of a new practice. *Floodplain Easement* changes are those that involve floodplain easement purchases of all types and changes to floodplain easement management. *Environmental Review* refers to activities that help to characterize a particular site or the process of evaluating a given site.

Effects of Alternative 2 Changes on Execution of EWP Recovery Practices

Eliminating the use of 'exigency' (Element #1) would likely have environmental benefits, as only extremely critical situations would be considered under the "urgent and compelling" designation. Previously, many sites were listed as "exigent" in order to take advantage of a more favorable cost-share ratio. This may have resulted in restoration work being completed hastily and without full coordination with other agencies, possibly resulting in less than optimal consideration of environmental resources. Allowing more extensive planning and coordination would likely result in greater environmental benefits.

The "*urgent and compelling*" designation would be added to stress critical repair work (Element #2). This could certainly affect the implementation of debris removal, streambank restoration, or any other practice that centers on structural repairs. This change would increase the emergency response nature of EWP and help to protect life and property. This quick response may have undesirable environmental impacts, as there may not be sufficient time for coordination with other agencies and environmental resources may be damaged. However, in combination with the changes described under *improving disaster readiness* (Element #6), the risk of these types of damages would be reduced, as training would help NRCS staff to recognize potential problems with T&E, cultural resources, and other resources of interest. The planning and coordination conducted would establish a protocol for ensuring that environmental resources are not overly affected, while not hampering the urgency of the repairs.

Establishing cost share rates (Element #4) would likely have positive environmental impacts, as EWP can complete work for sponsors that may not have been able to afford their portion under the previous cost-share arrangement. Depending on site-specific information and the type of practices used, benefits may be generated by the restoration beyond simply restoring flows and protecting streambanks. Reducing the general Federal cost-share from 80 to 75 percent likely would not have much effect in terms of reducing numbers of sites restored because the funding level has been the level applied in practice for the past ten years.

Improving disaster readiness (Element #6) should reduce adverse environmental impacts. Training would increase staff awareness to problem areas with the implementation of the various practices. Pre-disaster planning and coordination would prepare staff for what impacts to expect and allow for proactive solutions to situations that are likely to be encountered. Disaster response protocols can be established to prepare for the possible interactions with T&E species or cultural resources, and plans can be made to preserve those resources while still responding to the urgent need for repairs. NRCS staff also could be made aware of areas where these resources are known to exist or how to recognize new occurrences, and rapid response consultations with outside agencies could be facilitated. Pre-disaster planning and training would also inform staff about disaster effects that may be considered beneficial, such as certain amounts of woody debris in-stream or periodic small floods in wetland areas.

Repairs to agricultural lands (Element #7) may yield environmental benefits, as these repairs would employ streambank restoration practices described in Section 5.2.2.2, which carry some benefits and some consequences, depending on site-specific characteristics and the type of

practice implemented. By repairing or restoring previously untreated land, stream degradation due to disaster impairments would decrease. Also, under the new Program, more environmentally beneficial methods would be available for implementation, which increases the likelihood of positive impacts from this restoration work. However, if repairs are made, the land would likely continue in agricultural use and may contribute to poor water quality and habitat. If repairs were not made to the site, erosion would increase resulting in increased sedimentation.

Limiting repairs to twice per 10-year period (Element #8) would likely have mixed environmental effects. In the short term, it is likely that more structurally flow-resistant armoring designs for individual projects (e.g., longer stretches of riprap or using gabions instead of riprap) would be used to ensure that repeated damages are avoided if possible. The solution would still meet the environmental defensibility criterion, but this element may not lead to a short-term increase in greener solutions. However, at repeatedly damaged sites, floodplain easements would become the only available option regardless of previous restoration history. Therefore, this element may provide some long-term environmental benefits, unless landowners choose not to sell an easement and perform the repairs on their own. Over both the short and longer term, however, landowner repairs may have negative effects, as there may not be equal consideration of environmental, social, and cultural values, as provided by the EWP process.

Enabling single beneficiaries (Element #9) to be eligible for EWP work may generate positive environmental impacts, as previously un-restored sites may now be eligible for repairs. Depending on the site-specific details and restoration, benefits may be realized, especially if more natural restoration practices are used. Additionally, current policy may promote single beneficiary site owners to attempt the restoration work on their own or through private contractors. These privately funded repairs would be made without interagency review or consultation, possibly resulting in greater environmental degradation over both the short and long-term, as these groups may not have the training necessary to properly address environmental considerations.

Use of *natural stream dynamics* (Element #10) may produce locally significant environmental benefits, as a closer approximation to natural stream function would be returned. Other benefits such as improved habitat and reduced erosion would also be realized. These are detailed in Section 5.2.3.1.

Repair of enduring conservation practices (Element #12) would likely offer positive environmental benefits, as discussed in Section 5.2.3.4. Repairing damaged or undersized conservation structures would minimize further environmental degradation of downstream habitat. These practices are installed for the purposes of environmental protection, such as the containment of agricultural runoff, erosion control, or animal waste management. Additionally, by requiring that these practices meet current NRCS standards, older or undersized practices would be replaced with more effective ones.

Partially funding expanded or improved alternative solutions (Element #13) may yield positive environmental effects, as discussed in Section 5.2.3.5. Supplemental work completed on EWP projects could yield improved water quality or habitat and would be subject to the normal environmental review process under EWP. The substitution of one practice for another could

also give rise to significant benefits, especially in cases where the sponsor wishes to employ more natural restoration methods. Where local entities wish to install more expansive or different measures, NRCS funding and technical oversight would ensure the environmental and social defensibility of the measure.

Disaster recovery work away from streams (Element #14) can lead to environmental benefits. By restoring floodplain deposition and upland areas, the areas below (floodplains, wetlands, riparian zones and aquatic communities) can realize benefits in water quality and habitat, as seen in Sections 5.2.3.2 and 5.2.3.3. Conversely, repairing these sites may discourage floodplain easements or other more natural land uses since a landowner can continue to farm the restored land.

Effects of Alternative 2 Changes on Easements

Improved disaster readiness (Element #6), as described above under *Execution of Practices*, may provide additional environmental benefits. In addition to the positive impacts listed, disaster-readiness training, coordination, and planning may encourage further identification of problem areas within the watershed and subsequent floodplain easement purchases. This change would offer broader solutions and provide for better coordination of easement purchases.

Limiting repairs to twice per decade (Element #8), as presented above, would likely encourage floodplain easement purchase of repeatedly damaged sites.

Simplification of agricultural floodplain easement purchase (Element #11) would provide some benefits and some detrimental effects, as discussed in Section 5.2.5.1. The elimination of Category 1 removes the most natural floodplain easement, as acceptable uses of the land would maximize floodplain function and natural restoration. By eliminating Category 3, the least desirable floodplain easement from an environmental standpoint, the consequences of continued cropping on floodplain easement lands are removed. The remaining Category 2 easements provide positive environmental impacts but not to the degree of the former Category 1 (by allowing compatible uses), requiring longer timescales for floodplain restoration. Simplifying agricultural floodplain easement purchase would also tend to foster reduced production of agricultural crops in the floodplain. In sum, there is no net gain or net loss of environmental benefits.

Non-agricultural floodplain easements (Element #15), as analyzed in Section 5.2.3.2, may provide significant environmental benefits. By removing developed land uses, the floodplain easement tract would be returned to a far more natural state and improved floodplain function.

Effects of Alternative 2 Changes on Environmental Review

Prioritization of funding (Element #3) would likely yield some environmental benefits, as potential sites would be evaluated for unique environmental characteristics. Sites with sensitive environmental resources would be restored first, reducing the length of time in a damaged condition. This would likely benefit the environmental resource, as the source of impairment would be removed more quickly and the length of the disturbance minimized.

Defensibility review (Element #5) would ensure that social requirements are also met in determining site eligibility. Additional projects may become eligible for restoration due to some socially compelling reason. Based on previous conclusions that restoration may yield environmental benefits, these socially compelling projects are also likely to have accompanying environmental benefits. Additionally, social values may influence the environmental outcome, as a community may request more environmentally beneficial restoration practices or may be unsure of such practices and request armored structures. The former would likely result in environmental benefits, and the latter would likely result in smaller benefits than those that would have been realized by installing the practices originally proposed by EWP.

3.4.1.2.3 Alternative 3 (Prioritized Watershed Planning and Management)

Alternative 3 would include all of the proposed changes described in Alternative 2, while also including *disaster-readiness and mitigation, prioritization of watersheds, and coordination of disaster planning with other stakeholders*. These three additional elements are linked to one another through a watershed-level management plan, and they can therefore be discussed jointly.

The total watershed management process of prioritization and disaster planning would yield significant environmental benefits. Using a locally led process, stakeholders would increase acceptance of environmental factors such as water quality and wildlife habitat, as well as ensure that unique environmental values in a particular watershed are considered. By ranking watersheds and focusing disaster planning in high priority areas, the cumulative impacts of the disaster/repair cycle that historically have typified these areas would begin to diminish, as short-term solutions are set aside in favor of longer term ones. Easement purchases and other longer term approaches would produce substantial environmental benefits, by changing land uses to restore natural floodplain functions, reducing the amount of recurring restoration work, and introducing management strategies that are more proactive in dealing with natural disasters instead of simply responding to them. The planning process would address much larger spatial and temporal scales for disaster impact prevention/mitigation and recovery, accounting for natural variability and processes. Although still secondary to the overall goal of protecting life and property, the process would include environmental considerations as important items, promoting improved watershed health in each of the ecosystem types. Cooperation with other programs would also serve to improve watershed health, as actions by the various stakeholders and agencies would be conducted to avoid overlapping or conflicting efforts, and with multiple goals in mind.

3.4.1.2.4 Alternative 4 (Preferred Alternative)

NRCS' Preferred Alternative (Alternative 4) includes many of the proposed changes and would cause environmental impacts similar to those described for Alternative 2, with some important exceptions. The impacts of the Preferred Alternative are described here in three general categories in parallel with the previous discussion of impacts of the Draft PEIS Proposed Action: Execution of EWP Recovery Practices, Easements, and Environmental Review.

Effects of the Preferred Alternative Changes on Execution of EWP Recovery Practices

Retaining use of the term ‘exigency’ but eliminating the term “non-exigency” under Preferred Alternative Element #1 would result in environmental benefits similar to the impacts discussed for the Draft PEIS Proposed Action. Rather than changing EWP terminology to help prioritize and focus funding on situations requiring immediate attention, NRCS would instead reinforce the originally intended meaning of the term exigency through oversight at NHQ. Rather than creating State-level pre-disaster funding to be used “on the spot” as proposed under Draft PEIS Proposed Action Element 2, NRCS NHQ would continue to oversee DSR review and funding of exigencies to ensure that only fully documented critical situations are funded under the “exigency” designation. Emphasis on this oversight requirement would be extremely important because *exigencies would be the first priority for funding* under Preferred Alternative Element 3.

Another Preferred Alternative change would also help ameliorate the problem of too many projects being identified as exigencies. Because the newly proposed *cost-share rates would be the same for exigencies and other emergencies* under Preferred Alternative Element 4, there would not be a cost-share advantage in listing a site as an exigency.

Extending the time to make repairs of exigencies from 5 days to 10 days under Preferred Alternative Element 2 will help ensure NRCS and sponsors have sufficient time for environmental review, permitting, and securing the sponsor’s cost share. In contrast with the “on the spot” response time of the Draft PEIS Proposed Action, this 10-day period would reduce the chances that environmental resources might be damaged. In combination with the changes described under *improving disaster readiness* (Preferred Alternative Element #6), the risk of such damages would be further reduced, as training would help NRCS staff to recognize potential problems with T&E species, cultural resources, and other resources of interest. The planning and coordination conducted would establish a protocol for ensuring that environmental resources are not overly affected, while not hampering the urgency of the repairs.

Revising the cost share rates (Preferred Alternative Element #4) would likely have positive environmental impacts, as EWP can complete work for sponsors that may not have been able to afford their share under the previous cost-share arrangement. Reducing the general Federal cost-share from 80 to 75 percent likely would not have much effect in terms of reducing numbers of sites restored because the funding level has been the level applied in practice for the past ten years.

Improving disaster readiness (Preferred Alternative Element #6) should reduce adverse environmental impacts. Training would increase staff awareness of problem areas with the implementation of the various practices. Pre-disaster planning and coordination would prepare staff for what impacts to expect and allow for proactive solutions to situations that are likely to be encountered. Disaster response protocols can be established to prepare for the possible interactions with T&E species or cultural resources, and plans can be made to preserve those resources while still responding to the urgent need for repairs. NRCS staff also could be made aware of areas where these resources are known to exist or how to recognize new occurrences, and rapid response consultations with outside agencies could be facilitated. Pre-disaster planning and training would also inform staff about disaster effects that may be considered

beneficial, such as certain amounts of woody debris in-stream or periodic small floods in wetland areas.

As was the case for the Draft PEIS Proposed Action, *making repairs to agricultural lands eligible under EWP* (Preferred Alternative Element #7) may yield environmental benefits, as these repairs would employ streambank restoration practices described in Section 5.2.2.2, which carry some benefits and some adverse consequences, depending on site-specific characteristics and the type of practice implemented. By repairing or restoring previously untreated land, stream degradation due to disaster impairments would decrease. Also, under the new Program, more environmentally beneficial methods would be available for implementation, which increases the likelihood of positive impacts from this restoration work. However, if repairs are made, the land would likely continue in agricultural use and may contribute to poor water quality and habitat. If repairs were not made to the site, erosion would increase, resulting in increased sedimentation.

Limiting repairs to twice per 10-year period (Preferred Alternative Element #8) would likely have mixed environmental effects as were discussed under the Draft PEIS Proposed Action. Hard armoring may tend to be the solution chosen for first or second repairs in cases where NRCS technical staff believe a location is disaster-prone and wish to avoid a near-term requirement for a third repair. Greener solutions might be reserved for those locations that are not considered likely to be repeatedly damaged. The solution would still meet the environmental defensibility criterion, but this element might tend to weigh against any near-term increase in use of greener solutions which is one of the major program improvement goals. Offsetting this potential short-term trend would be the fact that at repeatedly damaged sites, floodplain easements or recovery funded buyouts would become the only available options regardless of previous restoration history. Therefore, this element would likely provide some longer-term environmental benefits, unless landowners choose not to sell an easement or take a buyout and perform the repairs on their own.

Enabling single beneficiaries (Element #9) to be eligible for EWP work may result in positive environmental impacts, as previously un-restored sites may now be eligible for repairs. Depending on the site-specific details and restoration, benefits may be realized, especially if more natural restoration practices are used. As was discussed for the Proposed Action, not requiring documentation of multiple beneficiaries for emergency repairs would tend to limit the number of privately-funded repairs made without interagency review or consultation, and thus reducing the potential for environmental degradation over the short and long-term.

Use of *natural stream dynamics* (Element #10) may produce locally significant environmental benefits, as a closer approximation to natural stream function would be returned. Other benefits such as improved habitat and reduced erosion would also be realized. These are detailed in Section 5.2.3.1.

Allowing repair of enduring conservation practices (Preferred Alternative Element #12) would lead to environmental benefits because repairing damaged or undersized conservation structures would minimize further environmental degradation of downstream habitat and, by requiring that

these practices meet current NRCS standards, older or undersized practices would be replaced with more effective ones.

Partially funding expanded or improved alternative solutions (Preferred Alternative Element #13) would yield environmental benefits in terms of improved water quality and aquatic habitat where the improved projects are intended to provide such benefits and because NRCS would oversee the work and would ensure adequate environmental review as well. The substitution of one practice for another could also give rise to significant environmental benefits in cases where the sponsor wishes to employ more natural restoration methods. Where local entities wish to install more expansive or different measures to address community social values, NRCS funding and technical oversight would ensure the environmental defensibility of the measure.

Funding disaster recovery work away from streams and critical upland areas (Preferred Alternative Element #14) would also lead to environmental benefits although these would be limited by the fact that EWP would not fund projects that are eligible under ECP. By restoring floodplain deposition and upland debris areas, affected floodplains, wetlands, riparian zones and aquatic communities can realize benefits in water quality and habitat. Conversely, restoring these sites may discourage the landowner from selling a floodplain easement or putting the land to other more natural uses since they can continue to farm the restored land.

Effects of Preferred Alternative Changes on Easements

Improved disaster readiness (Preferred Alternative Element #6), as described above under *Execution of Practices*, may provide environmental benefits in addition to the positive impacts listed. Disaster-readiness training, coordination, and planning would also encourage further identification of problem areas within the watershed and subsequent floodplain easement purchases. This change would offer broader solutions and provide for better coordination of easement purchases. *Limiting repairs to twice in 10-years* (Preferred Alternative Element #8) would likely encourage floodplain easement purchase of repeatedly damaged sites.

Simplification of agricultural floodplain easement purchase (Element #11) provides benefits but has some limitations. Elimination of Category 1 easements has removed the most natural floodplain easement, as acceptable uses of the land would maximize floodplain function and natural restoration. By eliminating Category 3, the least desirable floodplain easement from an environmental standpoint, the consequences of continued cropping on floodplain easement lands are removed. The remaining Category 2 easements provide positive environmental impacts but not to the degree of the former Category 1 (by allowing compatible uses), requiring longer timescales for floodplain restoration. Simplifying agricultural floodplain easement purchase would also tend to foster reduced production of agricultural crops in the floodplain. In sum, there is no net gain or net loss of environmental benefits.

Non-agricultural floodplain easements (Preferred Alternative Element #15), as analyzed in Section 5.2.3.2, would provide significant environmental benefits in instances where those lands are purchased to restore full floodplain function to a larger easement area. By removing improvements, the floodplain easement tract would be returned to a far more natural state and improved floodplain function.

Effects of Alternative 2 Proposed Changes on Environmental Review

Prioritization of funding (Element #3) would likely yield some environmental benefits, as potential sites would be evaluated for unique environmental characteristics. Sites with sensitive environmental resources would be restored first, reducing the length of time in a damaged condition. This would likely benefit the environmental resource, as the source of impairment would be removed more quickly and the length of the disturbance minimized.

Defensibility review (Element #5) would ensure that social requirements are also met in determining site eligibility. Additional projects may become eligible for restoration due to some socially compelling reason. Based on previous conclusions that restoration may yield environmental benefits, these socially compelling projects are also likely to have accompanying environmental benefits. Additionally, social values may influence the environmental outcome, as a community may request more environmentally beneficial restoration practices or may be unsure of such practices and request armored structures. The former would likely result in environmental benefits, and the latter would likely result in smaller benefits than those that would have been realized by installing the practices originally proposed by EWP.

3.4.2 Comparison of the Impacts of the Alternatives on Watershed Ecosystems

Table 3.4-3 presents an overall summary of the impacts differences between the alternatives. More detailed alternative comparisons are presented in the following sections on watershed ecosystems, human communities, and cumulative impacts.

Sections 3.4.2.1 to 3.4.2.4 compare the impacts of the alternatives on aquatic, riparian, floodplain and wetland ecosystems. The discussion is based on proposed changes in debris removal, streambank restoration, and dam, dike, and levee repair practices, as well as on changes in floodplain easements across the alternatives. Section 3.4.2.5 discusses the implications of Program changes under the alternatives for the practices that would not change in terms of execution: protection of structures in the floodplain and critical area treatment and for proposed new practices that would be executed in the same way under Alternatives 2, 3, and 4: floodplain deposition removal, upland debris removal, repair of damaged conservation practices, and funding of improved alternative solutions.

Table 3.4-3 General Comparison of Impacts of EWP Alternatives

Impact	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Impacts on Aquatic, Wetland, Floodplains & Riparian Ecosystems	Greatest likelihood for local and downstream adverse effects due to continued use of armoring practices and limited use of floodplain easements	Reduced likelihood of adverse impacts due to emphasis on bio-engineering practices and broader use of floodplain easements	Reduced likelihood of adverse impacts due to emphasis on bio-engineering practices but more limited reductions from more limited use of floodplain easements than under Draft PEIS Proposed Action	Highest likelihood of reduced adverse effects and increased beneficial effects especially in well-managed priority watersheds
Impacts on Human Communities	Highest likelihood of continuing to protect all uses of floodplain	Use of non-agricultural floodplain easements encourages more restricted uses of floodplain, some older rural communities may be disrupted	Limited support for buyouts as part of recovery program would encourage more restricted uses of the floodplain but may disrupt older rural communities	Highest likelihood of encouraging best use of floodplain but highest potential for disruption of older rural communities
Cumulative Impacts	Lowest likelihood of addressing watershed-wide effects—e.g., water quality	Increased likelihood of addressing watershed level effects—e.g., water quality, fisheries—using bio-engineering practices and more easements	Increased likelihood of addressing watershed level effects—e.g., water quality, fisheries—using bio-engineering practices and more easements	Greatest likelihood of planning for and addressing watershed level effects—e.g., water quality

3.4.2.1 Aquatic Ecosystem Impacts

Under Alternative 1, where no Program changes would be made, aquatic ecosystems (Table 3.4-4) would continue to benefit in the short term from restoration of channel capacity and reduction of bank erosion at EWP repair sites. The hydrology of disaster-damaged stream reaches would be restored and turbidity and sedimentation reduced, which would improve conditions for aquatic life in many respects. However, aquatic ecosystems would continue to be adversely affected in other ways, and in the longer term, as they have in the past, primarily due to the widespread emphasis on the use of armoring and removal of in-stream debris. These effects would not be offset Program-wide as much by the compensatory benefits of floodplain easements due to a lesser emphasis under this alternative on easement purchase. Generally, armoring practices, as well as repairs to levees, would continue to provide lower quality habitat for aquatic life, limit riparian vegetation growth, and redirect stream energy to downstream locations with potentially damaging consequences. Continued heavy reliance on armoring would continue to provide streambank stability at the damaged site and reduce erosion, but may also support increased flow velocities and increased turbidity in downstream reaches.

Table 3.4-4 Comparison of Impacts to Aquatic Ecosystems

	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Impacts on Habitat Structure¹				
Impacts of Restoration Practices	Adverse effects would likely continue to occur from almost complete removal of in-stream debris, as this removes habitat and nutrients. Armoring would continue to limit re-vegetation and redirect flows downstream to other banks. Levee repairs would continue to limit natural floodplain function. There would be no provision to structurally protect agricultural lands, which would limit use of armoring.	Adverse effects would be reduced by retaining more in-stream debris and using restoration design based on the principles of natural stream dynamics. Benefits would accrue from increased use of easements, as floodplain functions return and habitat is created or improved. Agricultural lands could be protected with structural practices if economically defensible.	Adverse effects would be reduced by retaining more in-stream debris and using restoration design based on the principles of natural stream dynamics. Benefits would accrue from increased use of easements, as floodplain functions return and habitat is created or improved. Agricultural lands could be protected with structural practices if economically defensible.	Coordinated planning would incorporate natural resources in the management strategy, resulting in increased usage of natural stream dynamics and other long-term approaches that create additional quality habitat. Agricultural lands could be protected with structural practices if economically defensible.
Impacts of Floodplain Easements	Continuing to use 3 easement categories would result in some easement lands serving as natural floodplains, while others would support intensive agriculture. Benefits and adverse effects would vary accordingly.	Using only Category 2 easements would eliminate the most restrictive of compatible uses, while also eliminating the least restrictive. Floodplain and riparian habitats would improve using Category 2 but not as quickly as under Category 1.	Using only Category 2 easements would eliminate the most restrictive of compatible uses, while also eliminating the least restrictive. Floodplain and riparian habitats would improve using Category 2 but not as quickly as under Category 1.	Coordinated easement purchases would help create contiguous restored floodplain areas.
Impacts on Water Quality²				
Impacts of Restoration Practices	Benefit from reduced erosion and turbidity at damaged site. Removal of in-stream debris may increase velocity and increase turbidity. Repair of levees continues the channelization of stream and leads to increases in turbidity. Short-term decrease in water quality during construction with increases in turbidity and risk of pollutants.	Retention of some in-stream debris may reduce turbidity. Restoration design based on natural stream dynamics should reduce flow velocity and increase sinuosity, decreasing turbidity. Increased use of bioengineering may also better regulate water temperatures.	Retention of some in-stream debris may reduce turbidity. Restoration design based on natural stream dynamics should reduce flow velocity and increase sinuosity, decreasing turbidity. Increased use of bioengineering may also better regulate water temperatures.	Coordinated planning may incorporate natural resources in the management strategy, resulting in increased usage of natural stream dynamics and other long-term approaches that improve water quality.
Impacts of Floodplain Easements	Varied effects, depending on category of easement. Category 1 easements increase filtration, improve vegetation and increase flood storage. Category 3 may continue to contribute to agricultural runoff and declines in water quality.	Improvements in water quality, as easement purchases are increased. Category 2 easements would likely provide benefits in water quality, though not to the degree of Category 1. Purchase of agricultural and improved land floodplain easements would reduce urban and agricultural runoff.	Improvements in water quality, as easement purchases are increased. Category 2 easements would likely provide benefits in water quality, though not to the degree of Category 1. Purchase of agricultural and improved land floodplain easements would reduce urban and agricultural runoff.	Coordinated floodplain easement purchases may create contiguous floodplain areas, improving water quality on a large scale.

Table 3.4-4 (Continued) Comparison of Impacts to Aquatic Ecosystems

	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Impacts on Biota³				
Impacts of Restoration Practices	Armoring may provide habitat for some invertebrates and small fish but limits vegetative cover for larger biota. Structures may also redirect flows to other reaches and damage habitat there. Use of woody structures (root wads, revetments, etc) may mitigate these effects. Removal of debris may remove habitat.	Substantive improvements over current Program, as habitat and channel structure increase in quality under “greener” ⁴ restoration practices.	Substantive improvements over current Program, as habitat and channel structure increase in quality under “greener” ⁴ restoration practices.	Coordinated planning may result in contiguous habitat areas and allow for permanent establishment of biotic populations.
Impacts of Floodplain Easements	Category 1 easements may develop into quality habitat, whereas Category 3 would likely continue to contribute to poor habitat conditions. In general, easements would lead to increased vegetation and improved habitat features such as pools.	Elimination of Category 1 reduces quality of potential habitat, whereas removing Category 3 may yield higher quality habitat following easement purchase. Increased easement purchases offer improvements in habitat and channel structure.	Elimination of Category 1 reduces quality of potential habitat, whereas removing Category 3 may yield higher quality habitat following easement purchase. Increased easement purchases offer improvements in habitat and channel structure.	Coordinated easement purchase may create contiguous floodplain areas, improving habitat and benefiting biotic resources.

¹ Habitat structure includes habitat quality, sedimentation and channel structure

² Water quality includes turbidity, temperature, dissolved oxygen, and pollutants

³ Biota includes plant and animal species

⁴ “Greener” restoration includes channel restoration using the principles of natural stream dynamics, limitations on debris removal, and use of bioengineering employing live and dead plant materials instead of hard surfaces for streambank protection.

Debris removal under the current Program would continue to consist in many cases of almost complete removal of all in-stream debris, which adversely affects aquatic communities by removing habitat, nutrients, and streamflow regulation.

Under the No Action alternative, floodplain easements would continue to be purchased under three categories and would have wide ranging environmental impacts, from closely approximating natural floodplain environments to continuation of intensive agriculture. Since, presumably, landowners would wish to continue to gain some income from use of their lands under easement, the likelihood is that a larger fraction of lands in floodplain easements would be cropped than would have the greatest use restrictions under Category 1, notwithstanding the lower easement price for lands that are cropped. Therefore, this alternative would carry with it the continued adverse impacts of cropped floodplain easement lands on water quality and aquatic ecosystems wherever those easements are purchased. [Note: Since 2001, as a result of a USDA Office of Inspector General (OIG) investigation, NRCS has operated the floodplain easement portion of the EWP Program by purchasing a single type of easement, restoration with compatible uses, which is category 2 under the previous EWP Rule categorization. This OIG-based change is fully consistent with the Preferred Alternative, Draft PEIS Proposed Action, and

Alternative 3 goal of simplifying easement purchases. Selection of the No Action alternative would be inconsistent with this OIG finding.]

Under Alternatives 2, 3, and 4, Program-wide training in and use of stream restoration design based on the principles of natural stream dynamics and floodplain easements would provide substantial benefits and reduce the severity of the types of adverse impacts to aquatic ecosystem that would likely continue to be seen under Alternative 1. Natural stream dynamics techniques employing natural structural materials and bioengineering would help restore sinuosity, regulate stream flow, create habitat, and improve water quality. Woody debris not posing any future threat may also be left in the stream to provide aquatic habitat. In combination with a greater focus on purchase of floodplain easements, natural streamflow conditions may be closely approximated in many watersheds and improvement in the quality of aquatic ecosystems likely would follow.

Under the Alternatives 2, 3, and 4, only one category of agricultural floodplain easement would be available, which would allow compatible uses such as grazing, haying or timber. While the most restrictive category of floodplain easement in terms of compatible uses would be removed, the least restrictive is also removed from the Program. In particular, this alternative would not have the potential for adverse impacts of cropped floodplain easements. Requiring a buffer strip on all floodplain easements and fencing on grazing floodplain easements will help to maintain or improve environmental conditions.

Under Alternative 3, planning and coordination at the local level would act to focus restoration efforts on high priority disaster-prone watersheds. Through watershed scale management, the benefits realized with restoration design based on natural stream dynamics, and purchase of floodplain easements could be amplified, as contiguous habitat areas and longer reaches of naturally flowing streams could be restored.

3.4.2.2 Riparian Ecosystem Impacts

Under Alternative 1, riparian communities and streambanks (Table 3.4-5) would continue to be adversely affected, again primarily due to reliance on armoring practices and continued levee repairs. While these practices do stabilize streambanks, the structures used limit or damage riparian vegetation, reduce the quality of habitat for aquatic and riparian species, redirect streamflow energy further downstream, and restrict natural floodplain function. Additionally, current methods for creating access and clearing and snagging may adversely affect streambank stability and habitat quality. Increased use of natural structural materials such as rootwads and revetments may mitigate these impacts. Easements would be eligible under each of the three categories and would continue to offer a range of benefits and adverse effects.

Under the Alternatives 2, 3, and 4, emphasis on stream restoration based on the principles of natural stream dynamics and increased floodplain easement purchases could provide considerable benefits for riparian communities. Natural stream dynamics techniques, use of natural structural materials, and bioengineering methods promote natural re-vegetation, dissipate

stream energy, establish aquatic and riparian habitat, and restore natural channel structure and morphology. Easements would serve to augment these benefits by restoring floodplain function.

Table 3.4-5 Comparison of Impacts to Riparian Ecosystems

	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Impacts on Bank Stability				
Impacts of Restoration Practices	Short-term improvements, such as armoring practices and levee repairs, stabilize streambanks. May cause long-term problems as stream energy is directed to up or downstream reaches. Some stability may be lost as vegetation is removed during construction. Removal of embedded debris may destabilize banks.	Short and long-term benefits, as local impairments are repaired and natural stream dynamics techniques dissipate stream energy and minimize effects on other reaches.	Short and long-term benefits, as local impairments are repaired and natural stream dynamics techniques dissipate stream energy and minimize effects on other reaches.	Coordinated planning may result in decreased emphasis on local impairments, focusing on watershed scale stream function.
Impacts of Floodplain Easements	Stability not as great a concern, as channel would be allowed to meander. Natural re-vegetation would likely reestablish and generate improvements in stability. Category 1 would yield the greatest potential benefits, while Category 3 would yield minimal benefits.	Increased easement purchases would result in long-term benefits, as natural flows can meander as needed and vegetation is reestablished. Elimination of Categories 1 and 3 remove greatest and least potential for vegetative restoration.	Limited increase in easement purchases would result in some long-term benefits, as natural flows can meander as needed and vegetation is reestablished. Elimination of Categories 1 and 3 remove greatest and least potential for vegetative restoration.	Coordinated planning may result in contiguous easement sections, reducing the need for streambank repairs.
Impacts on Streamside Cover				
Impacts of Restoration Practices	Armoring and levees may inhibit riparian vegetation establishment. Planting and seeding would increase re-vegetation. Debris removal may involve damage to riparian vegetation.	Substantive improvements, such as natural stream dynamics techniques promote natural riparian regeneration.	Substantive improvements, such as natural stream dynamics techniques promote natural riparian regeneration.	Coordinated planning may result in contiguous riparian areas.
Impacts of Floodplain Easements	Natural re-vegetation would likely improve cover, especially under Category 1. Planting and seeding in easement management plan would augment natural processes.	Increased easement purchases may establish significant ecosystem components, such as riparian forests and buffer zones.	Increased easement purchases may establish significant ecosystem components, such as riparian forests and buffer zones.	Coordinated easement purchases may establish contiguous ecosystem components, such as riparian forests and buffer zones.

Table 3.4-5 (Continued) Comparison of Impacts to Riparian Ecosystems

	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Impacts on Biota				
Impacts of Restoration Practices	Armoring and levees may limit vegetation establishment and wildlife access to stream.	Improvements for biotic components likely, as natural channels and riparian areas are established.	Improvements for biotic components likely, as natural channels and riparian areas are established.	Coordinated planning may result in benefits to biota, through establishment of larger or contiguous habitat areas and more natural stream function.
Impacts of Floodplain Easements	Improved habitat, as riparian vegetation provides cover and areas of slack water may provide habitat for reptiles, amphibians and emergent aquatic vegetation.	Increased purchase of easements should benefit biotic communities, as riparian habitat and access to streams is increased.	Somewhat Increased purchase of easements should benefit biotic communities, as riparian habitat and access to streams is increased.	Coordinated easement purchase may result in extensive, contiguous natural habitat, benefiting biotic communities.

Under Alternative 3, coordination and planning may result in contiguous segments of higher quality riparian habitat, as easements and design based on natural stream dynamics promote naturally flowing streams and the development of riparian habitat.

3.4.2.3 Impacts on Floodplain Ecosystems

Under Alternative 1, floodplain ecosystems (Table 3.4-6) would continue to be adversely affected. Armoring alters natural floodplain function and levees confine flood flows to the stream channel, protecting the lands behind them while preventing the development of natural floodplain function. Stream energy would continue to be channeled to downstream reaches and floodplain habitat would continue to be absent or underdeveloped. Easements would be eligible under each of the three categories and offer a range of benefits and adverse effects.

Under Alternatives 2, 3, and 4, inclusion of recovery measures to restore natural stream dynamics and an increased emphasis on easements would improve floodplain function, increase flood retention capabilities, and promote floodplain habitat.

Under Alternative 3, coordination and planning may lead to the establishment of large segments of contiguous, freely flowing stream and floodplain systems in priority watersheds.

Table 3.4-6 Comparison of Impacts to Floodplain Ecosystems

	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Land Use and Development				
Impacts of Restoration Practices	Armoring and levee repairs may serve to maintain agricultural or urban uses.	Natural stream dynamics may lead to change in land use to more natural land uses, as stream channel is allowed to meander.	Natural stream dynamics may lead to change in land use to more natural land uses, as stream channel is allowed to meander.	Coordinated planning may convert floodplain land uses to more natural uses, improving floodplain function and reducing threats to life and property.
Impacts of Floodplain Easements	Substantive improvements with Category 1, as easement purchases would return developed lands to a more natural state. Category 3 easements offer minimal benefit, as intensive agriculture is allowed.	Substantive improvements, as easement purchases would return developed lands to a more natural state.	Substantive improvements, as easement purchases would return developed lands to a more natural state.	Coordinated easement purchases may focus on problematic land uses or frequently damaged areas and return these areas to a more natural state.
Hydrology				
Impacts of Restoration Practices	Armoring and levees offer minimal benefits, as practices tend to transfer stream energy to other reaches. Armoring alters floodplain function while levees restrict it. Complete removal of debris from channel fails to slow flow velocity and divert waters into the floodplain.	Marked improvement, such as natural stream dynamics, may dissipate stream energy. In-stream debris would lead to some pooling and overflow into the floodplain.	Marked improvement, such as natural stream dynamics, may dissipate stream energy. In-stream debris would lead to some pooling and overflow into the floodplain.	Coordinated easement purchases may create contiguous reaches of well-regulated flows and result in an overall reduction in stream energy and destructive power.
Impacts of Floodplain Easements	Substantive improvements, as all easement categories would return floodplain function to the site. Water quality and infiltration would be best served by Category 1 easements.	Substantive improvements, as Category 2 easements return floodplain function to the site. Limitations on compatible uses may offer benefits to water quality, infiltration, and groundwater recharge.	Substantive improvements, as Category 2 easements return floodplain function to the site. Limitations on compatible uses may offer benefits to water quality, infiltration, and groundwater recharge.	Benefits of coordinated easement purchases do most to approximate a free flowing river.
Biota				
Impacts of Restoration Practices	Minimal benefits from armoring and levees, as floodplain hydrology and full function is not restored.	Minor benefits due to some flooding from debris jams or stream sinuosity. Floodplain function is not fully returned, minimizing benefits to floodplain biota.	Minor benefits due to some flooding from debris jams or stream sinuosity. Floodplain function is not fully returned, minimizing benefits to floodplain biota.	Minor benefits due to some flooding from debris jams or stream sinuosity. Floodplain function is not fully returned, minimizing benefits to floodplain biota.
Impacts of Floodplain Easements	Category 3 offers very little in potential habitat. Under Category 1, substantive benefits may be seen for both plant and animal floodplain communities, as floodplain function is returned.	Substantive benefits to both plant and animal floodplain communities, as floodplain function is returned. Category 2 easements likely would not return floodplain function as quickly or completely as Category 1.	Substantive benefits to both plant and animal floodplain communities, as floodplain function is returned. Category 2 easements likely would not return floodplain function as quickly or completely as Category 1.	Coordinated easement purchase may result in extensive, contiguous natural habitat, benefiting biotic communities.

3.4.2.4 Impacts on Wetland Communities

Under Alternative 1, wetland communities (Table 3.4-7) may continue to be adversely affected. Armoring and levee repair act to restrict stream hydrology and may limit the water available for wetland functions. Filtration, flood retention, groundwater recharge and wetland habitat functions may be affected. Easements eligible under three categories offer a range of benefits and adverse effects.

Under Alternatives 2, 3, and 4, natural stream dynamics and a focus on floodplain easement purchase may lead to improvements in wetland communities. By restoring to more natural hydrologic regimes, wetlands may be restored in areas with appropriate soils and hydrology. Easements would also likely restore wetlands and wetland functions, as periodic flooding would promote wetland growth and development.

Under Alternative 3, planning and coordination would likely lead to further improvements to wetland communities. Watersheds may be managed for natural stream flows, which may serve to establish and promote wetlands. This may also result in contiguous segments of wetland, which would augment the quality of habitat and filtration capacity.

Table 3.4-7 Comparison of Impacts to Wetlands

	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Hydrology				
Impacts of Restoration Practices	Continuing current debris removal, armoring, and levee repair practices, would not help restore natural stream hydrology and normal flood regime to promote wetland growth or function.	Stream restoration based on principles of natural stream dynamics and debris left in-stream, would help restore natural stream hydrology and normal flood regime to minimally promote wetland growth and function.	Stream restoration based on principles of natural stream dynamics and debris left in-stream, would help restore natural stream hydrology and normal flood regime to minimally promote wetland growth and function.	Coordinated planning may lead to contiguous reaches with sufficient flooding and natural hydrology to maintain and improve wetland areas.
Impacts of Floodplain Easements	Continued purchase of agricultural floodplain easements would continue to restore some natural flooding conditions, improving wetland hydrology in some watersheds.	Increased purchase of agricultural floodplain easements plus non-agricultural floodplain easements would increase restoration of natural flooding conditions, improving wetland hydrology in more watersheds.	Increased purchase of agricultural floodplain easements plus non-agricultural floodplain easements would increase restoration of natural flooding conditions, improving wetland hydrology in more watersheds.	Coordinated purchase of agricultural and non-agricultural floodplain easements would maximize restoration of flooding conditions, improving wetland hydrology in flood-prone watersheds.

Table 3.4-7 (Continued) Comparison of Impacts to Wetlands

	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Water Quality				
Impacts of Restoration Practices	Continuing current debris removal, armoring and levee repair practices, would not help restore natural flooding regime to improve water quality.	Some benefits, such as natural stream dynamics, may give rise to some wetland formation.	Some benefits, such as natural stream dynamics, may give rise to some wetland formation.	Coordinated planning may lead to contiguous reaches with sufficient flooding and hydrology to promote wetland areas.
Impacts of Floodplain Easements	Some improvement, as easements may promote wetland creation, resulting in increased filtration.	Increased improvement, to the extent easement availability increases, may promote wetland creation, resulting in increased filtration.	Increased improvement, to the extent easement availability increases, may promote wetland creation, resulting in increased filtration.	Coordinated easement purchase may result in contiguous wetland areas, resulting in large scale filtration.
Biota				
Impacts of Restoration Practices	Minimal benefits, such as wetland habitat and restoration, are not promoted by debris removal, armoring and levee repair.	Some benefits, such as natural stream dynamics, may give rise to some wetland formation.	Some benefits, such as natural stream dynamics, may give rise to some wetland formation.	Coordinated planning may lead to contiguous reaches with sufficient flooding and hydrology to promote wetland areas.
Impacts of Floodplain Easements	Purchase of floodplain easements would continue to promote wetland creation or growth, resulting in increased wetland habitat.	Increased use of easements, would promote increased wetland creation or growth, resulting in greater increases in wetland habitat.	Increased use of easements, would promote increased wetland creation or growth, resulting in greater increases in wetland habitat.	Coordinated easement purchase may result in creation or growth of more extensive wetland habitat than Alternatives 1 or 2.

3.4.2.5 Impacts of Other EWP Practice Changes

Protection of floodplain structures would be carried out as required under the EWP alternatives, regardless of which alternative is selected (See Table 3.4-8 above). However, the locally led process under Alternative 3 would provide the best forum for discussion and decision-making at the local level about placement or removal of infrastructure in the floodplain. Critical area treatment, too, would remain the same under all alternatives. See Table 3.4-8 for detailed impacts.

Floodplain deposition removal and repair of damaged conservation practices would be done under EWP in Alternatives 2, 3, and 4, and would benefit from the technical oversight of NRCS. Under the Preferred Alternative, floodplain deposition removal would be eligible only on lands not eligible for the ECP Program. Floodplain deposition removal may conflict somewhat with the goals of the EWP floodplain easement program by returning lands that would be likely candidates for floodplain easement purchase to agricultural use. Funding of improved alternative solutions would ensure that NRCS participates in design and environmental review of practice

installations that under the current Program would likely have been carried out without NRCS knowledge or oversight.

Table 3.4-8. Comparison of Watershed Ecosystem Impacts of Other EWP Practices

	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Current EWP Practices				
Diversions and Sediment and Debris Basins	Restoration would be conducted in same manner as current Program.	Would be conducted in same manner as current Program.	Would be conducted in same manner as current Program.	Locally led process may restrict placement of municipal infrastructure within the floodplain.
Critical Area Treatment (including drought)	Restoration would be conducted in same manner as current Program.	Restoration would be conducted in same manner as current Program.	Restoration would be conducted in same manner as current Program.	Use would tend to reduce the level of concern in some flood prone watersheds for the effects of damage to such critical areas.
Proposed EWP Practices				
Floodplain Deposition Removal	Currently carried out by FSA under ECP Program or by landowner.	NRCS would fund removal or deep tilling. May conflict with the goals of floodplain easements.	NRCS would fund removal or deep tilling only on lands not eligible for the ECP Program.	NRCS would fund removal or deep tilling. May conflict with the goals of floodplain easements.
Upland Debris Removal	Other agencies or landowner responsible for removal.	NRCS assistance would ensure environmentally sound cleanup and disposal.	NRCS assistance would ensure environmentally sound cleanup and disposal.	NRCS assistance would ensure environmentally sound cleanup and disposal.
Repair of Damaged Conservation Practices	Currently operated under FSA or privately by landowner.	NRCS would fund repair of conservation practice.	NRCS would fund repair of conservation practice.	Locally-led process may address placement of conservation structures within the floodplain.
Improved Alternative Solutions	Currently carried out by sponsor or landowner without NRCS involvement.	NRCS may approve substitute solution but is obligated to only pay cost share of restoration work being replaced.	NRCS may approve substitute solution but is obligated to only pay cost share of restoration work being replaced.	Locally led process may address benefits of substitutions on watershed scale, leading to more natural methods or easements.

3.4.3 Comparison of the Impacts of the Alternatives on Human Communities

This section summarizes the impacts of the EWP Program alternatives on human communities. Brief descriptions of the findings of the impacts analysis for the different aspects of the socioeconomic environment in potentially affected communities under each alternative are given in Table 3.4-9.

3.4.3.1 Alternative 1: No Action Alternative

Continuation of the current Program would be expected to have an essentially minimal impact to the local economy of affected communities. Most of the proposed projects are relatively small in scope and, despite the smaller rural characteristics of most of the communities involved, the total dollar expenditures would not contribute substantially to the local economy.

Impacts to land use from implementation of the EWP Program would depend on the type of EWP practice installed and the speed with which the installation can be completed. The overall impact of practices that do not include the exercise of a floodplain easement would most likely be minimal. Where an easement is purchased, the previous use of the land would be altered and the value of any associated agricultural production from the affected acreage would be lost.

The structural practices used in the EWP Program are designed to restore the pre-disaster land use. The effect of the installed practices under this alternative would represent a benefit by restoring or protecting economically productive or residential properties that represent an asset to the community. EWP installed practices may result in the repair and protection of the land thereby restoring its previous value. However, this does not necessarily eliminate the need for further repair in the future. With respect to infrastructure and social resources and services, the effect of the Program is generally beneficial. Installed practices restore the previously existing condition and provide a measure of protection for important structures and resources. In some cases, visual impairment from installed practices may diminish the aesthetic quality or recreational experience associated with some properties, but in general the Program would not likely have a major adverse effect.

The primary direct effect would be beneficial in providing for the recovery of previously existing levels of service. Purchase of an agricultural floodplain easement in some cases may provide the additional benefit of protecting open space and improving the visual or recreational quality of an area. Provision of the sponsor's share of project cost may represent a serious adverse impact on some smaller, independent communities where support from county or State jurisdictions is absent. A corresponding strain on local resources may be evident, with the indirect effect of under-funding other important social efforts within the community. Because project defensibility under this alternative is based primarily on environmental and economic justification, some concern does exist from an environmental justice perspective. In socioeconomically disadvantaged areas, some property owners may be denied assistance because the cost of protecting the property is greater than the value of the property itself. However, the same project at the same cost may be justifiable in another area because property values are higher. This leads to a potential for disproportionately greater access to the benefits of the Program for more affluent communities and may be especially important in socioeconomically distressed or minority communities.

3.4.3.2 Alternative 2: Draft PEIS Proposed Action

In general, the elements of the Draft PEIS Proposed Action would be generally beneficial to affected human communities. The potential impact of the installation of engineered solutions at individual project sites does not substantially differ from that under the no-action alternative.

Expansion of the floodplain easement option to include non-agricultural and improved land would likely increase the potential for disruption of local communities or neighborhoods by the displacement of residents, but it also represents an opportunity for the community to reduce the impact of natural disasters and the associated recovery cost, especially on improved properties.

Expansion of the defensibility criteria for the project would substantially increase access to potentially beneficial effects of the project for socially disadvantaged or minority persons who may have been previously excluded. Similarly, the provision for funding up to 90 percent of the cost of EWP projects in limited resource communities also decreases the potential burden on these communities and has the effect of increasing potential access to Program benefits.

However, several proposed changes under this alternative would influence the overall impact of the Program on the human social environment and may alter the proposed solutions or the manner of participation for affected communities. Program modifications in funding, priorities, and floodplain easement purchase would create the potential for change. Additionally, the Draft PEIS Proposed Action allows for greater opportunities for cooperation with local land use plans. Where floodplain easements are purchased, there is some possibility that the easements could become part of an area's comprehensive plan for growth, by meeting a portion of the need for functional open space for the community.

Elimination of the exigency designation and the installation of a new priority ranking system would be expected to have some influence on this capability. Implementation of the priority ranking system could result in the delay or denial of protection to certain properties that may have been otherwise protected under the old system. However, the provision to provide additional financial support to areas designated as "limited resource" would have the effect of encouraging EWP participation by communities that might not otherwise have access to the Program. As an environmental justice issue, this provision reduces the potential for disproportionate access to Program benefits for socio-economically disadvantaged communities that may have previously failed to repair damage because the provision of the sponsor's share of the project cost represented too great a burden on available public funds. Inclusion of criteria for social defensibility, in addition to the economic and environmental defensibility criteria that are part of the current Program, also has implications for the consideration of environmental justice. By establishing a social rationale based on the utility of the property to the landowner, the proposed action includes a category of participant who might otherwise have been left out of the current Program, especially in circumstances where the economic value of a property may be low or difficult to calculate.

Table 3.4-9 Impacts of the EWP Program Alternatives on Human Communities

	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Local Economy	Some potential for income associated with continuing disaster assistance. Benefit from restoration of previous productive use. Purchase of floodplain easements could result in a loss of employment and income from agricultural land but would reduce demand for services and disaster assistance.	General effect would be similar to the No Action alternative; however, expansion of floodplain easements to improved land may have a greater impact on employment and income from affected properties. A correspondingly greater reduction in demand for services and disaster assistance could result.	General effect would be similar to the No Action alternative; however, expansion of floodplain easements to improved land may have a greater impact on employment and income from affected properties. A correspondingly greater reduction in demand for services and disaster assistance could result.	More efficient use of capital resources and economic potential of watershed resources would be possible. Easements may reduce income from productive lands and facilities but the highest corresponding reduction in demand for services and disaster assistance could result.
Value of Natural Resources	Repair and protection of land restores previous value, but may induce additional development in flood prone areas increasing risk from future natural disaster. Purchase of floodplain easement on agricultural land potentially withdraws acreage from production, but may increase value of neighboring properties.	Purchase of floodplain easement on improved and unimproved land potentially withdraws productive property from community use, but may increase value of neighboring properties. Community tax base may be affected. However, repair of impairments to agricultural land potentially restores productive property to the community.	Purchase of floodplain easement on improved and unimproved land potentially withdraws productive property from community use, but may increase value of neighboring properties. Community tax base may be affected. However, repair of impairments to agricultural land potentially restores productive property to the community.	Purchase of floodplain easement withdraws land from production and decreases its value, but may increase value of neighboring properties. However, repair of impairments to agricultural land potentially restores productive property to the community.
Infrastructure	Repair and protection of previous capability, infrastructure; restores service to community. Potential benefit from the restoration of the natural floodplain.	Effects would be similar to those under the No Action Alternative.	Effects would be similar to those under the No Action Alternative.	Increased emphasis on total system maintenance could help improve infrastructure services and may mitigate threats of sudden impairment.
Property	Short-term benefits from protecting structures, no long term benefits from moving structures out of harm's way with easements. Emphasis on protecting existing property, but funding resources may be inefficiently used.	Short-term benefits from protecting structures, long term benefits from moving structures out of harm's way, especially with non-agricultural floodplain easements. Requirement that practices be defensible may affect some structures. Easement purchases may result in the loss of business, commercial, or residential structures.	Short-term benefits from protecting structures, long term benefits from moving structures out of harm's way, especially with buy-out practice. Requirement that practices be defensible may affect some structures. Easement purchases may result in the loss of business, commercial, or residential structures.	Short-term benefits from protecting structures. Best strategy for long-term benefits from moving structures out of harm's way with easements in disaster-prone watersheds. Easements may result in community loss of business, commercial, or residential structures.

Table 3.4-9 (Continued) Impacts of the EWP Program Alternatives on Human Communities

	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Public Health and Safety (PH&S) & Community Resources	Short-term benefit from protecting PH&S directly and indirectly by protecting emergency services. In disaster-prone areas, long-term PH&S concerns remain high. Would not substantially alter existing community resources, but may result in some visual impairment.	Short-term benefit from protecting PH&S directly and indirectly. Improved lands floodplain easements help long-term PH&S considerations. Improved cost share for communities with limited resources; alternative uses of floodplain easement properties represent additional benefit.	Short-term benefit from protecting PH&S directly and indirectly. Limited funding of buyouts of small flood-prone rural communities would help long-term PH&S considerations. Improved cost share for communities with limited resources; alternative uses of floodplain easement properties represent additional benefits.	Short-term benefit from protecting PH&S directly and indirectly. Watershed mgmt best long-term solution to protect PH&S. Some loss of existing resources is possible, but may increase availability of watershed related recreational, educational and other uses.
Demographics	Existing community would be maintained, but some potential indirect change from in or out migration in response to level of perceived risk.	Purchase of easement may alter population mix by displacing current residents; however, existing community would be maintained in most cases.	Limited funding of buyouts of small flood-prone rural communities may alter population mix by displacing current residents; however, existing community would be maintained in most cases.	Purchase of easement may alter population mix by displacing current residents; however, existing community would be maintained in most cases.
Land Uses	Would maintain existing uses of the land, but may increase habitation and use of flood prone acreage increasing cost of future protection except where agricultural floodplain easements are purchased.	Floodplain easements could alter previous land uses on subject and neighboring properties.	Floodplain easements could alter previous land uses on subject and neighboring properties.	Easements could alter previous land uses on subject and neighboring properties.
Social Patterns	Some temporary disruption during project construction may result, but no permanent disruption to local community.	Improved lands floodplain easements may break up residential networks or neighborhoods.	Limited funding of buyouts of homes in small flood-prone rural communities may break up residential networks or neighborhoods.	Improved lands floodplain easements may result in the breakup of existing residential networks or neighborhoods.

3.4.3.3 Alternative 3: Prioritized Watershed Planning and Management

The primary effect of the proposed watershed planning and management approach proposed under this alternative is the proactive benefit of allowing watershed planning on a macro scale. Where this alternative would continue to provide funding and technical assistance similar to that proposed under the Draft PEIS Proposed Action alternative, similar impacts would be anticipated. However, the incorporation of pre-disaster planning and management of the watershed on a macro scale provides a greater understanding of a land use vision for the

community. The integration of watershed planning into the process enables environmental concerns to be addressed as part of the community's long-term growth strategies. An integrated approach to program management allows for more efficient use of capital resources and the economic potential of the watershed, while minimizing adverse environmental effects. Some potential for loss of existing community resources may be possible, but this is offset by the increased availability of watershed related recreational, educational, or other uses. An important beneficial effect associated with this approach concerns the involvement of multiple program authorities, local and State agencies, and stakeholders in the process.

Proactive use of floodplain easements in a planned approach would minimize potential problems associated with reliance on a project-by-project approach, especially where neighboring or adjoining properties are volunteered for the Program at different times and under differing circumstances. Where easements are purchased, there is the potential that open spaces can be planned as integral components of the area landscape. Similar to the Draft PEIS Proposed Action alternative, purchase of improved lands floodplain easements could alter the composition or structure of the community by displacing current residents. Easements could also alter the existing land uses or may result in the breakup of residential networks. These potentially adverse effects may be offset, however, by the more effective use of floodplain easement purchases as a part of a longer-term flood management and watershed planning approach and could reduce Federal funding outlays in the long-term.

3.4.3.4 Alternative 4: EWP Program Improvement and Expansion under the Preferred Alternative

In general, as was the case under the Draft PEIS Proposed Action, implementation of the Preferred Alternative would be beneficial to affected human communities. The potential impact of the installation of engineered solutions at individual project sites does not substantially differ from that under the No Action alternative. Expansion of the floodplain easement option to include improved lands and limited funding of buyouts of small flood-prone rural communities would likely increase the potential for disruption of local communities or neighborhoods by the displacement of some residents, but it would also present an opportunity for the community to reduce the impact of natural disasters and the associated recovery cost on improved properties.

Expansion of the defensibility criteria for the project could substantively increase access to potentially beneficial effects of the project for socially disadvantaged or minority persons who may not previously have been able to take advantage of the Program. Similarly, the provision for funding up to 90 percent of the cost of EWP projects in limited resource communities also decreases the potential burden on these communities and would have the effect of increasing potential access to Program benefits.

However, several proposed changes under this alternative would influence the overall impact of the Program on the human social environment and may alter the proposed solutions or the manner of participation for affected communities. Program modifications in funding priorities and floodplain easement purchase under the Preferred Alternative would create the potential for change. Additionally, the Preferred Alternative allows for greater opportunities for cooperation

with local land use plans. Where easements are purchased, there is some possibility that the easements could become part of an area's comprehensive plan for growth, by meeting a portion of the need for functional open space for the community.

Implementation of the priority ranking system could result in the delay or denial of protection to certain properties that might otherwise have been protected under the No Action alternative. However, the provision of additional financial support to areas designated as "limited resource" would likely encourage EWP participation by communities that might not otherwise have access to the Program. As an environmental justice issue, this provision reduces the potential for disproportionately lower access to Program benefits for socio-economically disadvantaged communities that may have previously failed to repair damage because the provision of the sponsor's share of the project cost represented too great a burden on available public funds. Inclusion of criteria for social defensibility, in addition to the economic and environmental defensibility criteria that are part of the current EWP Program, also has implications for the consideration of environmental justice. By establishing a social rationale based on the utility of the property to the landowner, the proposed action includes a category of participant who might otherwise have been left out of the current Program, especially in circumstances where the economic value of a property may be low or difficult to calculate.

3.4.4 Comparison of the Cumulative Impacts of the EWP Alternatives

CEQ regulations at 40 CFR 1508.7 define cumulative impact as *the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.* This section compares the cumulative impacts of the EWP Program alternatives at the watershed level, based on the analysis of the example watersheds, and at the national or Program level based on the general findings of the impacts analyses.

3.4.4.1 Cumulative Impacts at the Watershed Level

The contribution of the effects of EWP practices to cumulative impacts on watershed ecosystems, based on the analysis of the example watersheds, were minimal under all four EWP Program alternatives. However, in the East Nishnabotna River watershed, where wetlands are already highly stressed according to EPA, the overall cumulative impacts were found likely to be significant. Therefore, EWP environmental evaluations should pay particular attention to watershed health indicators in order to limit potential cumulative impacts to acceptable levels.

Because the requirements for protection of federally protected resources in watersheds are for the most part site specific, EWP restoration work may be one of the best ways to protect those resources that would otherwise be threatened. This is particularly true of cultural resources, where EWP work might not only remove threats to the property directly but also protect the environmental setting where the property is located. In the case of T&E species as well, EWP work may be a necessary part of habitat maintenance as a species recovers, although in the long

term, not desirable as a necessity to survival. In some instances, easements might provide a better solution for ensuring habitats are available that are conducive to a species' recovery.

Alternative 1 (No Action Alternative) would not change cumulative impacts from their present levels. For aquatic resources, there would continue to be minor turbidity, sedimentation, and flow altering effects from restoration practices. These effects would add in the long term to the slow decline of watershed health in some watersheds and to more rapid decline in others. For wetlands, riparian areas, and floodplains, minor effects from restoration practices would continue to occur and would add to the habitat loss and loss of natural floodplain functioning that are a contributing part of general watershed decline.

Human communities like the City of Buena Vista would continue to benefit from protection of their homes and businesses and would continue to derive income from performing EWP restoration practices although minor community disruptions may occur. Major flood work by the USACE and NRCS at Buena Vista have combined to help sustain the viability of the community in the face of repeated flood damage, a community that has seen a marked industry decline because of the floods and other factors. The viability of agricultural communities such as that along the East Nishnabotna and of rural fringe communities such as Boise Hills, depend in large measure on damage restoration and preventative measures. In the long term, however, the cumulative drain on local, State, and Federal resources to maintain any such communities that are repeatedly threatened may lead to sufficient impetus to seek longer-term solutions. Agricultural floodplain easements that are part of the current Program are likely to be major parts of this solution.

Alternative 2 (the Draft PEIS Proposed Action) involves EWP Program improvement and expansion. Under this alternative, NRCS would emphasize more environmentally sensitive implementation of EWP practices and would expand the types of watershed impairments to activities away from streams, upland debris sites, enduring conservation practices, and others. Fifteen specific Program changes would improve the EWP Program and incorporate new restoration practices. For aquatic resources, there would be a reduction in minor turbidity, sedimentation, and flow altering effects from restoration practices. This would diminish the degree to which any of these adverse effects would add in the long term to decline of watershed health. In some watersheds these improved practices may even slow or reverse some of the decline. For wetlands, riparian areas, and floodplains, there would be some reduction in minor effects from restoration practices, which would reduce the rate of habitat loss and loss of natural floodplain functioning. In some portions of watersheds the EWP work may reverse such a trend. Better coordination with other Federal, State, and local agencies and additional projects approved should result in less overall habitat destruction.

Human communities would continue to be protected in the short term but a greater emphasis on agricultural floodplain easements and introduction of improved lands floodplain easements should provide better long-term solutions than repetitive repair work where repeated damages occur. Shifts in Program emphasis may result in slightly different mix between agriculture and other uses as floodplain easement lands increase.

Table 3.4-10 Cumulative Impacts of the EWP Program Alternatives

Environmental Resource	Alternative 1: No Action	Alternative 2: Draft PEIS Proposed Action	Alternative 4: Preferred Alternative	Alternative 3: Prioritized Management
Impacts to Aquatic Resources	Minor effects from restoration practices would continue to add to long-term declines in quality of aquatic habitat. These effects may be important in watersheds stressed by other factors such as development. Easements should help slow declines in some cases.	Upgrade in restoration practices would diminish any adverse effects and may slow long-term declines in quality of aquatic habitat. Substantively expanded easement program would improve this situation in some watersheds.	Upgrade in restoration practices would diminish any adverse effects and may slow long-term declines in quality of aquatic habitat. Moderately expanded easement program would help improve this situation, but in fewer watersheds.	Upgrade in restoration practices and focused locally-led watershed management would be best way to slow long-term declines in quality of aquatic habitat. Substantively expanded easement program would improve this situation in priority watersheds
Impacts to Wetlands, Riparian and Floodplains Resources	Minor effects from restoration practices would continue to occur and would add to habitat loss and loss of natural floodplain functioning that are a contributing part of general watershed decline. Agricultural floodplain easements may mitigate these effects in some watersheds.	Some reduction in minor effects from restoration practices, which would reduce the rate of habitat loss and loss of natural floodplain functioning. In some portions of watersheds the better designed EWP work may reverse such a trend. Substantively expanded easement program would improve this situation in some watersheds	Some reduction in minor effects from restoration practices, which would reduce the rate of habitat loss and loss of natural floodplain functioning. In some portions of watersheds the better designed EWP work may reverse such a trend. Moderately expanded easement program would help improve this situation but in fewer watersheds.	Upgrade in restoration practices and focused locally-led watershed management would be best way to slow long-term declines in quality and acreage of wetland, riparian, and floodplain habitat. Substantively expanded easement program would improve this situation in priority watersheds.
Impacts to Socioeconomic and Other Human Resources	Life and property would continue to be protected but longer term solutions to repeated damage would not be a major consideration. Minor income would be derived from performing restoration practices, but resources may be inefficiently used.	Life and property would continue to be protected but longer term solutions to repeated damage would begin to be a major consideration, especially with use of improved lands floodplain easements in small rural communities. Minor income would be derived from performing restoration practices. Shifts in Program emphasis may result in slightly different mix between agriculture and other uses.	Life and property would continue to be protected but longer term solutions to repeated damage would begin to be a major consideration, especially with use of improved lands floodplain easements or buy-out practices. Minor income would be derived from performing restoration practices. Shifts in Program emphasis may result in slightly different mix between agriculture and other uses.	Life and property would continue to be protected but better organized and funded longer term solutions to repeated damage would be the major consideration. Minor income would be derived from performing restoration practices. Shifts in Program emphasis may result in slightly different mix between agriculture and other uses.

Alternative 3 would tend to minimize EWP Program impacts because it would be the most proactive and integrative EWP approach to disaster recovery and damage avoidance. It would allow maximized use of more environmentally beneficial EWP practices by focusing the resources of NRCS and other entities in disaster-prone watersheds. Here, restoration design based on the principles of natural stream dynamics and bioengineering would likely cause the most marked reductions in degradation of stream hydrology and habitat. When used in conjunction with purchase of floodplain easements in these more highly stressed watersheds, some substantive abatement or reversal of watershed degradation is possible. In less seriously stressed watersheds, use of these practices and floodplain easements would help maintain watershed integrity. NRCS and other technically cognizant agencies would need to take adequate steps during the locally-led conduct of the watershed plan to ensure all decisions are well-informed decisions, made with the best available scientific information and soundest technical advice to help avoid decisions made simply because they appear on first inspection to be heading in the right direction.

Alternative 4, the Preferred Alternative, involves many of the EWP Program improvement and expansion elements discussed under Alternative 2, and thus would cause many of the same cumulative impacts. Under the Preferred Alternative, NRCS would again emphasize more environmentally sensitive implementation of EWP practices and would expand the types of watershed impairments to include floodplain sediment deposition, activities away from streams, upland debris sites, and repair of enduring conservation practices. There would be a minor reduction in the immediate increase of turbidity, sedimentation, and flow-altering effects associated with the implementation of restoration practices. In some watersheds, the improved practices proposed may even slow or reverse some of the decline of long-term watershed health. For wetlands, riparian areas, and floodplains, there would be a minor reduction in restoration practice effects, which would reduce the rate of habitat loss and loss of natural floodplain functioning. In some portions of watersheds, the EWP work may even reverse such a trend. Improved agency coordination should decrease the effects on protected resources affected by restoration practices. Human communities would continue to be protected in the short term but a greater emphasis on agricultural floodplain easements and introduction of improved lands floodplain easements should provide better long-term solutions than repetitive repair work where repeated damages occur. Shifts in Program emphasis may result in a slightly different mix between agriculture and other uses as floodplain easement lands increase.

3.4.4.2 Cumulative Impacts at the National Program Level

To the extent that the EWP Program protects life, health and public and private property, there is a beneficial cumulative effect in terms of the Program's contribution to the overall viability of the community itself. The cumulative socioeconomic benefit from Program implementation nationwide could be estimated in terms of the aggregate benefit to communities participating in the Program. This benefit could be expressed in terms of the total number of human lives protected and the total value of all property protected as a result of the EWP Program (see Table 3.4-11). Without the Program, both would be in jeopardy nationally.

Table 3.4-11. Summary and Average EWP Program Accomplishments, 1998 – 2003

General	1998-2003 Total:	Average per	
		Year	Event
Events (number)	462	77	
Number of sites	9,446	1,574	20.45
Costs* (thousands):			
Technical Assistance	61,463	15,366	133.04
Financial Assistance	279,990	69,998	606.04
Local Contribution	94,574	23,644	204.71
Floodplain Easements	98,972	24,743	214.23
Total Costs (million \$):	\$ 535	\$ 134	\$ 1.16
Benefits			
Outcomes (protected)			
Public buildings (number)	1,840	307	3.98
Private buildings (number)	183,422	30,570	397
Roads (miles)	13,305	2,218	29
Utilities (number)	2,352	392	5
Value of property (million \$)	\$ 11,305	\$ 1,884	\$ 24
Outputs			
Debris removed (thousand feet)	24,132	4,022	52.23
Streambank stabilized (thousand feet)	1,793	299	3.88
Land protected (thousand acres)	11,375	1,896	24.62
Easements purchased (thousand acres)	111	19	0.24
Public benefited (thousand)			
Elderly	2,328	388	5.04
Minorities	1,449	242	3.14
Other	2,328	388	5.04
Total Public Benefited	6,106	1,018	13.22
Total Benefits* (million \$):	\$ 1,587	\$ 264	\$
Benefit/Cost Ratio:	2.97		

*in 2003 dollars

The level of risk to life and property resulting from natural disasters could be estimated. By reducing this potential risk, the EWP Program protects the general health and safety of the population both directly, in terms of the immediate residents or users of affected property, and indirectly for the community as a whole through the protection of public health and safety systems. In both cases, the beneficial result is an improved quality of life for local residents through increased public safety and restoration of the economic value and social use of the affected property.

In addition to the direct cost of repairing damaged land and installing protective measures to reduce the risk of future adverse impacts, the public cost of a natural disaster also includes the protection of the public during and immediately after the disaster event. Funding allocated for the operation of emergency services (police, fire, rescue, etc.) and the costs associated with evacuation of the public to safe shelters and the maintenance of support services for the displaced population can cause a significant strain on the fiscal resources of an affected community. Resources consumed for this purpose would have to be taken from other important public services provided by the community for its residents. By providing the necessary funding and technical assistance to the community for the protection and repair of damaged property the EWP Program contributes to the general welfare by freeing up assets for other socially important uses.

The aforementioned benefits are relatively short-term compared with longer-term consideration of the inherent risks of continuing to live and work in disaster-prone areas, particularly in flood-prone watersheds. The numerous EWP restoration practices executed in the aftermath of disasters in watersheds that are repeatedly affected by major storms arguably simply act cumulatively to restore and maintain an overall short-term solution for the watershed that is not likely to be viable in the long term. In many cases, upgradient changes in these watersheds, particularly by intensive agriculture or development, affect the flow capacity requirements of downstream reaches, which cannot absorb the higher, swifter flows of the markedly changed system and which may be quickly damaged by erosion. These human-induced changes exacerbate the natural tendency of stream courses to vary over time, moving laterally and deepening or becoming shallow over different reach segments. These natural dynamics can pose a threat to agriculture or improved property near the stream even in relatively undisturbed watersheds. In developed watersheds, such threats are likely to appear more often over larger portions of the watershed. Continued reliance on EWP restoration practices in these watersheds simply postpones the time when measures other than restoration, measures that locate crops, homes, and businesses out of harm's way, would be the only viable solution to deal with repeated damages and further threats of damage. The EWP policy of allowing repairs only twice in 10 years at a damage site was proposed in recognition of this problem.

Traditional restoration techniques used in the current EWP Program, that would continue under the No Action alternative, tend to maintain the status quo in flood-prone areas; and may actually result in increased human habitation and use of these areas. Although affording a short-term reduction in the risk to public health and safety and a degree of protection for affected property, these practices have the potential to increase risk over the longer term by allowing increases in the size of potentially affected populations and increasing the value of the land and associated property that may be potentially damaged. Restoration design based on the principles of natural

stream dynamics can help restore or approximate as closely as possible the natural hydrology of these systems and can help maintain and protect otherwise non-viable human communities. These communities may not have the room to move their valued property out of harm's way because the majority of useable land is near stream courses. In other cases, however, EWP purchase of floodplain easements in lieu of repairs provides the better long-term alternative strategy. Both agricultural and improved lands floodplain easements are available tools for this purpose under both Alternatives 2 and 4. The management strategy proposed under Alternative 3, emphasizing the use of floodplain easements on improved land and local ordinances to restrict future development in these areas, applies these tools in an overall strategy, and represents the most comprehensive, organized approach. Although costs and potential cumulative impact to the local community may be higher in the short term, this strategy would be preferable for reducing long-term overall costs to the community, the states, and to Federal taxpayers and for reducing problems associated with public health and safety.

3.5 EWP PROGRAM MITIGATION

According to the CEQ NEPA regulations at 1508.20, mitigation includes:

- Avoiding the impact altogether by not taking a certain action or parts of an action
- Minimizing impacts by limiting the degree or magnitude of the action and its implementation
- Rectifying the impact by repairing, rehabilitating, or restoring the affected environment
- Reducing or eliminating the impact over time by preservation and maintenance operations during the life of the action
- Compensating for the impact by replacing or providing substitute resources or environments.

3.5.1 Mitigation for Aquatic Community Resources

Many potentially adverse impacts to the aquatic community could be minimized by reducing the use of structural EWP practices that harden stream banks, eliminate riparian vegetation, and generally increase runoff and the consequent delivery of pollution sources to the stream. Use of restoration designs based on the principles of natural stream dynamics, and bioengineering would help mitigate these impacts. Other governmental programs could be encouraged to restore and rehabilitate armoring sites to a more natural riparian state where practicable. Where such natural practices are inappropriate, ensuring that the structural EWP practices are properly maintained would help mitigate the need for additional structural practices due to failure of the original structures.

NRCS would continue to consult with the USFWS or NMFS in any situation where there is a potential to affect T&E species, critical habitat, and anadromous fish species and would work with USFWS and NMFS to develop adequate protective measures.

3.5.2 Mitigation for Wetlands, Floodplain, and Riparian Resources

Potential adverse impacts to wetlands, floodplains, and riparian resources are described in Chapter 5, Section 5.2. Like the impacts to aquatic community resources, these impacts could also be mitigated through reducing the dependence of EWP Program activities on structural practices that harden stream banks, remove protective riparian vegetation, and generally increase runoff and the consequent delivery of nonpoint source pollution to the stream.

Coordination with other Federal, State, and local agencies and the landowning public to encourage understanding of the concepts underlying the EPA 404(b)(1) guidelines for wetlands protection in land use activities, and ensuring that the guidelines are followed as a planning practice, as well as for wetlands mitigation, would help mitigate the loss of both wetlands and floodplain resources.

NRCS would continue to consult with the USFWS or NMFS in any situation where there is a potential for jeopardy to a T&E wetland, riparian, or floodplain species and would work with USFWS or NMFS to develop adequate protective measures.

3.5.3 Mitigation for Watershed Upland Resources

Reducing the dependence of EWP Program activities on structural practices would help mitigate damage to terrestrial resources by reducing the use of heavy equipment in surrounding upland areas. Use of more advanced techniques such as helicopter seeding for critical area treatments would reduce heavy equipment impacts on soils.

NRCS would continue to consult with the USFWS or NMFS in any situation where there is a potential for jeopardy to a T&E upland species and would work with USFWS or NMFS to develop adequate protective measures.

3.5.4 Mitigation for Socioeconomic and Other Human Resources

EWP activities may draw heavily on a community's resources for funding, which can be destabilizing – at least in the short run. These impacts can potentially be mitigated by keeping bid packages for EWP work small, so that local contractors with the skills required would have a fair chance to obtain the work, thus returning some portion of the funds to the locality. Where floodplain easements are used in place of structural practices, floodplain usage may be reduced, requiring relocation of people and activities currently in those areas. Attention paid to preserving and protecting neighborhood structure and residential networking can mitigate the effects of this relocation. In rural communities, certain institutional structures, such as churches, schools, and other “special” places, may require special consideration to mitigate adverse effects from such changes.

Where land under floodplain easement purchase is removed from economically productive activities, which were contributing to the local economy and tax base, compensation can be encouraged through seeking alternative replacement activities through such vehicles as HUD's

urban development block grants and similar public-private measures. There would be some measure of local economic self-correction inherent in the process anyway, because the community would no longer need to provide the same level of services (power, sewer, road repair) to the easement locality and would no longer have to pay their share of the cost of disaster damage repairs in the future. Nevertheless, NRCS would encourage income-producing activities on floodplain easement lands that would be compatible with their basic purpose. On improved lands floodplain easements where the sponsor gains title to the land, entry fee to open space uses such as trails, walkways, fishing and boat access might be feasible. On agricultural floodplain easements, the landowner keeping title might charge a fee for hunting.

3.5.5 Mitigation for Cultural Resources

If NRCS determines that an adverse effect is going to occur during program implementation, in accordance with 36 CFR Part 800.6, the agency will continue consultation to resolve (avoid, mitigate, or minimize) this effect. NRCS shall notify the ACHP of this determination and continued consultation and invite the Council to participate. The NRCS shall also involve all previous consulting parties (including but not limited to the SHPO, THPO and tribes) and provide them all, including the ACHP, with the full documentation and a recommendation regarding steps to be taken to resolve the adverse effect. NRCS will provide a draft of programmatic agreement that outlines the steps to resolve the adverse effects and advise the participants of the nature of the resources that are to be affected.

Currently, some NRCS field offices define the Area of Potential Effect (APE) for EWP projects as the immediate site location, which may inadvertently omit addressing potential adverse impacts to listed or eligible historic properties nearby or downstream. The Cultural Resource Coordinators in the example site states indicate that EWP activities need to be very near to historic resources for NRCS to consider the possibility of impacts. Therefore, at present, unless potential historic structures located in the floodplain, such as homes or mills, are directly affected by sudden impairments and NRCS is planning EWP work to protect them, such resources would not be considered to be in the APE. In addition, NRCS focus on historic structures may result in omitting cultural resources such as archaeological sites, viewsheds, historic landscapes, and cultural places. With narrowly defined APEs, cultural resources may also be affected by ancillary activities such as soil borrow and heavy equipment staging. NRCS' mandatory cultural resources training for field personnel, given to all new field personnel with cultural resources responsibilities, is customized in each state to cover the range and extent of historic, cultural and traditional cultural resources from region to region within the state. Treatments under Section 106 of the NHPA and implementing regulations must, necessarily, be tailored to address the specific values of these resources. This training, coupled with the EWP training and consultation with SHPOs, THPOs, and other consulting agencies, including federally recognized tribes, should ensure that mitigation is appropriate for cultural resources on a case-by-case basis.

Consultation with the SHPO, THPO, and other consulting parties, including federally recognized tribes is a part of the EWP planning and coordination function before a disaster occurs and contact with the SHPO/THPO is made before actions at EWP are taken. Because cultural

resources are locality specific, mitigation to protect particular cultural resources would be developed if needed at the site level as part of the defensibility review of the EWP practice.

To minimize impacts to cultural resources, the definition of the APE will be changed to include the entire area of potential effect, including ancillary activities resulting from EWP restoration, such as soil borrow or heavy equipment use. Additionally, recovering information about cultural resources present in the APE will help the agency to design the undertaking to avoid adverse effects to historic properties or help NRCS determine what additional mitigation measures may be necessary to address the potential adverse effect of the projects or actions on NRHP-listed or eligible historic properties.

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