BENEFIT/COST ANALYSIS

For The

EMERGENCY WATERSHED PROTECTION PROGRAM

FINAL RULE

Prepared in Compliance with Executive Order 12866

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COST BENEFIT ANALYSIS FOR THE EMERGENCY WATERSHED PROTECTION PROGRAM

I. INTRODUCTION.

This cost/benefit analysis has been prepared to support the revisions planned for 7 CFR 624 "Emergency Watershed Protection", first promulgated in 1973. The EWP Program was authorized by Section 216 of the Flood Control Act of 1950 (Public Law 81-516) by amending the Flood Control Act of 1944 (Public Law 78-534).

U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) broad program reviews are carried out by agency Oversight and Evaluation (O&E) teams, which periodically evaluate programs for efficiency and effectiveness in delivery, direction of NRCS leadership. An O&E team of NRCS staff was formed to examine the EWP Program and to review questions and concerns from those involved in important aspects of the Program. One aspect of the O&E team's mission was to determine if these questions and concerns were valid, particularly those concerns about potential adverse environmental impacts of installed EWP practices.

The O&E team identified three major Program review objectives. The team then evaluated EWP activities in 29 randomly selected counties in 10 states, reviewed project documentation for 17 disaster events and 98 project contracts, made 86 site visits, and interviewed 119 NRCS employees, partners, and sponsors as to their impressions of the Program, its outreach, and ways to improve them. Within the broad Program review objectives, the O&E team identified specific goals for improvement and recommendations to meet those goals. The Review objectives were:

- 1. Review site eligibility and exigency determinations
- 2. Review regulatory and defensibility evaluations
- 3. Review equitability and efficiency of EWP administration.

These recommendations, along with concerns expressed by other agencies and environmental groups led NRCS to undertake a major review of the program and seek ways to make the program more effective, efficient, and with minimal adverse environmental impact.

II. CURRENT SITUATION AND BASELINE.

The Emergency Watershed Protection (EWP) Program alleviates threats to life and property that remain in the nation's watersheds in the aftermath of natural disasters such as floods, hurricanes, tornadoes, and wildfires. The EWP Program is administered by the USDA NRCS, which provides technical and financial assistance to local sponsoring authorities to preserve life and property threatened by disaster-caused erosion and flooding. Funding is provided through Congressional emergency appropriations. Threats that the EWP Program addresses are termed *watershed impairments*. These include debris-clogged stream channels undermined and unstable streambanks, jeopardized water control structures and public infrastructure, and damaged upland sites stripped of protective vegetation by fire or drought. If these watershed impairments are not addressed, they would pose a serious threat of injury, loss of life, or devastating property damage should a subsequent event occur.

NRCS' **final rule action** is to codify existing EWP Program implementation and institute programmatic changes that allow:

- 1. The repair of enduring conservation practices;
- 2. Limits repeated site repairs;
- 3. Allows additional easement purchases;
- 4. Addresses environmental justice issues; and
- 5. Limits treatments on federal lands.

To implement the final rule action, NRCS would incorporate changes in Program administration and in project execution dealing with traditional watershed impairments. It would expand the Program by providing to the list of watershed impairments EWP currently addresses:

- 1. Floodplain sediment deposition removal;
- 2. Upland wind-borne debris removal; and
- 3. Repair damaged structural conservation practices.

The **purpose and need** for the NRCS final rule action are to provide administrative transparency that ensures that the public is fully informed of program operations. Program delivery improvements are designed to enable NRCS field and state office personnel to provide EWP assistance more effectively and efficiently. The improvements would more fully, equitably, and consistently meet the needs of people requiring emergency assistance. Program improvements are designed to address environmental, economic, and social concerns and values.

Changes were identified, discussed, and refined in an ongoing comprehensive Program review that NRCS initiated. The process included extensive opportunities for public participation and identified substantive ways to improve the environmental, economic, social, and technical soundness of Program activities.

Codified EWP regulations, National EWP Manual (policy), and Handbook (procedures) would be revised to reflect the changes that NRCS has already, and will be adopted.

These changes form the basis for the evaluation and comparison of impacts are detailed in a Programmatic Environmental Impact Statement (PEIS), which was prepared in accordance with the:

- National Environmental Policy Act (NEPA) of 1969 as codified in U.S. Code Title 42,
- Section 4321 and following sections (42 U.S.C. § 4321 et seq.)
- Council on Environmental Quality (CEQ) Regulations for implementing NEPA, codified in Title 40 of the Code of Federal Regulations, Parts 1500-1508 (40 CFR 1500-1508)
- NRCS NEPA regulations (7 CFR 650)
- EWP Program regulations (7 CFR 624)

III. PROGRAM FEATURES AND PROCESSES

Current EWP Program

NRCS administers the EWP program to respond to life and property-threatening watershed impairments caused by natural disasters. Local sponsors (e.g. counties, cities, towns, and conservation districts) who request EWP assistance, provide at least 25 percent of funding for EWP watershed repair practices. NRCS provides up to 75 percent of funding and technical assistance for EWP practices that remove disaster debris, repair damaged streambanks, dams, and dikes, protect floodplain structures, and restore critical watershed uplands. Federal funding for the program is received through supplemental appropriations from Congress rather than through the traditional budget process.

The major practices currently employed under EWP include stream flow capacity restoration; stream bank restoration and protection; dam, dike, and levee repair; protection of structures in floodplains; and restoration of critical upland portions of watersheds. EWP also currently administers a voluntary program of floodplain easement acquisition. NRCS may fund up to 100 percent of the restoration costs for floodplain easements.

Restoration of stream channels to allow normal stream flow requires removal and disposal of debris. Damaged streambanks are protected directly by single application or combined use of hard armoring, use of woody structural materials, soil bioengineering, restoration of stream dimension, pattern and profile, vegetative planting and seeding. Streambanks are indirectly protected by in-stream flow modification. Direct and indirect streambank protection also may be used in combination.

Damaged dams, dikes, and levees are repaired or removed if repair is not feasible or costeffective. Floodplain diversions are employed to divert flow away from structures such as water treatment plants and other public utilities. Sediment or debris basins trap materials up-gradient before they can damage structures. Repair of critical upland portions of watersheds includes installation of diversions, drains and conveyances, and sediment and debris basins, and revegetating by planting or seeding. The EWP practices generally share common activities: creating access to reach a damage site, use of heavy equipment on bank, in-stream, or on uplands, material disposal, and grading, shaping, and revegetating portions of the site as appropriate.

The EWP Manual documents NRCS policy governing EWP; the National EWP Handbook provides field procedures. NRCS staff administers EWP in the field when sponsors request assistance with disaster damage. NRCS staff completes Disaster Survey Reports (DSRs) describing the watershed impairments at a particular site, their eligibility for repairs, the cost and benefits of appropriate conservation measures, the social impacts, and the environmental and technical soundness of the measures. The NRCS EWP implementing documents, manual, and handbook (including the DSR) will be revised to reflect any program changes in the EWP regulation. This means of assessing that net social benefits exceed net social costs on each individual DSR site assures that NRCS complies with the expectations of public process.

The 1996 Farm Bill authorizes the acquisition of floodplain easements on flood prone lands as an alternative to traditional eligible EWP recovery practices. The floodplain easement acquisition component is fully voluntary, and compliments the traditional recovery practices to provide a more permanent solution to repetitive disaster assistance payments. This achieves greater environmental and societal benefits where the situation warrants and the affected landowner is willing to participate in the easement approach. The National Watersheds Manual (NWSM) 390-V, Circular 4 provides the current program guidance for acquisition of floodplain easements.

Exigency (high priority emergency situations) sites receive immediate attention and priority in funding; non-exigency sites are addressed as a separate priority. NRCS coordinates its work with Federal agencies, principally the U.S. Army Corps of Engineers (USACE), U.S. Fish & Wildlife Service (USF&WS), FEMA, EPA, and U.S. Forest Service (USFS), and with State agencies, including the relevant State Historic Preservation Office, wildlife resource and water quality offices, tribal governments, and local communities. At issue are important regulatory and environmental requirements, such as protecting Federally-listed endangered or threatened species and preserving unique cultural and historic resources, including those listed on the National Register of Historic Places.

Current EWP Program Features

The following program features were already instituted over the past several years since the last regulations were adopted. They have been incorporated in the draft EWP manual and procedures, but need to be officially codified as a matter of public record:

1. Clarify the term "exigency" and eliminate the term "non-exigency." All EWP action will be considered "emergencies" thereby eliminating the need to use the term "non-exigency". This policy change was implemented in 1999.

- 2. Set priorities for funding of EWP measures. NRCS would set priorities to be applied consistently across the country for funding EWP measures. Exigency situations would have highest priority.
- **3.** Establish a cost-share rate of up to 75 percent for all EWP projects. The cost-share rate of up to 75 percent was implemented in 1993.
- **4.** Stipulate that measures be economically, environmentally, and socially defensible and identify the criteria to meet those requirements. While projects must currently be defensible as identified through the DSR process, the final rule changes would provide additional information/criteria to meet those requirements.
- 5. Improve disaster-recovery readiness through interagency coordination, training, and planning. NRCS has employed Disaster Assistance Recovery Training (DART) teams to train its employees, evaluate and implement ways to improve coordination between EWP and other emergency programs, and request state conservationists prepare emergency recovery plans (ERP's) that detail working relationships with other groups on the Federal, state and local levels. Funding totaling \$1.5 million was furnished to the states in 2001 to prepare the ERP. The DART teams conducted training at six regional EWP workshops and provided on-site assistance for nine states.
- 6. Apply the principles of natural stream dynamics and bioengineering to the design of EWP measures where they make up the least-cost practical solution. Regional training workshops conducted in 2000 for state EWP program managers and others working in EWP, provided these design principles.
- 7. Simplify purchase of agricultural easements. NRCS would establish a single agricultural easement category and would specify compatible landowner uses.
- **8. Fund part of improved solutions.** This element would allow the EWP Program to provide funding for work that would be eligible for natural disaster recovery as part of a more extensive solution. This is applicable where local sponsors want repairs above those required by NRCS policy and standards. Any improvements above that level will be paid by the sponsors.
- 9. Allow disaster-recovery work in floodplains away from streams and in upland areas. This proposal was implemented in 1999-2000 and provides for EWP assistance for areas not directly adjacent to streams and would allow the removal of sediment deposits from cropland and pastures and other debris (generally wind-blown material) from land and environmentally sensitive areas, provided the measures meet the EWP eligibility criterion.

Changes to the Program

The following elements are changes to EWP that appear in the draft EWP manual, but have not been implemented pending completion of rulemaking. These changes are designed to reduce redundancy between EWP and other federal programs, clarify beneficiaries, reduce the burden to the federal government for repeated repairs in the same area and allow the option of purchasing additional easements where it is in the landowner's and society's best interest.

1. Repair enduring (structural or long-life) conservation practices.

Conservation practices such as waterways, terraces, diversions, irrigation systems, and other similar facilities that are damaged during a natural disaster event would be eligible for EWP cost-share assistance. This element would permit sound structural measures to be repaired where they are economically, environmentally, and socially defensible. This proposal is not intended to replace or compete with the Emergency Conservation Program (ECP) administered by the Farm Service Agency since the changes would focus on repair of enduring conservation practices and structures, including those installed with NRCS funds, rather than the much broader ECP program. More importantly, landowners would still be required to have a sponsor willing to provide the 25 percent cost-share. Some minor overlap may occur; however, landowners would not be eligible for both programs. To avoid confusion NRCS will develop an EWP Manual, in coordination with FSA, to clarify the measures that can be repaired using EWP funding.

- 2. Allow for 90% cost share for limited resource communities. The cost-share rate of up to 75 percent was implemented in 1993, but the new changes would facilitate those that otherwise could not afford to participate in the program by providing up to 90 percent cost-share for limited-resource areas.
- **3.** Limit repair of sites to twice in a ten-year period. Where a site has been restored twice and 10 or fewer years have elapsed since the first disaster event, the options remaining available under the EWP Program would be to acquire a floodplain easement or take no action at all.
- 4. Eliminate the requirement that multiple beneficiaries (property owners) be threatened before a site would be eligible for EWP Program repairs. NRCS recognized that due to offsite effects, in almost every instance there are multiple beneficiaries.
- 5. EWP funds will not be used on Federal lands. EWP financial assistance will no longer be provided on Federal lands, unless adequate safeguards are followed to avoid inappropriate augmentation of appropriations for other Federal agencies. This means that NRCS will not use EWP funding apportioned to NRCS for activities on Forest Service lands.
- **6. Purchase easements on non-agricultural lands.** Under this change, easements would be purchased on both unimproved and improved lands. For improved land,

NRCS would provide 100 percent of the cost of an easement that conveys all interests and rights. Any structures would be demolished or relocated outside the 100-year floodplain.

Viability

The EWP program has been a very successful and much appreciated in the past and there is no reason to expect it not to continue that way in the future. More people will be able participate in the program in its expanded form.

Table 1 illustrates the amount of EWP disaster assistance that has already occurred to the various states between 1988 and the present.

EWP Summary Statistics States by NRCS Region 1988-2003 (in 2003 dollars)

		Number of	Total \$ Financial	Total \$ Technical	Average EWP
Region	State	events	Assistance	Assistance	\$/event
East	Alabama	56	23,734,381	3,359,383	483,817
	Connecticut	12	1,272,033	330,093	133,511
	Delaware	3	168,720	63,857	77,525
	Florida	30	36,818,350	7,680,165	1,483,284
	Georgia	22	20,062,562	7,235,753	1,240,833
	Indiana	19	1,264,061	389,705	87,040
	Kentucky	40	13,932,287	2,617,019	413,733
	Massachusetts	18	1,127,191	410,347	85,419
	Maryland	16	8,578,930	2,243,778	676,419
	Maine	11	1,612,461	636,390	204,441
	Michigan	7	2,791,353	867,343	522,671
	Mississippi	154	64,141,122	17,165,803	527,967
	North Carolina	28	29,775,504	9,188,378	1,391,567
	New Hampshire	12	996,778	249,097	103,823
	New Jersey	8	1,437,254	498,058	241,914
	New York	34	13,460,149	2,928,855	482,030
	Ohio	60	25,368,406	5,967,841	522,271
	Pennsylvania	11	6,276,200	1,013,756	662,723
	Puerto Rico	40	47,511,461	9,893,859	1,435,133
	Rhode Island	2	38,006	10,828	24,417
	South Carolina	30	19,627,921	5,272,784	830,024
	Tennessee	37	3,526,652	692,855	114,041
	Virginia	22	8,095,334	3,135,776	510,505
	Vermont	22	4,495,386	1,061,193	252,572
	West Virginia	62	25,871,248	7,146,589	532,546
Total for East 1	Region:	700	\$338,249,369	\$86,700,124	\$607,071
Central	Arkansas	65	16,779,971	5,090,377	336,467
	Iowa	15	34,931,501	28,713,898	4,243,027
	Illinois	41	27,822,546	6,824,100	845,040
	Kansas	11	4,322,935	5,303,400	875,121

	TOTAL U.S.:	1,590	\$666,094,898	\$220,212,014	\$6,395,444
Total for We	st Region:	508	\$147,490,712	\$46,912,403	\$5,089,540
	Wyoming	34	1,685,416	1,224,170	85,576
	Washington	28	8,042,429	1,681,339	347,277
	Utah	26	2,197,501	3,095,127	203,563
	PAC Basin	11	403,166	131,686	48,623
	Oregon	30	18,163,274	6,563,592	824,229
	Nevada	19	7,188,141	2,552,067	512,643
	New Mexico	15	3,716,825	1,120,895	322,515
	Montana	29	1,421,688	549,477	67,971
	Idaho	27	10,027,485	2,388,916	459,867
	Hawaii	11	4,440,916	987,665	493,507
	Colorado	54	15,049,588	4,251,241	357,423
	California	164	48,113,685	15,889,989	390,266
	Arizona	49	23,750,470	5,623,674	599,472
West	Alaska	11	3,290,127	852,565	376,608
Total for Cer	ntral Region:	382	\$180,354,817	\$86,599,487	\$698,833
	Wisconsin	11	1,033,799	234,117	115,265
	Texas	60	27,210,509	6,798,535	566,817
	South Dakota	8	598,574	258,342	107,114
	Oklahoma	89	31,078,210	7,521,555	433,705
	Nebraska	9	1,385,656	366,074	194,637
	North Dakota	12	1,401,687	376,985	148,223
	Missouri	15	12,357,682	19,886,223	2,149,594
	Minnesota	12	2,347,568	469,554	234,760
	Louisiana	34	19,084,178	4,756,327	701,191

Average cost/event: \$6,395,444 Average number of events/year: 76 Average total cost/year: \$42,205,091

IV. ALTERNATIVES CONSIDERED

Alternative 1--No Action

Under the no-action alternative, NRCS would continue to administer the EWP Program as it does currently. NRCS would not make substantive changes in its administration, the mechanisms for review of projects before funding, or 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 on non-agricultural lands. NRCS would not expand the EWP Program to include watershed impairments it does not currently address, nor would it make any other changes that have been recommended to improve the delivery or defensibility of the Program.

Alternative 2—EWP Program Improvement and Expansion (Selected Action)

Under this action, NRCS would institute changes to improve Program delivery and ensure the economic, environmental, and social defensibility and technical soundness of its decisions and practices. NRCS would also expand the EWP Program to deal with disaster recovery work it has not addressed previously and introduce easement purchase on improved lands. These changes are covered in Part III above.

Alternative 3—Prioritized Watershed Planning and 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. 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 selected action alternative with focused, "program-neutral", disaster-readiness and mitigation planning for selected, high-priority watersheds. Facilitate a locally led disaster-readiness and mitigation planning effort and fund priority watersheds in each state for disaster-readiness and mitigation planning and management.

Other Alternatives Considered But Eliminated

Two EWP Program alternatives were considered but eliminated from detailed evaluation in the Programmatic Environmental Impact Statement (PEIS) and this analysis. These alternatives would provide certain benefits in terms of diminishing NRCS workloads and oversight requirements. Overall, these alternatives were deemed unacceptable because NRCS experience indicates that they would not improve the delivery or effectiveness of the Program. In addition, NRCS currently maximizes the use of local agreements and force accounts where the project sponsors have the capability to administer the projects locally.

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, documentation is complete and in order, and would monitor any needed operation and maintenance activities. normal, everyday workload requests without interruption.

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 with minimal oversight by NRCS. However, enough oversight would be carried out to ensure that the sponsor should be allowed to participate in the program in the future. Currently the majority of local sponsors lack the administrative ability to manage and monitor grant programs.

V. EFFECTS OF ALTERNATIVES

Environmental effects are not generally included here since they are adequately covered in the recently published EWP PEIS.

Effects of Alternative 1

Continuation of the current program would be expected to have an essentially minimal impact to the local economy of affected communities. Most of the 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 easement may provide the additional benefit of protecting open space and improving the visual or recreational quality of an area. The requirement 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.

Effects of Alternative 2

Elements of alternative 2 would be generally beneficial to affected communities. The potential impact of the installation of traditional EWP recovery measures 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 short-term disruption of local communities or neighborhoods by the displacement of residents. However, it also represents an opportunity for the community to reduce the impact of natural disasters and the associated recovery cost, especially on improved properties to achieve long-term stability.

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 changes under this alternative would influence the overall impact of the program on the human social environment and may alter the solutions or the manner of participation for affected communities. Program modifications in funding, priorities, and easement purchase would create the potential for change. Additionally, the action allows for greater opportunities for cooperation with local land use plans. 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.

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 socioeconomically disadvantaged communities that may have previously not been able 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 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 extremely difficult to calculate. Proactive use of 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.

Effects of Alternative 3

The primary effect of the watershed planning and management approach 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 under alternative 2, 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 easements in a planned approach would minimize potential problems associated with reliance on a project-by-project approach, especially where neighboring or adjoining properties have 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 alternative 2, purchase of improved land 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 easement purchases as a part of a longer-term flood management and watershed planning approach and could reduce Federal outlays in the long term.

Mitigation for Socioeconomic & 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 developing bid packages for EWP work, 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.

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 easement lands that would be compatible with their basic purpose. On improved land 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 easements, the landowner holding title might charge a fee for hunting.

VI. EXPECTED BENEFITS AND COSTS

The EWP program has been operating for 30 years, based primarily upon supplemental appropriations. Over the program's history, supplemental appropriations ranged in size from \$10 million during the early years to a high of \$369 million in 1994 for the Midwest Flood of 1993, to no appropriations in 2002 and 2003. The overall average supplemental is around \$55 million, although the average for the last eight years (1998-2003) is approximately \$83 million. When the changes are implemented the cost of the program is expected to only increase slightly over the past eight-year average of \$83 million since many of the program changes described have been implemented since they only required agency policy changes. The effect of this effort is simply to facilitate program administrative ease and consistency, and codify existing operating procedures. While some of the policy changes increased the use of EWP funds, some changes, including clarification of "exigency" situations and the implementation of a maximum of 75 percent cost-share have lowered funding needs. However, funding levels have remained relatively stable over the past six years which provides an excellent measure to indicate the future funding levels expected for the EWP program with only slight increases based upon the measures that have not been implemented.

Funds are allocated based upon Damage Survey Reports, (DSR). DSRs document the economic, environmental, and social effects as well as the technical information and estimated costs for installation of the measure. The DSRs are completed by a team of

discipline experts; an engineer, biologist, contracting specialist, economist and social sciences expert. This team collects the site-specific information needed to ascertain whether each individual site is defensible as defined in Section 624.4. Since each site is evaluated on its own merits, only those measures that are defensible, i.e. where the positive effects outweigh the adverse effects are eligible for installation. This process assures the program is implemented based upon incremental benefits, consistency, efficiency and equity. All work resulting from the expanded program as outlined in alternative 3 will have to meet the same defensibility criteria as any measure today.

Program benefits accrue from rapidly alleviating a watershed impairment, relieving stress to persons whom have just undergone a tragic experience, demonstrating how the government can quickly and effectively respond, protecting natural resources, allowing habitat to recover in a shorter time frame, and provide extra incentives for limited resource area residents. All these benefits are difficult to quantify or to establish a value.

Benefits resulting from the installation of measures include:

- Stabilization and protection of streambanks to protect buildings and/or water supplies
- Stabilization of burned areas to prevent excessive erosion where life and/or property may be threatened
- Removal of debris from streams, bridges and culverts to eliminate water backup and subsequent flooding
- Reestablishment of channels where the watercourse has been filled and the stream altered its course, restoring natural stream dynamics where possible
- Purchase of floodplain easements to reduce future federal disaster assistance and restore the natural floodplain functions

Analysis

Data was gathered from final reports submitted by states upon the completion of a project and entered into the "EWP Benefits Data Base". Table 2 was derived from data collected during 1998-2003. The level of detail needed to compare the parameters listed below has only been available since this time, which is why this information was used. Since the program is funded by Congress through emergency appropriations in advent of natural disasters, no future program estimates were developed due to the variability of funding random events.

Table 2. SUMMARY AND AVERAGE EMERGENCY WATERSHED PROTECTION PROGRAM ACCOMPLISHMENTS, 1998 – 2003 (in 2003 dollars)

	•	Average per			
	1998-2003				
General	Total:	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 stablilized (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				

Continued and Expected Benefits

The B/C ratio is greater than 1, which is not surprising because the DSR process ensures that most measures within a single event must exceed a B/C ratio of 1. Exceptions are due to over-riding social benefits that cannot be accounted for monetarily. Examples include increased threat to low income or elderly families where their home values are low compared to the cost of removing the threat, or threatened social structures (schools, elderly housing, hospitals, etc.). In each case where this exception occurs, thorough documentation justifying the exception must accompany the DSR.

Table 3 shows each of the changes and the expected effect on EWP outlays. Many of the program changes have an actual effect of no change on the current program because they have already for some time been incorporated in the draft manual and in many cases simply need to be codified in the new regulations.

Two aspects of the program modifications may be expected to have a small funding increase, two are expected to further reduce funding, and the remaining changes to the EWP rule are expected to have no change in funding.

There could be an expected program increase due to the 90 percent cost-share for limited resource areas, and the repair of enduring conservation practices.

Limited resource area or community is defined as a unit of government 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 where:

- (1) Housing values are less than 75 percent of the State housing value average;
- (2) Per capita income is 75 percent or less than the National per capita income; and
- (3) Unemployment is twice the U.S. average over the past 3 years based upon annual unemployment figures.

It is important to note that based upon the above definition, limited resource communities can be smaller than county level. However county level data was the smallest unit that could be reliably analyzed with nationally available census and Bureau of Economic Analysis databases.

Given the three part definition, of the 3,041 counties in the US, 1,594 counties meet the Housing Value test (1990 data), 1,049 counties meet the Per capita income test (2000 data), only 319 counties meet the Unemployment test(1999 – 2001 average), and only 119, or 4% of the counties meet all three tests. These 119 counties (Appendix 1) had a population of 3,164,880 in 2000, or 1.2% of the US population.

Since such a small percent of the land area and population could potentially be affected, it could be assumed that although this change would have significant effect upon a limited resource community, overall it would have minimal effect upon the overall program's cost.

Several actions taken and outlined in the selected alternative may have a reduction in the amount of funding necessary to fully implement the EWP program for a total savings of \$1,400,000. It is anticipated that four actions taken and proposed under this rule will result in a savings of EWP funds and were used to indicate a cost savings on the table above. The four include; setting EWP priorities, pre-disaster readiness, limit repairs to 2 times in 10 years, and no EWP funds will be used on Federal lands. Savings of \$150,000 each were estimated for setting priorities and pre-disaster readiness based upon the time

saved by referring to a list of EWP priorities and reducing time to coordinate EWP efforts with state and local representatives. The savings by limiting the repair to 2 times in 10 years was based upon a review of the data over the past several years and discussions with state EWP program managers and was estimated to average \$500,000 annually. The elimination of NRCS through the EWP transferring of funds to the U.S. Forest Service would result in a savings of approximately \$600,000 based upon an average of historic funding levels. In some years EWP funding allocations to the Forest Service was approximately \$100,000 and other years the amount exceeded \$1 million.

Table 3. RULEPROGRAM CHANGES AND THEIR EFFECT ON THE EXISTING PROGRAM

Program Change	Effect on Existing Program	Remarks
Clarify exigency situations	No change	Implemented in 1999
Setting priorities	No change	May have some effect in reducing costs
		due to time savings to reach decisions.
Establishing 75 percent cost-	No change	Implemented in 1993.
share rate		
Require defensibility	No change	Current requirement
Pre-disaster coordination and	No change	Cost \$1.5 million in 2001, but may save
readiness		funds through efficiency of operation in
		the long term. This was determined to
		result in a savings of approximately
		\$150,000 annually
Eliminating multiple beneficiaries	No change	Downstream/upstream benefits almost
		always exist. Change eliminates the need
		to document benefit to others.
Applying principles of natural	No change	May increase the cost of those measures
stream dynamics		by \$2 million annually. However, some
-		non-structural methods will be less costly
		and provide savings.
Simplifying purchase of	No change	Will reduce costs, by eliminating most
easements	-	costly type easement. The reduction
		overall is insignificant and not considered
		in the analysis.
Funding enhancement of	No change	Locals will pay 100 percent of the
recommended treatment	-	additional costs.
Allowing work away from	No change	This was implemented in 1999-2000
streams		provided the activities meet the EWP
		eligibility criterion
Purchasing easements on non-	No change	Floodplain easement funds are a portion of
agricultural lands		the overall EWP funding as specified by
		Congress and OMB. Purchasing non-ag
		lands will simply increase the cost of the
		easement and may reduce the overall
		acreage the program enrolls. Amounts
		will vary depending on type of emergency
		and amount of appropriation.
Repair damaged structures on	Additional cost	May increase in annual cost will by
agricultural land		approximately \$8.0 million
Setting a special rate for limited-	Small additional cost	Only 4 percent of the counties, and 1.2%
resource counties		of the population will qualify.
Limiting repairs to 2 times in 10	Reduced cost	A limited number of sites are repeatedly
years		damaged and the savings is anticipated to
		be approximately \$500,000 annually.
No EWP funding for Federal	Reduced cost	This will result in an average savings of
lands		approximately \$600,000 annually

VII. CONSISTENCY WITH OTHER STATUTES AND STATE AND LOCAL GOVERNMENT

The EWP program has been designed and administered to supplement the efforts of state and local government, providing for their participation as sponsors and partners of the work. This approach supports with the basic NRCS premise of encouraging locally led efforts. Sponsors make application, assist in setting priorities, share in the cost, and often carry out maintenance responsibilities after the work is completed.

Changes in cost share and limited repair of previously installed work would achieve greater consistency with federal programs with a similar mission. Other changes will expand the program into areas not currently covered by governmental recovery programs, thus permitting more individuals to participate. The changes will not add any unfunded mandates to states. Participation in the EWP program is voluntary.

Appendix 1. US Counties which would qualify for 90% EWP cost sharing as Limited Resource Communities.

St FIP S	FIPS	Area	Three Year Avg Of Employment	2000 Per Capita Income	1990 MedHs Val	1990 St MedHs Val	Co/St MedHsV al%
01	01085	WALKER COUNTY, AL	9.0	16,329			
01	01063	GREENE COUNTY, AL	11.1	16,035	34,300	53,200	64.47%
01	01085	LOWNDES COUNTY, AL	9.0	16,329	34,200	53,200	64.29%
01	01119	SUMTER COUNTY, AL	11.5	17,284	34,400	53,200	64.66%
01	01131	WILCOX COUNTY, AL	13.1	15,754	33,700	53,200	63.35%
01	01011	BULLOCK COUNTY, AL	10.6	16,164	31,400	53,200	59.02%
02	02050	BETHEL CENSUS AREA, AK	9.6	19,035	50,600	94,400	53.60%
02	02180	NOME CENSUS AREA, AK	11.6	21,452	57,000	94,400	60.38%
02	02188	NORTHWEST ARCTIC BOROUGH, AK	13.8	21,042	63,100	94,400	66.84%
02	02270	WADE HAMPTON CENSUS AREA, AK	16.7	13,974	42,800	94,400	45.34%
02	02290	YUKON-KOYUKUK CENSUS AREA, AK	14.5	18,898	31,400	94,400	33.26%
02	02201	PRINCE OF WALES-OUTER KETCHIKAN CENSUS AREA, AK	13.1	20,914	63,200	94,400	66.95%
06	06093	SISKIYOU COUNTY, CA	9.7	22,264	67,700	194,300	34.84%
06	06105	SOLANO COUNTY, CA	12.1	19,995	82,200	194,300	42.31%
06	06105	TRINITY COUNTY, CA	12.1	19,995	82,200	194,300	42.31%
06	06011	COLUSA COUNTY, CA	16.9	23,982	68,100	194,300	35.05%
06	06035	LASSEN COUNTY, CA	9.0	18,158	69,300	194,300	35.67%
06	06021	GLENN COUNTY, CA	11.5	19,213	67,100	194,300	34.53%
06	06035	IMPERIAL COUNTY, CA	9.0	18,158	69,300	194,300	35.67%
06	06019	FRESNO COUNTY, CA	13.8	21,508	82,800	194,300	42.61%
80	08111	SAN JUAN COUNTY, CO	13.4	22,828	48,100	82,400	58.37%
80	08023	COSTILLA COUNTY, CO	10.0	17,778	34,300	82,400	41.63%
12	12049	HARDEE COUNTY, FL	9.4	17,843	38,500	76,500	50.33%
13	13243	RANDOLPH COUNTY, GA	8.7	19,025	31,800	70,700	44.98%
13	13209	MONTGOMERY COUNTY, GA	9.3	18,222	41,200	70,700	58.27%
13	13181	LINCOLN COUNTY, GA	10.8	20,034	45,400	70,700	64.21%
13	13193	MACON COUNTY, GA	8.7	19,181	34,700	70,700	49.08%
13	13309	WHEELER COUNTY, GA	10.6	15,000	29,800	70,700	42.15%
13	13273	TERRELL COUNTY, GA	8.9	17,762	40,600	70,700	57.43%
13	13287	TURNER COUNTY, GA	9.4	17,586	34,600	70,700	48.94%
13	13283	TREUTLEN COUNTY, GA	9.9	14,829	35,100	70,700	49.65%
13	13279	TOOMBS COUNTY, GA	9.4	19,941	48,400	70,700	68.46%
13	13271	TELFAIR COUNTY, GA	12.2	17,823	29,300	70,700	41.44%
13	13301	WARREN COUNTY, GA	9.2	17,695	32,600	70,700	46.11%
13	13001	APPLING COUNTY, GA	9.1	17,852	37,300	70,700	52.76%
13	13163	JEFFERSON COUNTY, GA	10.8	19,264	37,700	70,700	53.32%
13	13141	HANCOCK COUNTY, GA	11.1	15,675	31,300	70,700	44.27%
13	13107	EMANUEL COUNTY, GA	9.6	18,652	35,100	70,700	49.65%

St FIP S	FIPS	Area	Three Year Avg Of Employment	2000 Per Capita Income	1990 MedHs Val	1990 St MedHs Val	Co/St MedHsV al%
17	17185	WABASH COUNTY, IL	8.7	19,990			
17	17153	PULASKI COUNTY, IL	8.8	17,504	23,400		
17	17145	PERRY COUNTY, IL	9.0	17,883	40,200	80,100	50.19%
21	21135	LEWIS COUNTY, KY	14.2	13,421	31,600	50,100	63.07%
21	21133	LETCHER COUNTY, KY	8.7	16,677	26,400	50,100	52.69%
21	21043	CARTER COUNTY, KY	12.2	17,733	36,900	50,100	73.65%
21	21095	HARLAN COUNTY, KY	10.2	16,069	29,500	50,100	58.88%
21	21087	GREEN COUNTY, KY	9.1	15,842	30,400	50,100	60.68%
21	21063	ELLIOTT COUNTY, KY	12.7	12,400	30,900	50,100	61.68%
22	22065	TANGIPAHOA PARISH, LA	8.8	15,193	29,700	58,000	51.21%
22	22083	RICHLAND PARISH, LA	9.6	16,937	36,300	58,000	62.59%
22	22123	WEST CARROLL PARISH, LA	14.2	15,938	30,800	58,000	53.10%
22	22065	MADISON PARISH, LA	8.8	15,193	29,700	58,000	51.21%
22	22035	LAFOURCHE PARISH, LA	9.8	15,241	28,500	58,000	49.14%
22	22021	CALDWELL PARISH, LA	8.8	16,910	34,200	58,000	58.97%
22	22035	EAST CARROLL PARISH, LA	9.8	15,241	28,500	58,000	49.14%
26	26119	MONTMORENCY COUNTY, MI	11.6	17,904	42,000	60,100	69.88%
26	26131	ONTONAGON COUNTY, MI	8.8	20,287	28,100	60,100	46.76%
26	26141	PRESQUE ISLE COUNTY, MI	10.7	18,434	44,000	60,100	73.21%
26	26153	SCHOOLCRAFT COUNTY, MI	9.0	21,588	31,900	60,100	53.08%
26	26083	KEWEENAW COUNTY, MI	8.8	18,321	19,400	60,100	32.28%
27	27125	RED LAKE COUNTY, MN	10.1	21,084	29,000	73,700	39.35%
27	27029	CLEARWATER COUNTY, MN	11.7	20,161	28,500	73,700	38.67%
28	28135	TALLAHATCHIE COUNTY, MS	11.0	14,802	31,100	45,100	68.96%
28	28051	HOLMES COUNTY, MS	18.9	13,424	29,500	45,100	65.41%
28	28119	QUITMAN COUNTY, MS	10.1	14,819	27,600	45,100	61.20%
29	29223	WAYNE COUNTY, MO	9.3	15,449	28,700	59,300	48.40%
30	30003	BIG HORN COUNTY, MT	13.7	14,832	40,300	56,500	71.33%
31	31173	THURSTON COUNTY, NE	9.5	16,821	30,800	50,000	61.60%
32	32009	ESMERALDA COUNTY, NV	9.6	21,810	40,000	95,300	41.97%
35	35033	MORA COUNTY, NM	14.7	13,187	32,000	69,800	45.85%
35	35029	LUNA COUNTY, NM	23.5	14,336	46,700	69,800	66.91%
37	37177	TYRRELL COUNTY, NC	8.8	19,257	36,400	65,300	55.74%
39	39163	VINTON COUNTY, OH	11.8	16,314	35,000	62,900	55.64%
39	39115	MORGAN COUNTY, OH	14.0	18,320	39,000	62,900	62.00%
39	39001	ADAMS COUNTY, OH	9.7	18,462	36,400	62,900	57.87%
41	41045	MALHEUR COUNTY, OR	8.8	19,035	46,200	66,800	69.16%
41	41069	WHEELER COUNTY, OR	9.2	18,251	28,900	66,800	43.26%
41	41049	MORROW COUNTY, OR	11.2	18,467	43,500	66,800	65.12%
41	41013	CROOK COUNTY, OR	9.0	20,225	49,100	66,800	73.50%
41	41045	DOUGLAS COUNTY, OR	8.8	19,035	46,200	66,800	69.16%
42	42053	FOREST COUNTY, PA	10.4	20,203	35,800	69,100	51.81%

St FIP	FIPS	Area	Three Year Avg Of	2000 Per Capita	1990 MedHs	1990 St MedHs	MedHsV
S			Employment	Income	Val	Val	al%
45	_	DARLINGTON COUNTY, SC	8.7	16,546	-		64.25%
45	-	MCCORMICK COUNTY, SC	8.7	16,546			64.25%
45	45067	DORCHESTER COUNTY, SC	9.4	17,881	42,300		69.69%
45	45089	WILLIAMSBURG COUNTY, SC	13.2	17,248			69.52%
45	_	MARION COUNTY, SC	9.4	17,881	42,300		69.69%
45	45033	DILLON COUNTY, SC	11.0	17,580			66.56%
45		MARLBORO COUNTY, SC	12.1	16,981	37,400		61.61%
_		ZIEBACH COUNTY, SD	13.6	9,183			33.33%
46	46113	SHANNON COUNTY, SD	12.0	11,921			33.33%
46	46017	BUFFALO COUNTY, SD	9.0	12,097	14,999	45,000	33.33%
46	46041	DEWEY COUNTY, SD	13.9	16,023	23,100	45,000	51.33%
47	47101	LEWIS COUNTY, TN	9.2	16,732	38,500	58,000	66.38%
47	47083	HOUSTON COUNTY, TN	9.6	17,358	36,100	58,000	62.24%
47	47181	WAYNE COUNTY, TN	10.6	15,521	32,800	58,000	56.55%
47	47027	CLAY COUNTY, TN	10.8	17,361	36,700	58,000	63.28%
47	47049	FENTRESS COUNTY, TN	10.7	18,718	32,600	58,000	56.21%
48	48351	NEWTON COUNTY, TX	12.4	14,854	30,300	58,900	51.44%
48	48475	WARD COUNTY, TX	8.7	19,094	32,600	58,900	55.35%
48	48323	MAVERICK COUNTY, TX	22.1	12,092	37,300	58,900	63.33%
48	48489	WILLACY COUNTY, TX	16.2	13,551	25,000	58,900	42.44%
48	48495	WINKLER COUNTY, TX	8.8	19,682	28,500	58,900	48.39%
48	48505	ZAPATA COUNTY, TX	9.6	12,674	35,400	58,900	60.10%
48	48507	ZAVALA COUNTY, TX	16.3	11,873	19,300	58,900	32.77%
48	48389	REEVES COUNTY, TX	9.1	16,449	26,700	58,900	45.33%
48	48377	PRESIDIO COUNTY, TX	26.4	13,973	29,400	58,900	49.92%
48	48427	STARR COUNTY, TX	22.4	9,740	21,700	58,900	36.84%
48	48215	HIDALGO COUNTY, TX	13.7	13,344	35,600	58,900	60.44%
48	48131	DUVAL COUNTY, TX	10.4	14,690	23,700	58,900	40.24%
48	48127	DIMMIT COUNTY, TX	12.6	14,015	21,300	58,900	36.16%
49	49037	SAN JUAN COUNTY, UT	8.7	12,606	40,100	68,700	58.37%
51	51051	DICKENSON COUNTY, VA	12.7	17,131	39,700	90,400	43.92%
53	53047	OKANOGAN COUNTY, WA	10.5	20,117	50,600	93,200	54.29%
53	53051	PEND OREILLE COUNTY, WA	9.9	19,006	50,300	93,200	53.97%
53	53059	SKAMANIA COUNTY, WA	9.5	22,822	68,100	93,200	73.07%
53	53039	KLICKITAT COUNTY, WA	11.7	21,360			55.79%
53	-	ADAMS COUNTY, WA	10.6	20,320			48.71%
53		FERRY COUNTY, WA	13.0	16,597			51.29%
53		FRANKLIN COUNTY, WA	9.5	18,813			59.98%
_	54013	CALHOUN COUNTY, WV	16.5	15,109			69.96%