

**NATURAL RESOURCES CONSERVATION SERVICE  
WATERSHED AND FLOOD PREVENTION OPERATIONS**

**STATUS OF PROGRAM**

**Current Activities**

**Background. Flood Prevention Authorized by Public Law 534.** The Flood Control Act of 1944 authorizes the Secretary of Agriculture to install watershed improvement measures to reduce flood, sedimentation, and erosion damages; further the conservation, development, utilization, and disposal of water; and further the conservation and proper utilization of land. Flood prevention work is authorized in the 11 watersheds designated in the Flood Control Act of December 22, 1944.

Detailed sub-watershed work plans are prepared for P.L.-534 flood prevention projects in cooperation with soil conservation districts and other local sponsoring organizations. These plans outline soil and water management problems in sub-watersheds, proposals to alleviate these problems, the estimated benefits and costs, cost sharing, and operation and maintenance arrangements.

**Watershed Operations Authorized by Public Law 566.** The Watershed Protection and Flood Prevention Act of 1954 provides for cooperation between the Federal government and the States and their political subdivisions in a program to prevent erosion, floodwater, and sediment damage; to further the conservation, development, utilization, and disposal of water; and to further the conservation and proper utilization of land in authorized watersheds. NRCS has the responsibility for administration of the Watershed Protection and Flood Prevention Act and the work authorized under the Flood Control Act. This includes responsibility for administering the installation of land treatment measures and works of improvement in authorized watersheds on Federal and non-Federal land by arrangement with the administering agency.

**Program Similarities.** The P.L.-534 and P.L.-566 program authorities have similar objectives. The planning criteria, economic justifications, local sponsorship requirements, cost-sharing criteria, structural limitations, and other policies and procedures of the two programs generally parallel each other.

**Program Technical and Financial Assistance.** Watershed improvement measures are installed through:  
**1. Land treatment measures.** NRCS assures that a program of proper land use and treatment will be carried out as a basic requirement for assistance in the development of flood prevention sub-watersheds or watershed projects. NRCS provides landowners and operators with technical assistance to accelerate the planning and application of land treatment measures that help achieve project objectives. This accelerated assistance is in addition to that received under other conservation programs.

Installation costs may be shared with Federal funds when land treatment measures are installed primarily to achieve environmental and public benefits, such as surface and ground water quality improvement, water conservation, and flood mitigation. The cost-share rate of this financial assistance may not exceed the rate of assistance for similar practices under other conservation programs of USDA. This work is accomplished through project agreements with local sponsoring organizations or through long-term contracts between the landowner and NRCS. In the first case, the local sponsors arrange for and accomplish the work by contract or force account. NRCS makes payments to the local sponsoring organizations as the land treatment measures are installed. In the long-term contract situation, landowners contract directly with NRCS.

**2. Easements and construction activities.** In addition to land treatment, these projects may involve a wide variety of other works of improvement: floodwater retarding dams, flood-proofing of buildings located in a floodplain, floodplain easements; water supply and water conservation; stream channel restoration; grade stabilization and sediment control; fish and wildlife habitat; water-based recreation, and other similar measures. Detailed construction plans, designs, and specifications are prepared for these measures by NRCS or by the private sector, and by the local sponsoring organization.

NRCS provides all construction funds for flood mitigation and an equitable share of the cost of installing works of improvement for agricultural water management, fish and wildlife, water quality, or recreational development. The latter includes the cost of basic facilities for public health and safety, access to recreational areas, and use of the recreational development. Local organizations must pay all costs of works of improvement for other purposes. In addition, local organizations must acquire water right permits and furnish land, easements, and rights-of-way for all structural measures. However, up to one-half the cost of land, easements, and rights-of-way allocated to public fish and wildlife and recreational developments may be paid with P.L.-534 or P.L.-566 funds. Financial assistance may also be provided for the purchase of conservation easements at a Federal cost share rate of 50 percent to 99 percent.

3. Technical assistance. Technical assistance is provided for flood mitigation, agricultural water management, water quality, and for water resource development or improvement for public fish and wildlife and recreational purposes, either directly by NRCS, or by the local organizations with advances or reimbursement from the Federal government. NRCS may also supply up to one-half the cost of engineering assistance required for the installation of basic facilities for public fish and wildlife and recreational development. Conservation measures can be installed using a variety of contracting methods. Contracts may be administered by NRCS using formal contracting procedures or by the sponsoring local organizations. Local sponsoring organizations must operate and maintain the completed works of improvement on non-Federal lands for the length of time that the project is economically evaluated. This period of time is usually between 25 and 100 years.

**Program Benefits.** Flood prevention and other annual benefits to the environment and communities from P.L.-566 and P.L.-534 that occurred in FY 2009 are shown below.

Monetary Benefits

- Agricultural Benefits (not related to flood control): \$404 million. Benefits associated with erosion control, animal waste management, water conservation, water quality improvement, irrigation efficiency, change in land use, etc.
- Non-Agricultural Benefits (not related to flood control): \$877 million. Benefits associated with recreation, fish and wildlife, rural water supply, water quality, municipal and industrial water supply, and incidental recreation uses, etc.
- Agricultural Flood Protection Benefits: \$320 million. This value includes all crop and pasture damage reduction benefits as well as all other agricultural damage reduction benefits.
- Non-Agricultural Flood Protection Benefits: \$425 million. Non-agricultural flood damage prevented to roads, bridges, homes, and other structures that exist in the floodplain.

Benefits to Natural Resources

- Acres of nutrient management: 671,483
- Tons of animal waste properly disposed: 4,722,731
- Tons of soil saved from erosion: 89,892,119
- Miles of streams and corridors enhanced, or protected: 47,374
- Acres of lakes and reservoirs enhanced, or protected: 2,511,522
- Acre-feet of water conserved: 1,842,102
- Acres of wetlands created, enhanced, or restored: 278,939
- Acres of upland wildlife habitat created, enhanced, or restored: 9,142,277

Social and Community Benefits

- Number of people: 48,273,800
- Number of farms and ranches: 180,998
- Number of bridges: 61,639
- Number of public facilities: 3,650
- Number of businesses: 46,583
- Number of homes: 608,578
- Number of domestic water supplies: 27,833

**Status of Flood Prevention Projects Authorized by P.L.-534.** Because the authorized flood prevention projects include relatively large areas, work plans were developed on a sub-watershed basis. As of September 30, 2009, the total planning job was about 94 percent completed, with 397 work plans completed that include approximately 30 million acres. The following table summarizes the status of sub-watershed planning by authorized project:

Flood Prevention Projects	Total authorized area	Sub-watersheds and other areas with planning potential		Work plans developed through 9/30/09	
	Acres	No.	Acres	No.	Acres
Buffalo Creek, NY <sup>a/</sup>	279,680	3	279,680	3	279,680
Colorado (Middle),TX	4,613,120	17	3,703,520	17	3,703,520
Coosa, GA,TN <sup>a/</sup>	1,339,400	16	1,174,650	16	1,174,650
Little Sioux, IA	1,740,800	124	1,050,093	121	1,033,578
Little Tallahatchie, MS	963,977	18	625,274 <sup>b/</sup>	18	625,274
Los Angeles, CA <sup>a/</sup>	536,960	10	127,627 <sup>c/</sup>	10	127,627
Potomac, MD,PA,VA,WV	4,205,400	31	4,205,400	30	3,094,543
Santa Ynez, CA	576,000	5	50,743 <sup>d/</sup>	5	50,743
Trinity, TX	10,769,266	36	10,769,266	36	10,769,266
Washita, OK, TX	5,184,362	57	5,184,362	57	5,184,362
Yazoo, MS	7,661,278	104	3,955,124	84	3,955,124
<b>TOTAL</b>	<b>37,870,243</b>	<b>421</b>	<b>31,125,739</b>	<b>397</b>	<b>29,998,367</b>

<sup>a/</sup> The Buffalo Creek Watershed was completed and closed in 1964 and reopened in 1992 for repairs. The Coosa Watershed was completed and closed in 1981. The Los Angeles Watershed is completed.

<sup>b/</sup> Excludes 96,501 acres of Sardis Reservoir area, and 304,000 acres in minor watersheds needing only land treatment measures.

<sup>c/</sup> Includes National forest and other lands, for which the Forest Service has been assigned program responsibility.

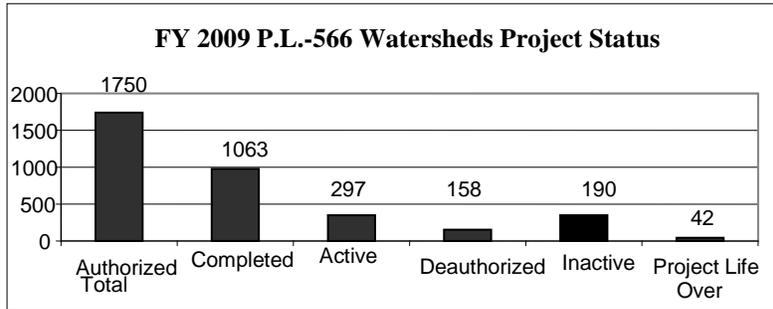
<sup>d/</sup> Excludes 195,818 acres of reservoir area.

The estimated Federal cost for each watershed and total Federal obligations through FY 2009:

Flood Prevention Project	Estimated Total Federal Cost	Obligations (cumulative \$)
Buffalo Creek Watershed, NY (Complete)	\$7,827,746	\$6,287,347
Middle Colorado River Watershed, TX	71,111,062	63,062,555
Coosa River Watershed, GA and TN (Complete)	18,999,247	18,264,485
Little Sioux River Watershed, IA	98,581,921	93,538,419
Little Tallahatchie River Watershed, MS	69,501,448	76,322,835
Los Angeles River Watershed, CA	60,597,017	60,297,017
Potomac River Watershed, MD, PA, VA, and WV	150,217,206	145,384,300
Santa Ynez River Watershed, CA	41,386,536	40,786,536
Trinity River Watershed, TX	331,241,632	211,165,950
Washita River Watershed, OK and TX	202,491,055	192,720,603
Yazoo River Watershed, MS	252,957,352	251,468,563
<b>TOTAL</b>	<b>\$1,304,912,222</b>	<b>\$1,159,298,610</b>

**Status of Watershed Projects Authorized by P.L.-566.** Watershed Project Plans are prepared by local sponsoring organizations with assistance from NRCS. The plans are submitted to NRCS with requests for Federal funding authorization. Watershed projects involving an estimated Federal contribution in excess of five million dollars for construction, or construction of any single structure having a capacity in excess of 2,500 acre-feet of water storage require authorization by Congressional Committee. Watershed projects are limited to 250,000 acres and cannot include any single structure which provides more than 12,500 acre-feet of floodwater detention capacity, or more than 25,000 acre-feet of total capacity. The Chief of NRCS authorizes the use of Watershed Operations funds for all other projects.

After authorization, technical and financial assistance may be provided to local sponsoring organizations for installation of works of improvement specified in the plans.



**New P.L.-566 Watershed Projects Authorized For Funding.** Six new projects were authorized for funding under the Watershed Protection and Flood Prevention Act (P.L. 83-566) in Fiscal Year 2009.

<u>STATE</u>	<u>NAME</u>	<u>FEDERAL COST</u>	<u>LOCAL COST</u>	<u>TOTAL COST</u>
Colorado	Beaver Creek Watershed	\$3,603,900	\$4,654,300	\$8,258,200
Idaho	Southern Washington County Water Quality Project	4,919,400	9,409,000	14,328,400
Louisiana	Red Bayou Watershed	2,725,450	1,521,150	4,246,600
South Carolina	South Darlington Watershed	638,735	409,650	1,048,385
Virginia	North Fork Powell Watershed	1,242,000	558,000	1,800,000
Wyoming	Kaycee Flood Prevention Project	<u>850,800</u>	<u>105,500</u>	<u>956,300</u>
<b>TOTAL</b>		<b>\$13,980,285</b>	<b>\$16,657,600</b>	<b>\$30,637,885</b>

**Unfunded Federal Commitments (Total Backlog of Projects).** The backlog is the unfunded Federal commitment or funding needed to install the remaining measures in the existing 297 active watershed projects. The current backlog is \$1.25 billion. When installed, these floodwater dams, reservoirs, and other conservation practices will reduce flood damages in 320 communities, provide agricultural water supply in 80 communities, improve water quality in 132 stream segments, install water conservation measures in 25 projects, and enhance, restore or create wildlife habitat in 45 projects. In addition to the sponsors' request for FY 2010 funds, the following summary indicates the Federal funds necessary to complete all remaining measures:

**Unfunded Federal Commitment to Authorized Watershed Projects**

State	P.L. 566 (\$)	P.L. 534 (\$)	Total (\$)
Alabama	\$15,424,000		\$15,424,000
Alaska	9,351,600		9,351,600
Arizona	9,414,421		9,414,421
Arkansas	87,260,454		87,260,454
California	43,718,000		43,718,000
Colorado	3,860,130		3,860,130
Connecticut	4,526,200		4,526,200
Florida	1,238,720		1,238,720
Georgia	5,209,772		5,209,772
Hawaii	34,058,300		34,058,300
Idaho	12,586,255		12,586,255
Indiana	7,179,000		7,179,000

**Unfunded Federal Commitment to Authorized Watershed Projects**

State	P.L. 566 (\$)	P.L. 534 (\$)	Total (\$)
Iowa	46,229,900	9,000,004	55,229,904
Kansas	59,915,000		59,915,000
Kentucky	6,120,160		6,120,160
Louisiana	5,775,000		5,775,000
Maine	50,000		50,000
Maryland	450,000		450,000
Minnesota	1,347,524		1,347,524
Mississippi	14,585,500	45,664,100	60,249,600
Missouri	63,509,000		63,509,000
Montana	7,362,500		7,362,500
Nebraska	5,472,300		5,472,300
New Mexico	57,597,000		57,597,000
New York	12,587,557		12,587,557
North Carolina	22,303,280		22,303,280
North Dakota	14,430,300		14,430,300
Ohio	15,790,000		15,790,000
Oklahoma	251,600,800	19,678,800	271,279,600
Oregon	3,929,796		3,929,796
Pennsylvania	8,135,000		8,135,000
South Carolina	13,000		13,000
Tennessee	29,480,477		29,480,477
Texas	105,854,000	139,200,000	245,054,000
Utah	390,860		390,860
Vermont	186		186
Virginia	9,552,146		9,552,146
West Virginia	22,779,000	26,089,563	48,868,563
Wyoming	5,436,955		5,436,955
Pacific Basin	6,313,000		6,313,000
<b>Total</b>	<b>\$1,010,837,093</b>	<b>\$239,632,467</b>	<b>\$1,250,469,560</b>

Loan Programs Under P.L.-534 and P.L.-566. Both programs provide for loans and loan services to finance the local share of the costs of installing, repairing, or enhancing works of improvement and water storage facilities, purchasing sites or rights-of-way, and for related costs in approved watershed and flood prevention projects. Repayment with interest is required within 50 years after the principal benefits of improvements first become available. The interest rate is not to exceed the current market yield for outstanding municipal obligations with remaining periods to maturity on obligations of similar maturity. For a single plan for works of improvement, the amount of the loan may not exceed ten million dollars. Loans are financed through the Rural Utilities Service.

There are currently 58 borrowers who are holding loans with an unpaid principal amount of \$13.7 million. Over the life of the program, 495 loans have been made at a value of almost \$176 million. Congress did not appropriate funds in FY 2009 to provide new loans under this program.

**Selected Examples of Recent Progress**

**Hawaii: Lower Hamakua Ditch Watershed.** The Lower Hamakua Ditch Watershed Project is located in the Hamakua coast area of the Island of Hawaii. Authorized in 1999, the project is sponsored by the State of Hawaii Department of Agriculture, the Mauna Kea Soil and Water Conservation District, and the Hamakua Soil and Water Conservation District. This project will increase the availability and reliability of agricultural water to diversified

farmers and ranchers along the Hamakua coast through the repair and restoration of the Lower Hamakua Ditch. The 25-mile Lower Hamakua Ditch was completed in 1910 and was used and maintained by the sugar industry until the bankruptcy closing of the Hamakua Sugar Company in 1994.

Since 2001, design and construction have resulted in the installation of two water storage reservoirs, two pipeline distribution laterals, repair or replacement of 31 flume structures, modification of 3 intake structures, realignment of the Hakalaoa Falls Tunnel, and reconstruction of 2 historic redwood flumes. Remaining construction elements include the repair of ditch linings, exclusion fencing, a Supervisory Control and Data Acquisition (SCADA) system, eight distribution lateral systems, and on-farm land treatment practices. Full project completion is anticipated in 2017. This project will help to expand the diversified agricultural base in Hamakua and to promote economic revitalization of the Hamakua coast.

**Kentucky: Pigeon Roost Watershed.** Kentucky NRCS in cooperation with the local sponsors (City of McKee, the Jackson County Fiscal Court, and the Jackson County Conservation District) recently completed construction of the Pigeon Roost Flood Retarding Structure No. 3 (FRS 3) in Jackson County, Kentucky. Pigeon Roost FRS 3 is the 200th floodwater retarding structure built in Kentucky under the PL-566 and the Pilot Watershed Programs. FRS 3 is also the fourth flood protection structure built in the Pigeon Roost Watershed that reduces flooding of residential and businesses properties in the City of McKee, Kentucky. This watershed structure provides over \$167,000 of annual agricultural flood damage reduction benefits, over \$685,000 of annual non-agricultural flood damage reduction benefits, and provides floodwater protection to over 850 residents of the City of McKee.

**Texas: Elm Creek (Cen-Tex) Watershed (Site 34).** Elm Creek (Cen-Tex) Watershed was authorized in 1975 and comprises an area of 324 square miles in the Brazos River Basin in Central Texas. The watershed drains portions of McLennan, Bell, Falls, and Milam Counties. Thirty-four of the forty-three floodwater retarding structures that were planned have been constructed.

Site 34, completed on June 18, 2009, has a drainage area of 8,115 acres and a construction cost of \$2.9 million. There are seven sponsoring local organizations of the overall Elm Creek Watershed project; however the primary sponsors of Site 34 are Elm Creek Watershed Authority, Central Texas Soil and Water Conservation District and Milam County. The primary purposes of Site 34 are reduction in downstream flood damages and reduced damages caused by sediment. Site 34 provides over \$155,000 in average annual benefits, which includes benefits to seven bridges and 120 farms. Site 34 also reduces annual sedimentation by 19,400 tons, and provides enhancement/protection to eight miles of streams, 72 acres of wetlands and 5,200 acres of upland habitat.

**Wyoming: Allison Draw Flood Control Project.** Average annual benefits of \$359,600 are being realized on the Allison Draw Flood Protection Project located in Wyoming's southeast corner, near Cheyenne. Allison Draw is not a perennial stream and is a small watershed of 11,500 acres fed by groundwater in the lower section. Years ago, since the drainage does not have water year around, developers constructed housing and provided business locations. Eventually, the shift in land use closed the stream channel. While normally the stream is dry, a significant rain storm would place up to 289 homes and businesses at risk of flood damage. In 1993, the Plan/Environmental Impact Statement was developed, and the final phase of the project was completed in 2009.

A three mile flood channel was constructed to contain the 25 year level storm. Adjustments were made to the alignment of the channel to mitigate moving many buildings that were originally planned for removal. The project includes a greenway, walking paths, rest benches, and three playground areas. Three highway road crossings were completed by the Wyoming Highway Department. The costs of flood damage have been reduced dramatically and this economically depressed area is now recovering with new residences and businesses being constructed. The community college, which is located in the project area, is seeing strong enrollment.