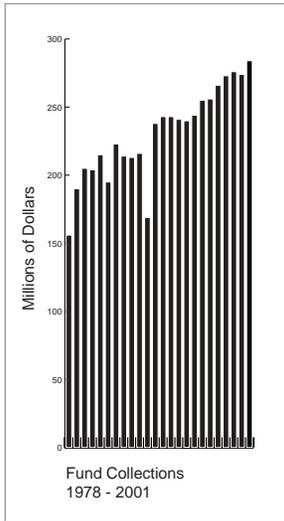


III. Abandoned mine Land reclamation

Title IV of the Surface Mining Law – the Abandoned Mine Land Reclamation Program provides for the restoration of lands mined and abandoned or left inadequately restored before August 3, 1977. Implementation is accomplished through an Emergency Program (for problems having a sudden danger that present a high probability of substantial harm to the health, safety, or general welfare of people before the danger can be abated under normal program operating procedures), and a non-emergency program. States and tribes with approved programs carry out these responsibilities.

Abandoned Mine Land Fund Management



Fees of 35 cents per ton of surface mined coal, 15 cents per ton of coal mined underground, and 10 cents per ton of lignite are collected from active mining operations. The fees are deposited in the Abandoned Mine Land Reclamation Fund, which is used to pay the costs of abandoned mine land reclamation projects. The fund consists of fees, contributions, late payment interest, penalties, administrative charges, and interest earned on investment of the fund's principal. From January 30, 1978, when the first fees were paid, through September 30, 2001, the Fund collections totaled \$6,219,527,784. For the same period, Fund appropriations totaled \$4,714,260,359.

Expenditures from the Fund may only be made as a consequence of appropriations or other laws. The Surface Mining Law specifies that 50 percent of the reclamation fees collected in each state with an approved reclamation program, or within Indian lands where the tribe has an approved reclamation program, are to be allocated to that state or tribe. This 50 percent is designated as the *state* or tribal share of the fund. The remaining 50 percent (the *federal* share) is used by the Office of Surface Mining to complete high priority and emergency projects, to

fund the Small Operator Assistance Program, to fund additional projects directly through state reclamation programs, and to pay collection, audit, and administration costs. In 1991, at the direction of Congress, a formula to distribute federal-share money to the state reclamation programs was established based on historic coal production. Table 1 shows 2001 collections and funding by states.

The Abandoned Mine Reclamation Act of 1990 (Public Law 101-508) extended fee collection authority through September 30, 1995; the Energy Policy Act of 1992 (Public Law 102-486) further extended fee collection authority until September 30, 2004, after which the fee will be established at a rate to provide funds for the United Mine Workers of America Combined Benefit Fund.

In 1992, under authority of Public Law 101-508, the Office of Surface Mining began investing abandoned mine land funds. The Office of Surface Mining only



Before reclamation this Arkansas abandoned mine site contained steep and eroding waste piles, a dangerous unstable highwall with a road at the top edge, and treacherously deep water bodies, some containing acid mine drainage. Today, after reclamation it's no longer a safety hazard to the public and the site is rapidly becoming integrated into the surrounding landscape.

Table 1: AML Fee Collections and Funding

State/Tribe	AML Collections ¹	State Share Distribution ²	Federal Share Distribution ²	Emergency Distribution ²	Special Funding ³	Clean Streams Distribution ²	Total Distribution ²
Alabama	\$3,756,269	\$1,532,354	\$1,725,921	\$400,000	0	\$289,784	\$3,948,059
Alaska	534,750	169,230	1,430,770	25,000	0	0	1,625,000
Arkansas	5,672	0	1,600,000	15,000	0	0	1,615,000
Colorado	6,729,002	1,770,888	836,894	0	0	0	2,607,782
Illinois	5,977,150	2,666,735	6,361,760	680,000	0	735,468	10,443,963
Indiana	10,236,284	3,291,052	2,071,190	328,259	0	323,749	6,014,250
Iowa	0	4,666	1,595,334	0	0	173,253	1,773,253
Kansas	66,751	42,712	1,557,288	465,000	0	0	2,065,000
Kentucky	29,421,593	10,791,091	6,234,926	0	0	723,297	17,749,314
Louisiana	359,242	103,711	0	0	0	0	103,711
Maryland	1,020,146	235,789	1,364,211	0	0	163,769	1,763,769
Mississippi	22,364	0	0	0	0	0	0
Missouri	172,128	98,903	1,501,097	49,800	0	172,231	1,822,031
Montana	11,340,546	3,847,187	0	125,000	0	0	3,972,187
New Mexico	6,264,281	1,683,151	203,460	0	0	0	1,886,611
North Dakota	3,071,118	972,107	627,893	100,000	0	0	1,700,000
Ohio ⁴	5,908,542	2,098,890	3,899,841	300,000	0	499,225	6,797,956
Oklahoma	535,424	185,035	1,414,965	60,000	0	153,135	1,813,135
Pennsylvania ³	14,143,452	5,086,453	20,564,362	0	12,572,280	2,098,336	40,321,431
Tennessee	759,815	0	0	0	0	0	0
Texas	4,894,487	1,691,799	0	0	0	0	1,691,799
Utah	3,803,489	1,170,262	539,579	0	0	0	1,709,841
Virginia ⁴	6,874,584	2,251,016	1,913,695	50,000	0	308,636	4,523,347
Washington	1,702,271	0	0	0	0	0	0
West Virginia ⁴	35,840,671	10,027,256	11,818,767	325,118	0	1,259,117	23,430,258
Wyoming	120,897,131	28,820,712	0	0	0	0	28,820,712
Crow Tribe	1,677,202	589,310	0	0	0	0	589,310
Hopi Tribe	1,285,159	459,440	0	0	0	0	459,440
Navajo Tribe	6,734,011	2,619,301	0	0	0	0	2,619,301
Total	\$284,033,534	\$82,209,050	\$67,261,953	\$2,923,177	\$12,572,280	\$6,900,000	\$171,866,460

1. The collections total also does not include federal collections of \$10,590 paid to the Office of Surface Mining which are not attributable to any state or tribal entity.

2. The term "Distribution" is now used instead of "Allocation". Allocation refers to the "pooling" of monies collected for the Abandoned Mine Land Fund. State and federal share distribution amounts are based on formulas and parameters provided annually by the Assistant Director, Program Support. The emergency program distribution amounts are based on estimates provided by the states and approved by the Deputy Director.

3. The Commonwealth of Pennsylvania received \$11,973,600 for abandoned coal reclamation and acid mine drainage in the anthracite region, and \$598,680 to continue the demonstration project begun in 2000.

4. In addition to the amount of emergency funding noted above, the states of Ohio, Virginia, and West Virginia, received \$2,000,000, \$1,000,000, and \$3,174,882, respectively, from an account which holds unallotted emergency funds that have been recovered from prior years and carried forward for future emergency needs. Therefore, Ohio's total emergency funding is \$2,300,000, Virginia's is \$1,050,000, and West Virginia's is \$3,500,000.

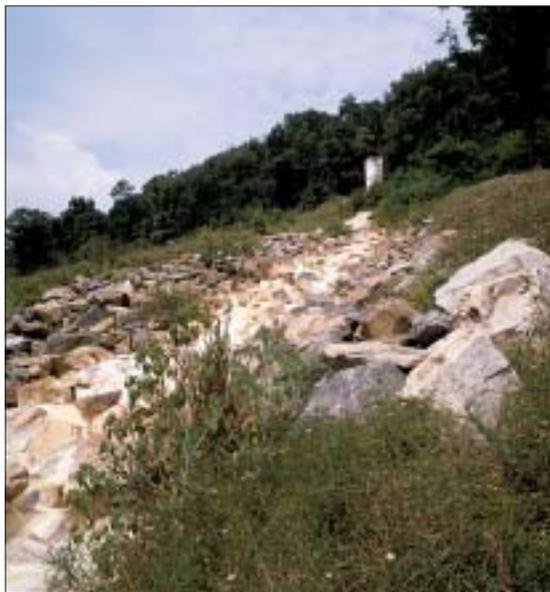
invests these funds in U.S. Treasury Securities. Beginning in 1996, under a requirement of the Energy Policy Act of 1992 (Public 102-486) the Office of Surface Mining began an annual transfer from the investment interest earned to the United Mine Workers of America Combined Benefit Fund. This cash transfer is used to defray anticipated health care costs for eligible union coal mine workers who retired on or before July 20, 1992, and their dependents. The Energy Policy Act authorizes a transfer of up to \$70 million per fiscal year of the interest earned on the principal balance of the Abandoned Mine Land Reclamation Fund to the Combined Benefit Fund to defray the costs related to health care for unassigned beneficiaries. Unassigned beneficiaries are those

miners for whom no operating coal company is responsible. If, after a typical two-year cycle, the amount of the transfer was greater or less than the actual health benefits, an adjustment is made to the next transfer. The 2001 annual payment was \$67.5 million for 17,411 beneficiaries. Prior year adjustments increased this payment by \$35.4 million. The Department of the Interior Appropriations Act, 2001 (Public Law 106-291) required an additional transfer of \$76.7 million to offset any deficit in net assets through August 31, 2001. That law also provided for a separate transfer of \$2.2 million that the United

Mine Workers of America Combined Benefit Fund trustees were to use for refunds to qualified operators or related persons. The total payment in 2001 was \$181.8 million. Table 2 summarizes the Fund account for the past two years.

Table 2: Abandoned Mine Reclamation Fund Status

	Cash Basis	
	2001	2000
Balance, Start of Year	\$1,812,132,897	\$1,735,925,955
Fees, debts, and interest collected	284,044,124	274,297,102
Interest earned on investments	103,495,981	94,369,310
Total Earnings	\$387,540,105	\$368,666,412
Disbursements	160,894,551	183,499,528
Transfers to the United Mine Workers	181,844,948	108,959,942
Total Disbursements and Transfers	\$342,739,499	\$292,459,470
Balance, End of the Year	\$1,856,933,503	\$1,812,132,897



Before reclamation, acid mine drainage was flowing from many of the abandoned mine portals at this site and was severely impacting water quality of surrounding streams and rivers. Analysis indicated that acid mine drainage from the site contributed a net acid discharge of 3,354 pounds per day to the North Branch of the Potomac River and was creating a chemical barrier to fish migration into the upper reaches of the river. A lime doser, located above the acid mine drainage discharges, was constructed to treat the acidic condition. This has eliminated the chemical barrier to fish migration and dramatically improved the water quality of the river.

The Surface Mining Law requires the Secretary of the Interior to ensure full compliance with the abandoned mine reclamation fee provisions. The Office of Surface Mining fulfills that responsibility by collecting fees from coal operators through voluntary reporting, audit, and debt collection. In 2001, the initial rate of those reporting and paying on time was 92.3 percent. Through follow-up and other work with the operators, the compliance rate was raised to 99.9 percent, resulting in total collections of \$284.0 million for the Fund.

Experience has shown that helping the industry achieve compliance reduces the need for additional regulatory resources. To assist in compliance, the Office of Surface Mining mails preprinted forms to all active coal mining companies and provides guidance by phone and mail. Because of factors beyond the Office of Surface Mining's control, such as company financial difficulties and errors, some nonpayment and non-reporting will probably always be present. When such instances of noncompliance are found, auditors and collection staff examine each issue and how similar occurrences can be avoided in the future. The high compliance rate can be

Table 3: Abandoned Mine Land Grants¹

State/Tribe	Subsidence Insurance	10% Program Set-Aside	Administration ³	Project Costs ⁴	Emergency ⁵	2001 Total	2000 Total
Alabama	\$0	\$0	\$537,818	\$3,353,592	\$400,000	\$4,291,410	\$4,066,622
Alaska	0	0	283,180	2,628,743	25,000	2,936,923	2,402,334
Arkansas	0	0	405,824	1,194,176	15,000	1,615,000	1,515,000
Colorado	0	260,811	757,150	1,852,850	0	2,870,811	2,270,000
Illinois	0	903,095	1,536,257	9,269,754	780,000	12,489,106	14,231,430
Indiana	0	536,304	958,372	5,744,608	328,259	7,567,543	6,669,520
Iowa	0	0	246,189	1,542,064	0	1,788,253	1,726,562
Kansas	0	0	248,724	1,366,758	465,000	2,080,482	2,355,854
Kentucky	0	0	2,252,115	16,642,354	0	18,894,469	17,168,631
Louisiana	0	0	130,732	10,545	0	141,277	122,611
Maryland ²	0	65,000	553,170	413,769	0	1,031,939	962,180
Missouri	0	66,358	569,590	1,372,764	49,800	2,058,512	1,751,149
Montana	0	0	430,519	3,416,668	125,000	3,972,187	3,810,998
New Mexico	0	188,669	1,115,272	4,000,000	0	5,303,941	2,285,599
North Dakota	0	127,090	183,520	1,395,780	100,000	1,806,390	1,600,000
Ohio	0	0	3,527,549	4,330,988	2,300,000	10,158,537	10,258,200
Oklahoma	0	0	329,324	1,423,811	60,000	1,813,135	1,707,924
Pennsylvania ²	0	2,565,874	2,473,548	37,289,937	0	42,329,359	38,725,747
Texas	0	0	177,533	1,475,438	0	1,652,971	4,334,516
Utah	0	331,027	359,883	1,406,031	0	2,096,941	2,072,808
Virginia	0	416,545	659,976	3,588,812	2,050,000	6,715,333	6,461,081
West Virginia	0	0	6,831,914	17,540,127	3,500,000	27,872,041	29,444,115
Wyoming	0	0	1,039,789	28,145,659	0	29,185,448	26,897,717
Crow Tribe	0	0	91,741	594,151	0	685,892	1,385,135
Hopi Tribe	0	0	1,042,812	1,800,000	0	2,842,812	200,000
Navajo Tribe	0	0	1,163,463	3,107,190	0	4,270,653	1,689,940
TOTAL	\$0	\$5,460,773	\$27,905,964	\$154,906,569	\$10,198,059	\$198,471,365	\$186,115,673

1. Funding for these grants is derived from the 2001 distribution and funds recovered or carried over from previous years. Downward adjustments of prior-year awards are not included in the totals.

2. These 10% set-aside amounts are for acid mine drainage set-aside funding rather than future set-aside funding.

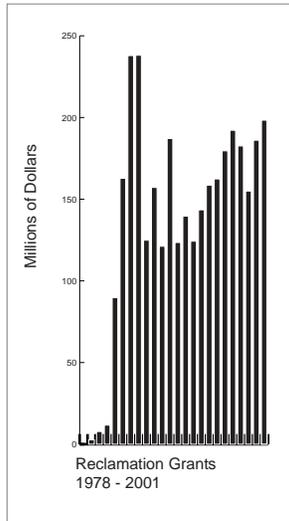
3. Included in this category are costs for program support (personnel, budgeting, procurement, etc.), Abandoned Mine Land inventory management, and program policy development. Indirect costs associated with the administration of the program may also be included.

4. The term "Project Costs" is now used instead of "Construction." Abandoned Mine Land simplified grants do not contain specific construction cost breakouts, but rather list all costs associated with a construction project as a project cost. This category contains non-water supply, water supply, and non-coal project costs, and includes \$6,900,000 in funding for the Appalachian Clean Streams Program.

5. This category contains emergency project, administrative, and indirect costs.

attributed to this proactive cooperative approach, and the overall efficiency of the collection and audit activities. The success of this approach was recognized by the Office of Personnel Management, which presented its annual performance management award to the Office of Surface Mining for this work. The award is designed to highlight organizations with demonstrated levels of results-oriented and customer-focused performance.

Grants to States and Tribes



Starting with Texas in 1980, the Office of Surface Mining began approving state reclamation programs. Currently, all primacy states except Mississippi have approved abandoned mine land reclamation programs. In addition, the Crow, Hopi, and Navajo Indian Tribes have approved programs. In 2001, the states and tribes received grants totaling \$198,471,365 to carry out the emergency and non-emergency Abandoned Mine Land programs.

Since 1979, when the states began receiving abandoned mine land administrative grants to operate their programs and construction grants to complete reclamation projects, \$3,102,949,344 has been distributed from the fund. Grant obligations (the amount used by the states) for 2001 are shown in Table 3. Larger total obligations (shown in table 3) than total distribution (shown in table 1) result from previous year carryover or funding from past years distributions that were not used until 2001.

Simplified grant funding of state abandoned mine land programs started in 1994. This grant application process eliminates the requirement for separate advance approval of each reclamation project before a grant is awarded to the state. States now receive amounts based on appropriated spending levels and are held accountable for using those funds in accordance with their approved abandoned mine land reclamation plans. The Office of Surface Mining is no longer involved in cumbersome and detailed pre-award

scrutiny of state grant applications. During 2001, the Office of Surface Mining awarded 96 percent of the regulatory grants to the states within 60 days of receiving the grant application.

Minimum Program

The minimum-level program was established by Congress in 1988 to ensure funding of existing high priority projects in states where the annual distribution is too small for the state to administer a program.

During 2001, Alaska, Arkansas, Iowa, Kansas, Maryland, Missouri, North Dakota, and Oklahoma were eligible for minimum-level program funding and received such grants during the year. Minimum-level program funding increased from \$1,500,000 to \$1,600,000 for 2001. The eight eligible programs received a total of \$8,198,571 in 2001. This funding supplements the formula-based grant and brings those eight states to the minimum-program level. Once minimum-program states or tribes complete their high priority projects listed in the National Inventory of Abandoned Mine Land Problems, their annual grants are limited to state-share funds.

State Set-Aside

Beginning in 1987, Public Law 100-34 authorized states to set aside up to 10 percent of the state-share portion of their annual abandoned mine land reclamation grants. Set-aside money was deposited into special trust funds and became available, along with interest earned, for use by the state for reclaiming abandoned mine land problems after August 3, 1992, the original expiration



At this Utah site, abandoned portals and open mine shafts were closed to eliminate dangerous conditions. During reclamation the portals were backfilled and the larger portals that were flanked with historic Italian-cut sandstone retaining walls were closed; but, preserved the historic stone intact. Today, with reclamation complete, these structures are an historical feature and a reminder of the Italian miners of the early 1900's who built houses, walls, and other structures using rock from the surrounding canyons.

date for the collection of abandoned mine land reclamation fees. (Subsequent legislation has extended that date to September 30, 2004.) Statutory amendments contained in Public Law 101-508 created a new acid mine drainage set-aside program that does not supersede the transfer of funds deposited under the original 1987 program. The funds set aside under the new program were available for use beginning in 1996, and only to reclaim eligible priority 1 and 2 abandoned coal mine land problems. In 2001, ten states set aside \$5,460,773.

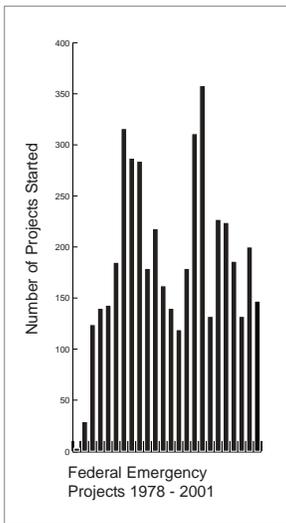
Subsidence Insurance

Public Law 98-473 authorized states and tribes with approved reclamation programs to use abandoned mine land funds to establish self-sustaining, individually administered programs to ensure private property against damage caused by land subsidence resulting from abandoned underground coal mines. Implementing rules were promulgated in February 1986. Under those rules, states receive an annual subsidence insurance grant of up to \$3,000,000, awarded from the state’s share of the Abandoned mine Land Fund. In 2001, no subsidence insurance grants were issued. Through 2001, the Office of Surface Mining has granted a total of \$11,799,058 to Colorado, Indiana, Kentucky, Ohio, West Virginia, and Wyoming for this purpose.



Reclamation at this abandoned mine site transformed an eroding ditch back into a meandering stream with a natural appearance.

Emergency Program



Emergency reclamation projects are those involving abandoned mine land problems that present a danger to public health, safety, or general welfare and which require immediate action to eliminate the problem.

Under Section 401(a) of the Surface Mining Law, the Secretary of the Interior is authorized to spend money from the Abandoned Mine Reclamation Fund for emergency restoration, reclamation, abatement, control, or prevention of the effects of coal mining practices. Investigations of potential emergency problems (called “complaint” investigations) are undertaken by state reclamation agencies as part of their approved Abandoned Mine Land Program or by the Office of Surface Mining in other states. Complaint investigations are referred to the Office of Surface Mining from a variety of sources including affected citizens, municipalities, emergency response agencies, and state non-emergency reclamation agencies. (Information on how to report an Abandoned Mine Land emergency can be found at www.osmre.gov/amlemerg.htm) The Office of Surface Mining then confirms the emergency assessment, performs technical investigations, and obtains funds for declared emergencies. Of the 197 potential emergencies referred to the Office of Surface Mining in 2001, 147 became emergency projects; 31 were determined to be not of an emergency nature, not related to coal mining, or were reclaimed by the landowner; and 19 were still under investigation on September 30, 2001. Those projects which were not emergencies, but were otherwise eligible for reclamation, were referred to

the states for consideration as high priority projects.

During 2001, states obligated \$10.2 million and the Office of Surface Mining obligated \$5.9 million on emergency reclamation projects (Table 5). No state expenditures exceeded the Congressionally-imposed “cap” of \$4.5 million which

can be spent in any state within a year. In 2001, the states and the Office of Surface Mining declared 318 Abandoned Mine Land emergencies in 20 States (see Table 4). As usual, most emergencies occurred in Pennsylvania, West Virginia, Kentucky, and Kansas. Rhode Island experienced their first Abandoned Mine Land emergency in almost 20 years, when a large subsidence opening appeared in a mall parking lot in Cranston, Rhode Island. The abatement cost for this project was over \$158,000.

Following passage of the Surface Mining Law, the Office of Surface Mining performed all emergency reclamation; however, as state programs were approved, many took over emergency programs as well. In 2001, the following states implemented emergency programs: Alabama, Alaska, Arkansas, Illinois, Indiana, Kansas, Missouri, Montana, North Dakota, Ohio, Oklahoma, Virginia, and West Virginia. The Office of Surface Mining funds the states with emergency programs using federal share funds (in addition to formula-based allocations) to complete the projects. The Office of Surface Mining continues to operate the emergency programs in California, Colorado, Iowa, Kentucky, Maryland, Michigan, Mississippi, New Mexico, Pennsylvania, Rhode Island, Tennessee, Texas, Utah, Washington, and Wyoming, as well as on all tribal lands.

Non-Emergency Program

Under Sections 402 and 407 of the Surface Mining Law, the Secretary of the Interior is authorized to expend Abandoned Mine Reclamation Fund monies for non-emergency reclamation of high priority problems that present an extreme danger to the public. A non-emergency is defined in the Surface Mining Law regulations (30 CFR 870.5) as "a condition that could reasonably be expected to cause substantial harm to persons, property, or the environment."

Until 1980, when states and Indian tribes

began to receive approval for their Abandoned Mine Land programs, the Office of Surface Mining administered all non-emergency reclamation. However, since that time, state and tribal programs have assumed responsibility for correcting abandoned mine land problems and currently expend 98 percent of non-emergency reclamation funds. During 2001, the

Table 4: Reclamation Projects

	2001		Emergency 1978-2001			Non-Emergency 2001	
	Federal	State	Federal	State	Total	Federal	State
Alabama	0	19	10	66	95	0	8
Alaska	0	0	0	1	1	0	5
Arkansas	0	4	1	14	19	0	1
California	0	0	5	0	5	0	10
Colorado	1	0	98	0	99	0	10
Crow Tribe	0	0	0	0	0	0	2
Illinois	0	11	51	221	283	0	20
Indiana	0	8	94	95	197	0	29
Iowa	1	0	21	0	22	0	4
Kansas	0	32	270	532	834	0	5
Kentucky	37	0	832	0	869	0	24
Louisiana	0	0	0	0	0	0	0
Maryland	1	0	16	0	17	0	0
Michigan	1	0	11	0	12	0	0
Mississippi	0	0	0	0	0	0	0
Missouri	0	2	6	0	8	0	4
Montana	0	0	7	13	20	0	7
Navajo Nation	0	0	6	0	6	0	7
New Mexico	0	0	15	0	15	0	5
North Dakota	0	2	15	9	26	0	5
Northern Cheyenne	0	0	2	0	2	0	0
Ohio	0	30	190	198	418	0	18
Oklahoma	0	1	47	9	57	0	5
Pennsylvania	100	0	2,005	0	2,105	0	32
Rhode Island	1	0	2	0	3	0	0
Southern Ute Tribe	0	0	1	0	1	0	0
Tennessee	1	0	14	0	15	2	0
Texas	0	0	6	0	6	0	2
Utah	0	0	0	0	0	0	2
Virginia	0	12	30	91	133	0	17
Washington	4	0	44	0	48	4	0
West Virginia	0	50	179	582	811	0	37
Wyoming	0	0	38	0	38	0	11
Totals	147	171	4,016	1,831	6,165	6	270

Office of Surface Mining initiated 6 non-emergency projects -- two in Tennessee and four in Washington, and continued ongoing reclamation of one problem in Georgia and five in Tennessee -- and the states and tribes initiated 270 non-emergency projects.

The Abandoned Mine Reclamation Fund also is used to reclaim problems created by non-coal mines. To be eligible for funding, a non-coal project must be a priority 1 (threat to health and safety), or the state or Indian tribe must certify it has addressed all known coal-related problems. Table 6 summarizes both emergency and non-emergency abandoned coal and non-coal mine reclamation project accomplishments through 2001.

Post-Surface Mining Law Reclamation

As authorized by the 2001 appropriations, Federal Civil Penalties collected under Section 518 of the Surface Mining Law were used to reclaim lands mined and abandoned after August 3, 1977. In 2001, the Office of Surface Mining started two civil penalty reclamation projects in Virginia costing a total of \$80,000. An additional \$212,904 in unobligated funds will be carried over for use in 2002 reclamation projects.

Appalachian Clean Streams Program

The Appalachian Clean Streams Program began as an initiative in the fall of 1994 by the Office of Surface Mining. The Program supports local efforts to eliminate environmental and economic impacts of acid mine drainage from abandoned coal mines. The mission is to facilitate the efforts of citizen groups, university researchers, the coal industry, corporations, the environmental community, and local, state, and federal government agencies in cleaning streams polluted by mine drainage. During 2001, \$6.9 million was distributed to 12 states (Alabama, Illinois, Indiana, Iowa, Kentucky, Maryland, Missouri, Ohio, Oklahoma, Pennsylvania, Virginia, and West Virginia) and 19 acid mine drainage cleanup projects were begun. This funding provided the incentive for other

Table 5: Federal Project Obligations

State or Tribe	Emergency	High Priority	Total 1978-2001 ¹
Alabama	\$0	\$0	\$13,934,015
Alaska	0	0	194,638
Arkansas	0	0	84,904
California	0	50,520	2,376,982
Colorado	22,603	0	1,964,814
Georgia	0	278,188	3,917,337
Illinois	0	0	5,376,749
Indiana	0	0	4,032,023
Iowa	39,364	0	1,475,082
Kansas	0	0	5,094,172
Kentucky	3,491,557	0	107,757,663
Maryland	20,178	0	2,829,061
Michigan	2,450	0	3,094,737
Missouri	0	0	8,015,909
Montana	0	0	729,058
New Mexico	0	0	2,364,696
North Carolina	0	0	205,407
North Dakota	0	0	1,723,933
Ohio	0	0	18,295,299
Oklahoma	0	0	1,232,159
Oregon	0	0	42,275
Pennsylvania	1,949,617	0	110,387,653
Rhode Island	158,818	0	715,047
S Dakota	0	0	135,461
Tennessee	10,620	2,299,553	25,369,146
Texas	0	0	289,849
Utah	0	0	123,791
Virginia	0	0	10,139,469
Washington	200,255	212,936	7,355,453
West Virginia	0	0	29,023,226
Wyoming	0	0	1,067,101
Cheyenne Rive Sioux Tribe	0	0	2,803,165
Crow Tribe	0	0	1,097,895
Fort Berthold Tribe	0	0	69,972
Fort Peck Tribe	0	0	147,991
Hopi Tribe	0	0	1,263,409
Jacarillo Apache Tribe	0	0	59,998
Navajo Tribe	0	0	2,222,792
Northern Cheyenne Tribe	0	0	585,044
Southern Ute Tribe	0	0	94,206
Rocky Boy Tribe	0	0	60,188
Uintah/Ouray Tribe	0	0	138,738
Ute Mountain Tribe	0	0	14,300
White Mountain Apache Tribe	0	0	1,838
Wind River Tribe	0	0	73,267
Zuni Tribe	0	0	125,009
Undistributed	0	0	580
Total	\$5,895,462	\$2,841,197	\$378,105,501

1. Includes prior year contract deobligations and upward adjustments.

Table 6:
1978-2001 Abandoned Mine Land Reclamation Accomplishments
 Priority 1 and 2 (Protection of Public Health, Safety and General Welfare) and
 State Emergency Projects

	Clogged Stream ¹	Clogged Stream Land ²	Dangerous Highwall ³	Dangerous Impoundment ⁴	Dangerous Pile & Embankment ²	Dangerous Slide ²	Dangerous Gas ⁴	Hazardous Equipment & Facilities ¹	Hazardous Water Body ⁴	Industrial/Residential Waste ²	Portal ⁴	Polluted Water: Agricultural & Industrial ⁴	Polluted Water: Human Consumption ¹	Subsidence ²	Surface Burning ²	Underground Mine Fire ²	Vertical Opening ⁴
Alaska	0	0	7,090	4	6	0	0	70	2	4	19	0	0	0	0	0	36
Alabama	2	162	200,850	1	1,444	21	0	457	63	24	988	1	13	21	68	0	372
Arkansas	1	0	54,626	1	751	0	0	1	68	21	24	0	0	11	4	0	102
California	0	0	0	0	0	0	0	0	0	0	29	0	0	1	0	0	39
CERT Tribes ⁶	0	0	5,070	0	100,019	0	0	6	2	0	51	0	0	31	0	0	17
Colorado	0	0	52,142	0	29	0	0	1	0	2	2,013	3	0	48	35	159	2,833
Crow Tribe	0	1	2,267	1	58	23	0	32	1	0	14	3	0	16	0	0	5
Georgia	0	0	9,150	3	3	0	0	0	0	0	112	0	1	0	0	0	11
Hopi Tribe	0	0	11,662	0	0	0	0	8	0	0	9	0	0	0	0	0	2
Iowa	7	628	55,010	3	814	0	0	4	22	11	1	12	2	2	0	0	20
Idaho	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Illinois	20	1,290	21,581	7	228	3	20	293	2	71	177	11	1	67	43	0	1,034
Indiana	14	121	117,515	6	717	1	3	95	7	32	68	9	9	126	10	0	330
Kansas	1	9	117,972	1	109	2	0	2	1	24	1	3	0	24	5	0	770
Kentucky	43	8,749	22,555	101	395	1,964	0	201	28	28	1,535	6	4,608	50	214	83	122
Maryland	5	50	44,030	1	197	66	0	22	20	32	34	23	6	15	0	0	6
Michigan	0	0	950	0	0	0	0	7	2	0	0	0	1	0	8	0	39
Missouri	11	1,434	65,902	6	479	0	0	27	11	71	35	33	15	4	19	7	126
Montana	8	77	18,310	3	169	1	1	214	1	325	1,051	17	12	493	302	69	576
Navajo Nation	0	1	39,146	4	169	7	0	4	0	5	480	4	0	7	3	0	158
North Carolina	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5
North Dakota	0	0	51,329	4	303	35	0	14	18	2	13	6	0	1,230	1	0	88
New Mexico	0	1	0	0	9	0	0	17	0	0	430	4	1	35	35	32	638
Ohio	33	5,050	40,359	7	96	366	4	43	8	34	222	2	40	74	81	3	174
Oklahoma	12	0	209,164	0	0	0	0	13	176	6	152	3	3	9	0	0	97
Oregon	0	0	0	0	0	0	0	3	0	0	12	0	0	0	0	0	3
Pennsylvania	92	140	654,826	44	556	37	0	307	115	17	250	2	31	2,396	122	915	469
Rhode Island	0	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	0
South Dakota	0	0	135	0	0	0	0	4	0	0	5	0	0	1	0	0	1
Tennessee	0	147	22,555	0	388	57	0	31	31	13	192	5	6	6	28	0	10
Texas	0	0	42,115	0	1,359	0	0	0	14	0	58	0	0	6	0	0	335
Utah	14	9	3,425	1	138	0	19	155	0	2	2,206	2	0	184	43	29	795
Virginia	72	838	24,888	20	259	223	0	216	2	2	910	0	1,584	8	40	0	99
Washington	0	0	0	0	3	0	0	7	0	0	30	0	0	6	15	0	74
West Virginia	44	150	188,677	452	3,910	475	4	475	6	35	1,956	36	6,975	250	430	19	129
Wyoming	114	1,634	483,141	136	1,924	25	0	179	371	29	499	3	0	1,111	12	41	564
Total	493	20,491	2,566,442	806	114,532	3,306	51	2,908	971	790	13,576	188	13,308	6,238	1,518	1,357	10,079

Table 6:
1978-2001 Abandoned Mine Land Reclamation Accomplishments
 Priority 3 (Environmental Restoration)

	Bench ²	Industrial/Residential Waste ²	Equipment/Facility ⁴	Gob ²	Highwall ³	Haul Road ²	Mine Opening ⁴	Pit ²	Spoil Area ²	Slurry ²	Slump ²	Water Problem ⁵
Alaska	0	0	0	7	0	0	0	0	47	9	0	0
Alabama	23	14	8	229	31,135	2	48	0	8,784	5	12	379
Arkansas	0	0	0	0	0	0	0	0	8	0	0	0
CERT Tribes ⁶	0	0	2	4	1,500	0	1	7	80	0	0	0
Colorado	3	5	7	159	2,028	0	18	83	829	0	0	1
Crow	5	0	0	26	2,295	13	1	18	26	0	5	0
Georgia	3	0	0	3	400	0	0	3	7	0	0	0
Hopi Tribe	0	0	0	25	51	15	0	10	10	0	0	0
Iowa	0	1	0	1	800	5	1	19	440	0	0	0
Illinois	1	6	145	2,382	10,480	177	58	568	1,868	1,112	1	821
Indiana	0	71	167	1,250	10,516	63	18	67	1,619	687	2	1,200,112
Kansas	0	0	1	89	3,200	0	0	23	316	10	0	0
Kentucky	624	0	53	232	2,000	0	69	4	1,031	58	5	0
Maryland	7	1	2	56	4,535	2	6	22	263	0	1	88
Michigan	0	0	1	27	0	1	0	1	10	0	11	0
Missouri	0	3	4	142	16,824	1	0	92	1,341	69	0	86
Montana	1	76	58	147	1,170	1	230	34	871	0	19	2,741
Navajo Nation	24	1	2	134	280	46	46	38	265	0	0	0
North Dakota	0	0	0	0	0	0	0	0	0	0	0	0
New Mexico	3	0	11	60	0	6	4	2	2	2	0	0
Ohio	0	0	3	126	9,620	0	19	17	411	0	0	0
Oklahoma	0	0	0	0	0	0	0	0	0	0	0	0
Oregon	0	0	0	0	0	0	1	0	0	0	0	0
Pennsylvania	0	0	21	52	5,108	0	19	78	1,711	1	26	90,330
Tennessee	76	0	15	67	130	8	0	47	333	0	4	360
Texas	0	0	0	8	0	0	0	0	348	0	0	0
Utah	4	7	64	255	550	3	0	8	55	1	16	20
Virginia	0	1	25	20	13,000	1	52	0	3	0	0	120
West Virginia	0	0	0	51	19,540	0	4	5	178	0	0	622
Wyoming	0	0	0	39	0	91	0	7,072	8,017	199	0	0
Total	774	186	589	5,591	135,162	435	595	8,218	28,873	2,153	102	1,295,680

1. Miles

2. Acres

3. Feet

4. Count

5. Gallons/minute.

6. CERT is the Council of Energy Resources Tribes which includes: Blackfeet; Cheyenne River Sioux; Fort Berthold (Mandan, Hidatsa, and Arikara); Fort Peck (Assiniboin and Sioux); Northern Cheyenne; Jicarilla Apache, Laguna Pueblo; Rocky Boys (Chippewa and Cree); San Carlos Apache; Southern Ute, Ute Mountain Ute; White Mountain Apache; and Wind River (Arapaho and Shoshone).

sources to contribute to the projects, and during 2001 this funding grew to over \$2.0 million. Since 1996, when the program began, 77 Clean Streams Program projects have been funded by the Office of Surface Mining and 26 have been completed (Figure 1).

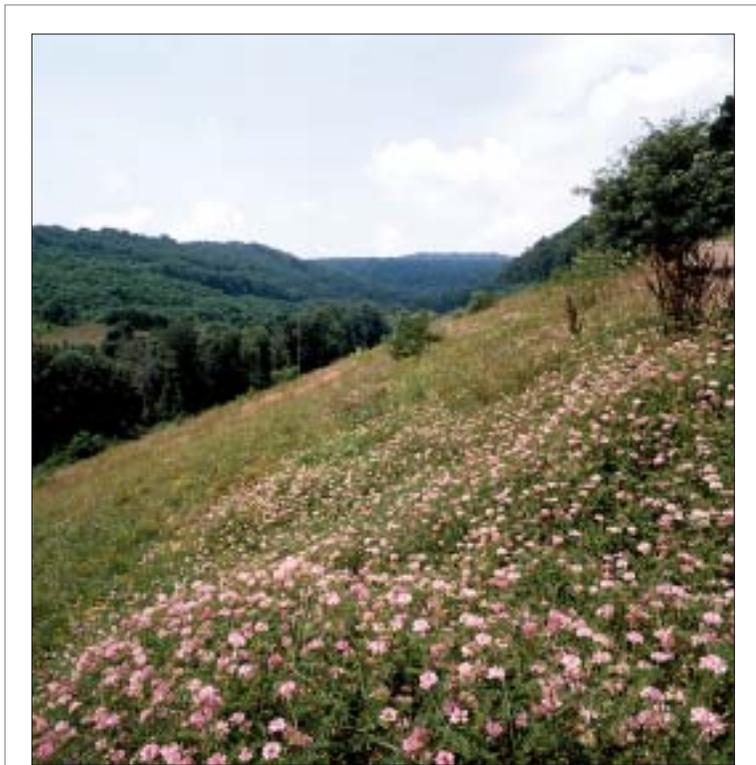
Following are two successful examples of the Appalachian Clean Streams Program during 2001:

- Thompson Run of the South Fork of the Patoka River, Indiana. The 52,000-acre Patoka South Fork Watershed is one of the state's most heavily damaged mining districts. For more than 70 years, this once-pristine watershed has laid in ruins from unregulated coal mining. Almost three-fourths of the watershed is biologically dead or impaired with acid mine drainage as low as pH 3. Encouraged by the Office of Surface Mining's Appalachian Clean Streams Program, citizens formed a committee with a unique grassroots approach to the Patoka River's problems, with a goal to study and prioritize all of the watershed's pollution sources and to resolve as many as possible over several years. One of the watershed's worst tributaries,

Thompson Run presents technical challenges because of high metal concentrations including iron and aluminum (up to 60 parts per million). Any attempt to neutralize these discharges using most conventional technologies would produce heavy metal precipitation that would clog the treatment system. The Patoka South Fork Watershed Steering Committee consulted experts at two universities to help design alkaline recharge systems that are immune from the precipitant clogging problem. The Office of Surface Mining provided the vital link between watershed citizens and university researchers through the Acid Drainage Technology Initiative, a partnership that promotes cutting-edge acid mine drainage technology development. Since the alkaline recharge structures are not totally passive and require occasional replenishment, a corporate partner, AirGas Corporation is supplying calcium hydroxide suspension, a nonhazardous by-product of the manufacture of acetylene gas. Thus, a waste product is put to beneficial use at almost no cost to the government. The project design also calls for building three different configurations of the alkaline recharge structures, which will create

Figure 1

	Clean Streams Projects		Watershed Projects	
	Started in 2001	Completed Since 1994	Started in 2001	Completed Since 1999
Alabama	2	2	0	0
Illinois	1	1	0	0
Indiana	2	7	1	1
Kentucky	1	3	0	0
Maryland	0	3	3	3
Ohio	4	4	1	0
Oklahoma	1	0	0	0
Pennsylvania	6	5	3	9
Virginia	1	1	1	1
West Virginia	1	0	3	3
Totals	19	26	12	17



The Vindex Abandoned Mine Land Reclamation Project, located in Garrett County Maryland, contained dangerous highwalls that ran parallel to and within 15 feet of a county road, unstable refuse piles that were causing landslides onto roads and streams, open portals and air shafts that threatened public safety, and unauthorized burning of garbage that caused burning of the abandoned coal refuse and other abandoned facilities. This was Maryland's single most complex, time consuming, and costly Abandoned Mine Land project. It required over 55,000 man hours of work, cost more than twice Maryland's total annual Title IV grant allocation, and required three years to complete. This successful reclamation eliminated the hazards and returned the land to its original mountainous setting.

a laboratory for future applied research of cost-effective acid mine drainage treatment technologies.

■ **Cherry Creek, Maryland.** In the 1920's, local historians noted the fine native brook trout fishing in the lower reaches of Cherry Creek in Garrett County and spawning runs of rainbow trout upstream. A fish kill attributed to acid mine drainage destroyed this sport fishery in 1957, but the combined efforts of the Appalachian Clean Streams Program and Maryland's Bureau of Mines are about to bring trout back to Cherry Creek. The uplands of the 14 square mile watershed encompass a unique ecosystem of conifers and Sphagnum wetlands similar to landscapes in the northern U.S. and Canada. Since these areas tend to generate natural low-pH organic acidity, it took only a few coal mines to pollute the watershed. The Maryland Bureau of Mines completed several mine closures in the Cherry Creek watershed and recently three Clean Streams projects, including a privately funded lime doser were completed. However, the Everhart Seep remained as a major source of the residual acid mine drainage polluting Cherry Creek. The multi-partner Everhart Acid Mine Drainage Treatment Project combines several technologies including alkaline producing systems, oxidizing ponds, and wetlands. High concentrations of dissolved iron and aluminum have been nearly eliminated; the high net acidity of the drainage is now net alkaline, and the discharge has increased from pH 3.5 to more than pH 6.0. This fairly small project enabled the restoration of 1.75 miles of stream and is a key part of the eventual total recovery of Cherry Creek. For more information about the Appalachian Clean Streams Program see www.osmre.gov/acsihome.htm.

Watershed Projects

As part of the Appalachian Clean Streams Program in 2001, \$2.7 million was included in the budget to fund watershed projects with local not-for-profit organizations that undertake acid mine drainage reclamation projects. An additional \$14.7 million was contributed by outside sources. The maximum award for each cooperative agreement was \$100,000. These funds were primarily used for the construction phase of the work; however, administrative costs associated with completion of the projects were allowable. In 2001, 14 new and eight amendments to existing watershed cooperative agreements were awarded (Figure 2) and 12 projects were started. Since 1999, 17 projects have been completed.

Significant on-the-ground improvement has been made by watershed projects. For example, a Pennsylvania project site was significantly degraded due to a 277 gallons per minute discharge of contaminated acid water from an abandoned underground mine complex. The abatement method used a successive alkalinity producing system (SAPS) and use of steel slag to add alkalinity. The stream was also treated with limestone gravel above the treatment system to help repopulate the stream with macro invertebrates. Following reclamation water quality in the stream immediately improved and the pH rose to 6.3.

Figure 2

Project and Organization	Amount
Webster Mine Drainage Blacklick Creek Watershed Assn. (Pennsylvania)	\$ 20,000
Amendment 1 to Carbon Run Site 48 Shamokin Creek Restoration Alliance (Pennsylvania)	3,000
Amendment 2 – Vintondale Blacklick Creek Watershed (Pennsylvania)	4,000
Brinkerton Site Amendment Penns Corner Conservancy (Pennsylvania)	20,000
Grigsby Project Amendment Penns Corner Conservancy (Pennsylvania)	20,000
Hamilton Site Amendment Penns Corner Conservancy (Pennsylvania)	20,000
2 Mile Run Surface Project Trout Unlimited (Pennsylvania)	100,000
Robbins Hollow Project Trout Unlimited (Pennsylvania)	100,000
Blue Valley Phase II Headwaters Charitable Trust (Pennsylvania)	52,400
Metro Discharge Southern Alleghenies Conservancy (Pennsylvania)	100,000
Oneida No. 1 Eastern PA Coalition - Amendment 1 (Pennsylvania)	20,000
Boswell AMD Southern Alleghenies Conservancy (Pennsylvania)	100,000
Metro Discharge Southern Alleghenies Conservancy (Pennsylvania)	100,000
Nixon's Run Lower West Fork Assn (West Virginia)	41,885
Sovern Mine Drainage Friends of the Cheat (West Virginia)	80,000
Four Rivers RC&D Old Ben Scout Reservation AMD (Indiana)	79,300
Hurricane Creek AMD Project Alabama Rivers Alliance (Alabama)	100,000
Amendment 1 to Mill Run Project Freshwater Institute (Maryland)	50,000
Amendment 2 - Teets Acid Mine Drainage Project Western Maryland RC&D (Maryland)	20,000
Lonaconing AMD Remediation Project Western Maryland RC&D (Maryland)	100,000
Crellin Limestone Project Western Maryland RC&D (Maryland)	100,000
McDonald AMD Remediation Project Western Maryland RC&D (Maryland)	100,000
TOTAL	\$1,330,585

Summer Watershed Internship Program

The Office of Surface Mining initiated the Summer Watershed Internship program in 1999 and placed ten interns in five states. During the 2000 summer, with help from the Environmental Protection Agency, the Department of Energy, and the National Environmental and Technology Laboratory partnership, the Office of Surface Mining placed 23 interns in 8 states, and in 2001, 33 interns worked in 8 states (Figure 3), all of them working directly for watershed groups on acid mine drainage issues.

In every case, the interns strengthened the capacity of the sponsoring watershed group, adding to their monitoring data, developing watershed plans, and building public awareness.

Figure 3

State	Number of Interns		
	1999	2000	2001
Alabama	0	3	0
Kentucky	0	2	1
Maryland	0	1	2
Ohio	1	2	3
Pennsylvania	3	5	12
Tennessee	1	3	1
Virginia	0	1	2
West Virginia	4	6	11
Indiana	1	0	1
Total	10	23	33

Inventory of Abandoned Mine Land Problems

The Surface Mining Law, as amended by the Abandoned Mine Reclamation Act of 1990 (Public Law 101-508), requires the Office of Surface Mining to maintain an inventory of eligible abandoned coal mine lands that meet the public health, safety, and general welfare criteria of Section 403(a)(1) and (2). This inventory is maintained and updated to reflect reclamation accomplishments as required by Section 403(c).

The Office of Surface Mining maintains its inventory on the Abandoned Mine Land Inventory System, which is accessible from the web at www.osmre.gov/aml/inven/zintroin.htm. The system creates reports on abandoned mine land accomplishments and problems that still require reclamation. This was the seventh year the states and Indian tribes managed their own data, entering it electronically into the Office of Surface Mining’s inventory system. In 2001, this process resulted in 1,180 records added, 3,644 modified, and 81 deleted.

As of September 30, 2001, the system contained information for 16,818 problem areas, mostly related to abandoned coal mines. (A problem area is a geographic area, such as a watershed, that contains one or more abandoned mine problems. Problem area boundaries are delineated by the extent of their effect on surrounding land and water, not just the abandoned mine sites.)

The Surface Mining Law requires the Abandoned Mine Land Program to concentrate its efforts on high priority coal sites (those affecting health, safety, and general welfare, Priority 1 and 2). Although the Abandoned Mine Land Program is one of the Nation’s most successful environmental restoration programs, with over \$1.4 billion worth of coal-related high priority problems reclaimed, many projects have yet to be funded. The inventory of unfunded coal-related problems is reduced each year by state, Indian tribe, and federal reclamation projects. Unfortunately, new problems are discovered as development expands into old coal mining areas and new problems arise such as subsidence and mine fires. As of September 30, 2001, a breakdown of (Priority 1, 2, and 3) costs from the Inventory System show over \$8.8 billion of unreclaimed problems (Figure 4).

Figure 4

Completed	\$1.8 billion	17.3 percent
Funded	0.3 billion	2.4 percent
Unfunded	8.5 billion	80.3 percent
Total	\$10.6 billion	100.0 percent

During 2001, the Bureau of Land Management continued to store its federal lands abandoned mine inventory in a specially modified version of the Office of Surface Mining inventory system. People accessing either the Office of Surface Mining or Bureau of Land Management version of the system will have access to both agencies’ abandoned mine land inventories. Using the geographic information system capabilities, it will be possible to query both databases. Future plans also include access to the U.S. Forest Service and National Park Service abandoned mine inventories.

Reclamation Awards

After more than 24 years of abandoned mine land reclamation funded under the Surface Mining Law, thousands of dangerous health and safety problems have been eliminated. To enhance communication about achievements in abandoned mine land reclamation, the Office of Surface Mining has presented awards to those state and Indian Abandoned Mine Land programs responsible for completion of the most outstanding reclamation. (See www.osmre.gov/amlrules01.htm for a

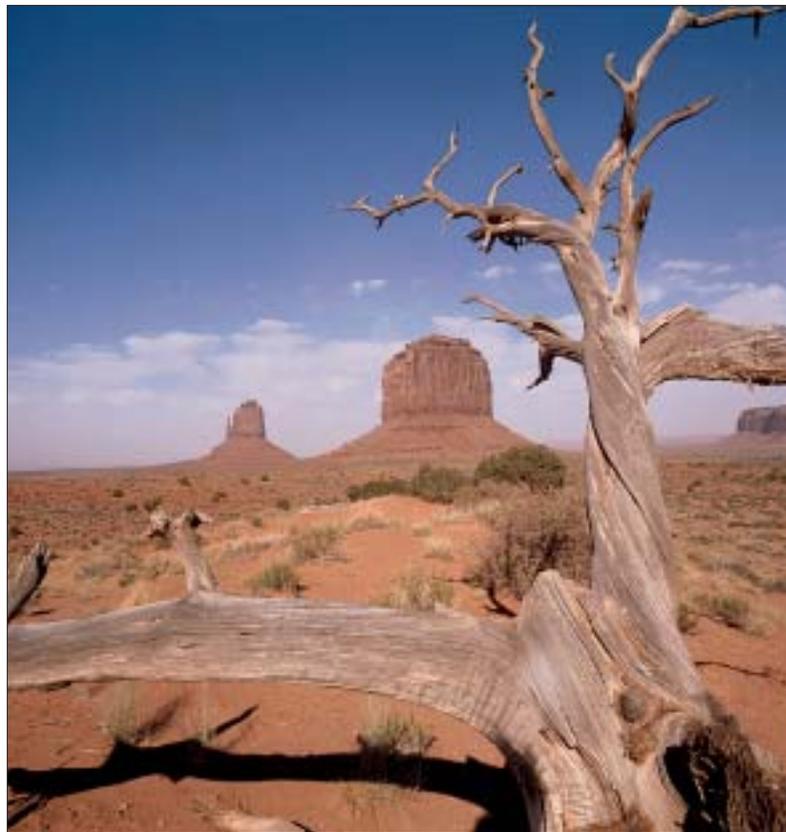
description of the awards program and the 2002 rules.) This year five awards were presented at the 2001 annual meeting of the National Association of Abandoned Mine Land Programs.

■ **National Award and Appalachian Region Award** - The Maryland Department of Environment, Water Management Administration Mining Program's Vindex Reclamation Project in Garrett County, Maryland for reclaiming a site along the North Fork of the Potomac River. In addition to serious acid mine drainage problems which threatened fish migrations in the upper Potomac River, the site contained unstable refuse piles, and dangerous highwalls near a county road. The project was Maryland's single most complex, time consuming, and costly Abandoned Mine Land reclamation project to date. It required over 55,000 man hours of work, cost more than twice Maryland's total annual Abandoned Mine Land grant allocation, and took three years to complete. With reclamation complete the hazards have been eliminated, water quality has been improved, and the river fishery has been reestablished.

■ **Mid-Continent Region Award** - The Arkansas Department of Environmental Quality's Surface Mining and Reclamation Division's West Huntington Joint Reclamation Project in Huntington, Arkansas. The Reclamation Division, joined with the U. S. Department of Agriculture's Natural Resources Conservation Service to reclaim dangerous, unstable refuse piles and highwalls, and control acid mine drainage problems. Reclamation at the site eliminated many health and safety hazards. The public is no longer in danger and the reclaimed site is being integrated back into the natural Arkansas landscape.

■ **Western Region Award and People's Choice Award** - The Utah Division of Oil, Gas, and Mining Abandoned Mine Reclamation Program's Sunnyside Project, near Sunnyside, Utah, for reclaiming nearly 200 acres of surface disturbance at the site. Reclamation included eliminating nine hazardous mine shafts, and 48 hazardous portals. Additionally, a 1/4-mile stretch of creek was restored, and 600 trees and shrubs were planted. (Note: Using the Office of Surface Mining web site, the public selects one reclamation project they think is best. This project received the most votes and became the winner of the People's Choice Award.)

For additional information on these award winning reclamation projects see www.osmre.gov/awardwin01.htm.



Reclamation of high-priority abandoned non-coal mine hazards are also accomplished under the Surface Mining Law. In Monument Valley on the Navajo Reservation, abandoned uranium mining left radioactive waste piles and dangerous mine openings. The award-winning reclamation at these sites eliminated the hazards and returned the land to its natural pre-mining condition.