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COMPTROLLER GENERAL OF THE UNITED STATES
WASHINGTON, D.C. 20548

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B-164571 March 5, 1976

The Honorable Mark Andrews
House of Representatives

RELEASED

Dear Mr. Andrews:

In response to your request of November 5, 1975, and subsequent discussions with your office, we selected Bureau of Reclamation projects for comparison with certain aspects of the Bureau's Garrison Diversion Unit in North Dakota. The comparative information we obtained on the projects is enclosed and is designed to respond to your questions concerning (1) pollutants per acre, (2) benefit-cost ratios, (3) wildlife mitigation plans, (4) recreational benefits, and (5) cost allocation per irrigated acre.

According to instructions from your office, we obtained the requested information from the Bureau and other Department of the Interior agencies but we did not verify the information provided. However, we noted inconsistencies in the practices followed by the responsible agencies in preparing the information, which could make the relative project rankings less reliable than they might be if the inconsistencies were corrected. As agreed with your office, the inconsistencies noted by us are set forth in the enclosure.

As your office requested, we did not obtain formal comments on this report from the Department of the Interior. However, we discussed the enclosed information and our observations with the Bureau's Division of Planning Coordination, Engineering and Research Center, Denver, Colorado, which has certain Bureau-wide planning responsibilities. Their comments were considered in preparing this report.

Sincerely yours,

Comptroller General
of the United States

Enclosure

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COMPARATIVE DATA ON GARRISON DIVERSION UNIT AND OTHER RECLAMATION PROJECTS

QUESTION 1

Are the estimated pollutants per acre that will be picked up by the water from irrigation of Garrison Diversion acres comparable with the pollutants picked up by the water resulting from irrigation in similar, completed projects? (While the Bureau of Reclamation uses the degree of salinity in irrigation return flows to give an indication of a project's effects on water quality, salinity levels do not consider such factors as the number of acres irrigated by a project. Therefore, pollutants per acre would be a better indication of project effect.)

ANSWER

We selected and provided the Bureau with a list of 37 completed irrigation projects. (See app. I for the list and basis of selection.) The Bureau's Division of Planning Coordination, Engineering and Research Center, Denver, Colorado, obtained information on salinity per irrigated acre for Garrison and 21 of the 37 projects. The Division said that information on the remaining projects was not available. (See app. II.) However, it stated that the 22 projects covered a wide variety of conditions encountered in most of the 17 western States and that reported return flow data for the 22 projects was representative of Bureau irrigation areas.

The Division reported that it used three methods to collect return flow data, with the selection of a particular method based upon the availability of information, such as

--existing studies and reports,

--drainage flow and quality records, or

--records of streamflow and quality above and below projects.

The Division stated that salinity in return flows, using the above methods, included calcium, magnesium, sodium, bicarbonates, chloride, sulfate, and sometimes potassium and nitrate.

The Division provided us the following return flow salinity information.

ENCLOSURE

Project or unit	State	Acreage	Salinity (tons per acre per year)	Salinity concentration (milligrams per liter)
Frenchman-Cambridge	Nebraska	58,834	.29	[a]800-1,200
Klamath	Oregon	196,644	.48	385
Columbia Basin	Washington	525,575	.66	510
Yakima	Washington	463,000	.73	414
GARRISON DIVERSION UNIT (note b)	North Dakota, South Dakota	250,000	.80	1,194
Glenn-Colusa Basin-Central Valley Project	California	113,580	.93	428
Newlands	California	49,131	.94	660
Minidoka	Idaho	72,000	.96	481
Boise	Idaho	372,787	.98	329
North Platte	Nebraska, Wyoming	407,480	1.11	[a]800-1,200
Imperial Irrigation District-All American Canal	California	434,409	1.13	[a]2,543
Riverton	Wyoming	53,000	1.18	[a]1,200
Milk River	Montana	102,000	1.45	[a] 600
Belle Fourche	South Dakota	57,000	1.54	[a]1,200
Palo Verde	Arizona, California	89,103	1.73	2,910
Yuma	Arizona, California	57,177	1.84	1,476
Huntley	Montana	27,000	2.01	[a]1,200
Sun River	Montana	110,000	2.15	[a] 600
Shoshone	Wyoming	116,000	2.50	[a]over 2,000
Gila	Arizona	95,813	4.68	2,336
Uncompahgre	Colorado	160,000	5.60	[a]4,000-6,000
Grand Valley	Colorado	75,000	8.00	[a]4,000-6,000

[a]Salinity concentration data not available. Estimated concentrations provided by the Division of Planning Coordination.

[b]Based on an estimate of the average salinity contribution over the life of the project. Salinity data for other projects are based on actual experience and the salinity concentrations may decrease over time.

Garrison, with a salinity contribution of .80 tons per acre, is in the lower quarter of projects in terms of irrigation-caused increases in salinity per acre of land benefited by each project. Garrison's salinity concentration level of 1,194 milligrams per liter is about midway among the projects listed in the analysis.

The Division explained Garrison's low relative salinity contribution, stating that the project currently had

--higher precipitation than most projects, allowing natural leeching of the land, and

--more sandy and porous soils, allowing a quicker leeching process.

The Division also said that steps to mitigate the adverse effects of irrigation-caused salinity increases will include

--better drainage facilities installed prior to irrigation;

--a highly detailed irrigation management service, designed to promote efficient irrigation;

--a high degree of care in selecting land to be irrigated; and

--less swampy land to be drained.

Although the Division said that the return flow data shown in the above table is adequate for a general comparison of Bureau projects, it stated that the lack of data on some salt constituents, variances in the reliability of data prepared by different regional offices, and limited time allowed to obtain data did not permit a detailed analysis of specific projects.

QUESTION 2

How does the most recent benefit-cost ratio for the Garrison Diversion Unit compare with similar authorized projects?

ANSWER

The Bureau includes project data sheets in its annual budget justification document submitted to the congressional appropriations committees. The most recent project data sheets, dated January 1, 1976, and prepared for the fiscal year 1977 budget submission, include the current benefit-cost ratios. Bureau officials said that the ratios shown on the project data sheets should be based on updated estimates of annual costs and benefits and should represent a current comparison of costs and benefits. We noted, however, that in some cases the benefit-cost ratios were not updated or were not updated in a consistent manner.

The following table shows the benefit-cost ratios for Garrison and similar Bureau projects. (See app. III, footnote a, for an explanation of factors considered in selecting projects for comparison.)

Comparison of Project Benefit-Cost Ratios for Fiscal Year 1977 and at Authorization

Project or unit	Bureau regional office	Project location	Benefit-cost ratio: Fiscal year 1977 budget submission	Benefit-cost ratio: At authorization
Oahe Unit	Upper Missouri	South Dakota	3.10	2.80
GARRISON DIVERSION UNIT	Upper Missouri	North Dakota, South Dakota	2.91	2.51
Auburn-Folsom South Unit	Mid-Pacific	California	2.65	3.56
San Felipe Division	Mid-Pacific	California	2.24	2.76
O'Neill Unit	Lower Missouri	Nebraska	2.10	1.42
Central Arizona Project	Lower Colorado	Arizona, California, Utah, New Mexico, Nevada	2.04	2.60
North Loup Division	Lower Missouri	Nebraska	2.00	1.23
Fruitland Mesa Participating Project	Upper Colorado	Colorado	1.78	2.10
Animas-La Plata Participating Project	Upper Colorado	Colorado, New Mexico	1.59	1.64
Narrows Unit	Lower Missouri	Colorado	1.50	1.89
Bonneville Unit	Upper Colorado	Utah	1.50	(a)
Tualatin Project	Pacific Northwest	Oregon	1.50	2.12
Teton Basin Project	Pacific Northwest	Idaho	1.50	2.29
Fryingpan-Arkansas Project	Lower Missouri	Colorado	1.49	1.59
Savery-Pot Hook Participating Project	Upper Colorado	Colorado, Wyoming	1.40	2.40
Salmon Falls Division	Pacific Northwest	Idaho	1.40	1.19
Dolores Participating Project	Upper Colorado	Colorado	1.35	1.72
San Juan-Chama Participating Project	Southwest	New Mexico, Colorado	1.30	1.15
Uintah Unit	Upper Colorado	Utah	1.30	(a)

[a] Not available.

Garrison's current benefit-cost ratio of 2.91 is the second highest among the projects we selected for comparison. In addition, the Garrison authorization ratio of 2.51 was the fifth highest when compared to other project ratios at authorization.

Division officials cited four reasons for Garrison's relatively high benefit-cost ratio:

1. Economies of scale--larger projects such as Garrison usually have higher benefits per dollar expended.

2. Storage facilities provided by another project--Garrison's source of water, storage facilities on the Missouri River, was built many years ago under a separate authorization, and most of the cost was not assigned to Garrison.

3. Lower interest rate--the Garrison authorization occurred when cost and benefits were based upon a lower interest rate than that used for later projects.

4. Full-supply irrigation (see p. 11)--more indirect benefits, such as those expected to result from the development of food processing plants, accrue to full-supply projects like Garrison than to supplemental-supply irrigation projects.

Our inquiries as to the methods used to update the benefit-cost ratio revealed that many of the projects did not have their benefits updated to 1975 prices, as was done on Garrison. Also, dissimilar bases were used in the updating process for some projects so that a comparison using the updated ratios may not be appropriate. However, if the ratios in effect at authorization are used for comparison, Garrison would rank fifth highest.

Projects with benefits not updated to 1975 prices will distort the relationship of the benefit-cost ratios. For example,

--on the Fryingpan-Arkansas Project irrigation benefits (1960), flood control benefits (1965 and 1968), fish and wildlife benefits (1969 and 1971), recreation benefits (1963, 1968, and 1969), and sediment control benefits (1953) were not updated to 1975 prices, and

--on the San Felipe Division irrigation benefits (1967) and municipal and industrial water benefits (1967) were not updated to 1975 prices.

In addition we noted several inconsistencies in the updating methods which could cause additional distortion in the ratios. For example,

--Garrison updated its municipal and industrial water benefits by the same percentage as the percentage increase in the cost of Garrison between 1962 and 1975 (238.8 percent). Another project, Auburn-Folsom South Unit, used the consumer price index to update the benefits between 1963 and 1975 (172.5 percent). The result was that the increase in the Garrison percentage for municipal and industrial water benefits was almost 40 percent higher than that of Auburn-Folsom.

--Garrison updated the irrigation benefits based upon changes in farm net income (a ratio of prices received to prices paid), while the Central Arizona Project updated irrigation benefits between 1974 and 1975 based upon differences in total multipurpose-allocated costs. The method used by the Central Arizona Project caused a 20 percent increase in irrigation benefits in 1 year, considerably higher than that resulting from the method used for Garrison and other projects.

QUESTION 3

How does the Garrison Diversion Unit's wildlife mitigation plan compare with those of similar irrigation projects? (For some completed projects, compare the mitigation plans with what was achieved.)

ANSWER

Wildlife mitigation plans for authorized projects

As agreed with your office, the comparison of wildlife mitigation plans was limited (five projects) because many of the large Bureau multipurpose irrigation projects do not have wildlife conditions similar to Garrison's.

The wildlife mitigation plans for five multipurpose projects are described on the following table. Each plan identifies the acreage withheld and the specific measures to mitigate adverse effects. All information was obtained from project environmental statements and verified by Bureau regional officials.

The table shows that Garrison's mitigation plans include significantly more acreage than any other listed project. It also shows that there are more specific mitigation efforts on Garrison than other projects.

Bureau Mitigation Plans

Project or unit	Bureau mitigation acreage	Other mitigation efforts
Garrison Diversion Unit	90,849	seed canal right-of-way; control water flow to refuges; control Audubon Lake elevation; develop and manage wildlife areas; provide stable water supply to 29,000 acres of existing wetlands
Bonneville Unit	[a,b]25,180	construct big game bridges, crossings and fences; enclose canal; reimburse Ute Indian Tribe for wildlife damages
Narrows Unit	[b]23,000	provide feed and habitat; plant thickets and windbreaks; establish State wildlife management area; protect waterfowl during reproduction season
O'Neill Unit	[a,b]15,000	provide game crossing and fencing; provide habitat on canal right-of-way and bottom lands
Oahe Unit	14,750	plant native grasses along canals; construct drains to help wetlands; clean existing channels

[a]Partial mitigation--the Bureau recognizes that additional acreage may be required to fully mitigate adverse effects, but these additional acreages have not yet been included in mitigation plans.

[b]Includes acreage other than that acquired specifically for mitigation.

Fish and Wildlife Service officials said Garrison's mitigation acreage was larger than other projects because the Congress specifically authorized the use of land for that purpose. They added that the large acreage resulted because the Bureau and Service cooperatively designed a multipurpose project.

Achievements on completed projects

The comparison of completed projects' mitigation plans was limited to (1) those studies developed within the Department of the Interior by the Fish and Wildlife Service or its predecessor, the Bureau of Sports Fisheries and Wildlife, in the Upper and Lower Missouri regions and (2) a December 1973 study by Rivus, Incorporated, a contractor for the above agencies.

Six completed Bureau projects studied within the Department were:

--Swanson Lake (Meeker-Driftwood Unit) located in Nebraska.

--Angostura Unit located in South Dakota.

--Heart Butte Unit located in North Dakota.

--Canyon Ferry Unit located in Montana.

--Boysen Unit located in Wyoming.

--Glendo Unit located in Wyoming.

The studies examined 53 of the fish and wildlife recommendations directed to the Bureau and found that the Bureau implemented all but 8. The eight were

--Glendo Unit, minimum river flow not maintained (and maybe no longer necessary), changes in rate of discharge not gradual;

--Canyon Ferry Unit, uniformity of surface level not maintained, grazing domestic stock not controlled, sufficient public ownership of land not assured;

--Angostura Unit, public access not stipulated in easement contracts, insufficient public ownership of land to guarantee preservation and cover; and

--Boysen Unit, minimum acceptable flow not maintained.

In December 1973 Rivus, Incorporated, issued "An Ex Post Evaluation of Fish and Wildlife Mitigation" for the Bureau of Sports Fisheries and Wildlife on the degree to which fish and wildlife mitigation was being implemented on 14 Bureau projects. Their conclusion was that

> "* * * although performance has varied greatly from case to case, we have found that the Bureau of Reclamation and the Bureau of Sport Fisheries and Wildlife have generally complied with the procedures set up by the Fish and Wildlife Coordination Act on the projects under investigation."[1]

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[1]The Fish and Wildlife Act, as amended (16 U.S.C. 661-666c), provides that wildlife conservation receive equal consideration and be coordinated with other features of water-resource development programs.

Three projects (Flaming Gorge, San Juan-Chama, and San Luis Unit) were singled out by Rivus as making slow or no progress on mitigation plans. Six of the projects studied by Rivus were indicated as having reached a degree of completion which equaled or exceeded the degree of completion in other project activities.

QUESTION 4

How do the estimated recreational benefits on Garrison Diversion compare with those for similar irrigation projects in the Great Plains?

ANSWER

Traditionally, the Bureau used visitor days to determine recreation benefits, and fishing and hunting days to determine fish and wildlife benefits. However, to indicate a broad range of recreational benefits, we used fishing and hunting days as well as visitor days to show recreational benefits.

For the projects we selected for comparison, the Bureau received a recreation plan from the National Park Service and fish and wildlife plan from the Fish and Wildlife Service. These plans are considered by the Bureau to be current; they outline in man-days the recreational benefits attributed to each project, as follows.

	Recreational Benefits in the Great Plains (note a)		
Project or unit	Annual visitor days	Annual fishing days	Annual hunting days
Narrows Unit	1,225,000	219,000	[b]13,100
GARRISON DIVERSION UNIT	894,431	500,000	54,600
O'Neill Unit	164,000	24,000	3,800
Oahe Unit	123,100	(c)	(c)
North Loup Division	50,000	18,900	340

[a]Based on definition of the Great Plains used by the Department of Agriculture.

[b]Net hunting days.

[c]Not available.

Garrison is the second highest of the projects in annual visitation days and the highest in fishing and hunting days. National Park Service officials stated Garrison's position is caused by high local-use trends, a wide variety of recreational experiences available due to the size of the project, and above-average recreation facilities. The Narrows Unit is rated highest, according to the same officials, because it is the only large body of water available for flat water recreation near the Denver metropolitan area.

Fish and Wildlife Service officials stated that Garrison's hunting and fishing days are high, relative to the other projects, because of the large amount of land that will be developed for wildlife habitat and substantially increased fishing opportunities at Devils Lake. They said, however, that Garrison's benefits may be overstated because the original benefits could be reduced as a result of changes that may be made in the original project plan.

QUESTION 5

How does the cost allocation per irrigated acre on the Garrison Diversion Unit compare with those for similar projects?

ANSWER

The Bureau annually calculates the investment cost per irrigated acre for irrigation projects and includes the result in the project data sheets submitted annually to the congressional appropriations committees. The most recent costs were included in the project data sheets dated January 1, 1976, for the fiscal year 1977 budget submission. Using these figures we developed the following array of costs per acre for similar projects.

ENCLOSURE

Investment Cost Per Irrigated Acre

Project or unit	Irrigated acres (note a)	Investment cost per irrigated acre
Narrows Unit	166,370 supplemental	$ 242
Teton Basin Project	37,000 full	268
	111,210 supplemental	
Fryingpan-Arkansas Project	280,600 supplemental	[b]332
San Juan-Chama	26,816 full	[b]675
Participating Project	84,378 supplemental	
Central Arizona Project	996,955 supplemental	708
Uintah Unit	7,820 full	1,109
	45,150 supplemental	
Animas-La Plata	46,520 full	1,165
Participating Project	25,600 supplemental	
Bonneville Unit	29,370 full	1,191
	213,170 supplemental	
Salmon Falls Division	14,730 full	1,358
	49,380 supplemental	
Auburn-Folsom South Unit	29,340 full	1,420
	387,750 supplemental	
Tualatin Project	10,700 full	1,741
	6,300 supplemental	
Dolores Participating	35,360 full	[c]1,750
Project	26,300 supplemental	
GARRISON DIVERSION UNIT	250,000 full	1,762
San Felipe Division	38,700 supplemental	1,803
O'Neill Unit	77,000 full	2,003
Savery-Pot Hook	17,920 full	2,032
Participating Project	14,330 supplemental	
North Loup Division	53,000 full	2,094
Oahe Unit	190,000 full	2,110
Fruitland Mesa	15,870 full	2,528
Participating Project	7,010 supplemental	

[a]Supplemental water--extra water supplied in addition to the primary source of water.
Full supply water--full or adequate initial water for irrigation.

[b]The project data sheet lists this amount as $672; however, regional officials said the correct amount was $675. In addition, regional officials said that two areas might be eliminated and, if they are, the cost per acre will fall to $569.

[c]Amount provided by regional office because project data sheets were not prepared for appropriation committees. No money would be requested in fiscal year 1977.

The Garrison investment cost of $1,762 per irrigated acre is high relative to other selected projects. However, the Bureau does not distinguish between investment costs associated with full-supply and supplemental water. Limiting the comparison to full-supply projects substantially changes the relationship; Garrison then has the lowest cost allocation per acre of the four projects selected which only receive a full water supply.

The Division explained that the Garrison cost allocation per acre is higher than many other projects when it is grouped with projects providing supplemental water. When a project supplements existing water supplies, conveyance and distribution networks are already built, requiring only construction of a connecting conveyance network and storage facilities. In contrast, full-supply projects require construction of an entirely new conveyance and distribution network.

Also, the entire supplemental acreage is divided into the irrigation cost allocation although the area may receive a minimal amount of water. The cost per acre does not distinguish between acreages receiving 1 foot or 1 inch of water. The result is often a much lower cost per acre for supplemental water projects. Because irrigation costs are not allocated according to type of irrigation, it is difficult to relate the Garrison Diversion Unit cost allocations per acre to projects providing both types of water supplies.

APPENDIX I

COMPLETED BUREAU PROJECTS SUBMITTED TO BUREAU'S DIVISION OF PLANNING COORDINATION (note a)

Project or unit	State	Irrigated acres, full (F) or supplemental (S)	
Belle Fourche	South Dakota	F	57,068
Boise	Idaho, Oregon	F	224,761
		S	165,365
Carlsbad	New Mexico	F	25,055
Central Valley	California	F	49,943
		S	2,142,708
Columbia Basin	Washington	F	517,537
Deschutes	Oregon	F	50,000
Huntley	Montana	F	27,333
Klamath	California, Oregon	F	224,140
Lower Rio Grande (La Feria)	Texas	F	33,645
Lower Rio Grande (Mercedes)	Texas	F	72,100
Lower Yellowstone	Montana, North Dakota	F	52,221
Middle Rio Grande	New Mexico	F	89,711
Milk River	Montana	F	120,829
Minidoka	Idaho, Wyoming	F	216,796
		S	945,354
Newlands Projects	Nevada, California	F	73,002
North Platte	Wyoming, Nebraska	F	226,237
Owyhee	Oregon, Idaho	F	105,249
		S	13,000
Ainsworth Unit	Nebraska	F	33,960
Bostwick Division	Nebraska, Kansas	F	62,887
Gila	Arizona	F	112,502
Salt River	Arizona	F	238,264
All American Canal	Arizona, California	F	608,530
Palo Verde Diversion	Arizona, California	F	91,595
Yuma	Arizona, California	F	67,898
Solano	California	F	71,589
		S	24,209

Project or unit	State	Irrigated acres, full (F) or supplemental (S)	
Grand Valley	Colorado	F	33,368
Farwell Unit	Nebraska	F	47,925
Frenchman-Cambridge Division	Nebraska	F	56,490
		S	9,600
Riverton Unit	Wyoming	F	56,487
Rio Grande	New Mexico, Texas	F	178,196
		S	18,342
Shoshone	Wyoming, Montana	F	88,779
Sun River	Montana	F	91,011
Tucumcari	New Mexico	F	41,397
Uncompahgre	Colorado	F	76,330
Vale	Oregon	F	34,993
W. C. Austin	Oklahoma	F	47,228
Yakima	Washington	F	280,173
		S	181,975

[a] We submitted projects which provided a full water supply to at least 25,000 acres. Although Garrison provides a full water supply to 250,000 acres, projects with at least 25,000 full supply acres were selected in order to obtain projects for each Bureau region.

PROJECTS FOR WHICH INFORMATION WAS NOT AVAILABLE

Deschutes--Data not available.

Owyhee--Data not available.

Vale--Data not available.

Solano--Lack of reliable data on drainage outflow and water quality.

Salt River--No significant drainage returns. Return flow enters declining ground-water table and is reused.

Carlsbad--Data not available.

Lower Rio Grande--Data not available.

Middle Rio Grande--Data not available.

Rio Grande--Data not available or inconclusive.

Tucumcari--Data not available.

W. C. Austin--Data not available.

Lower Yellowstone Project--Lack of data; only one U.S. Geological Survey gauging station located near project.

Ainsworth Unit--Data not available.

Bostwick Division--Results inconclusive. Figures ranged from 1.66 to 10.65 tons/acre for 5 years.

Farwell Unit--Lack of sufficient data. South Loup River nearly doubles discharge of Middle Loup River between gauging stations. No records on South Loup.

INFORMATION ON PROJECTS SELECTED FOR QUESTIONS 2, 3, 4, AND 5 (note a)

Project or unit (note b)	Estimated Bureau obligations	Bureau region	Authorization	Location	Percent complete	Irrigated acres supplemental (S) or full (F)
Central Arizona Project	$1,574,982,000	Lower Colorado	PL 90-537	Arizona, Nevada, California, Utah, New Mexico	18	S 996,955
Auburn-Folsom South Unit, Central Valley Project	983,582,000	Mid-Pacific	PL 89-161	California	16	S 387,750 F 29,340
Bonneville Unit, Central Utah Participating Project	688,716,072	Upper Colorado	PL 84-485	Utah	16	S 213,170 F 29,370
Fryingpan-Arkansas Project	539,978,000	Lower Missouri	PL 87-590 PL 93-493	Colorado	41	S 280,600
GARRISON DIVERSION UNIT, Pick-Sloan Missouri Basin Program	495,792,034	Upper Missouri	PL 89-108	North Dakota, South Dakota	19	F 250,000
Oahe Unit, Pick-Sloan Missouri Basin Program	410,000,000	Upper Missouri	PL 90-453	South Dakota	4	F 190,000
San Felipe Division, Central Valley Project	174,869,000	Mid-Pacific	PL 90-72	California	1	S 38,700
O'Neill Unit, Pick-Sloan Missouri Basin Program	159,090,000	Lower Missouri	PL 92-514	Nebraska	0	F 77,000
Narrows Unit	137,000,000	Lower Missouri	PL 91-389	Colorado	0	S 287,070
Dolores Participating Project	129,704,000	Upper Colorado	PL 90-537	Colorado	0	S 26,300 F 35,360
Animas-La Plata Participating Project	114,081,800	Upper Colorado	PL 90-537	Colorado, New Mexico	0	S 25,600 F 46,520

APPENDIX III

Project or unit (note b)	Estimated Bureau obligations	Bureau region	Authorization	Location	Percent complete	Irrigated acres supplemental (S) or full (F)	
North Loup Division, Pick-Sloan Missouri Basin Program	$111,720,000	Lower Missouri	PL 92-514	Nebraska	0	F	53,000
San Juan-Chama Participating Project	108,617,000	Southwest	PL 87-483	Colorado, New Mexico	65	S F	84,378 26,816
Teton Basin Project, Lower Teton Division	102,410,000	Pacific Northwest	PL 88-583	Idaho	61	S	111,210
Salmon Falls Division Upper Snake River Project	82,950,000	Pacific Northwest	PL 92-514	Idaho	0	S F	49,380 14,730
Savery-Pot Hook Participating Project	68,716,000	Upper Colorado	PL 88-568	Colorado, Wyoming	2	S F	14,330 17,920
Uintah Unit, Central Utah Participating Project	68,660,000	Upper Colorado	PL 90-537	Utah	0	S F	45,150 7,820
Fruitland Mesa Participating Project	60,981,323	Upper Colorado	PL 88-568	Colorado	3	S F	7,010 15,870
Tualatin Project	52,112,000	Pacific Northwest	PL 89-596 PL 94-180	Oregon	59	S F	6,300 10,700

[a]To be selected projects must (1) be multipurpose, (2) cost at least $50 million, (3) irrigate 10,000 acres, and (4) deliver water after 1970.

[b]West Divide Participating Project and the San Luis Unit, Central Valley Project, also met the above criteria; however, West Divide was eliminated because the regional office said that the current plan did not accurately represent what would be built and San Luis Unit was eliminated because more than $362 million was allotted before June 30, 1975, far more than any other project in the selection.

APPENDIX III