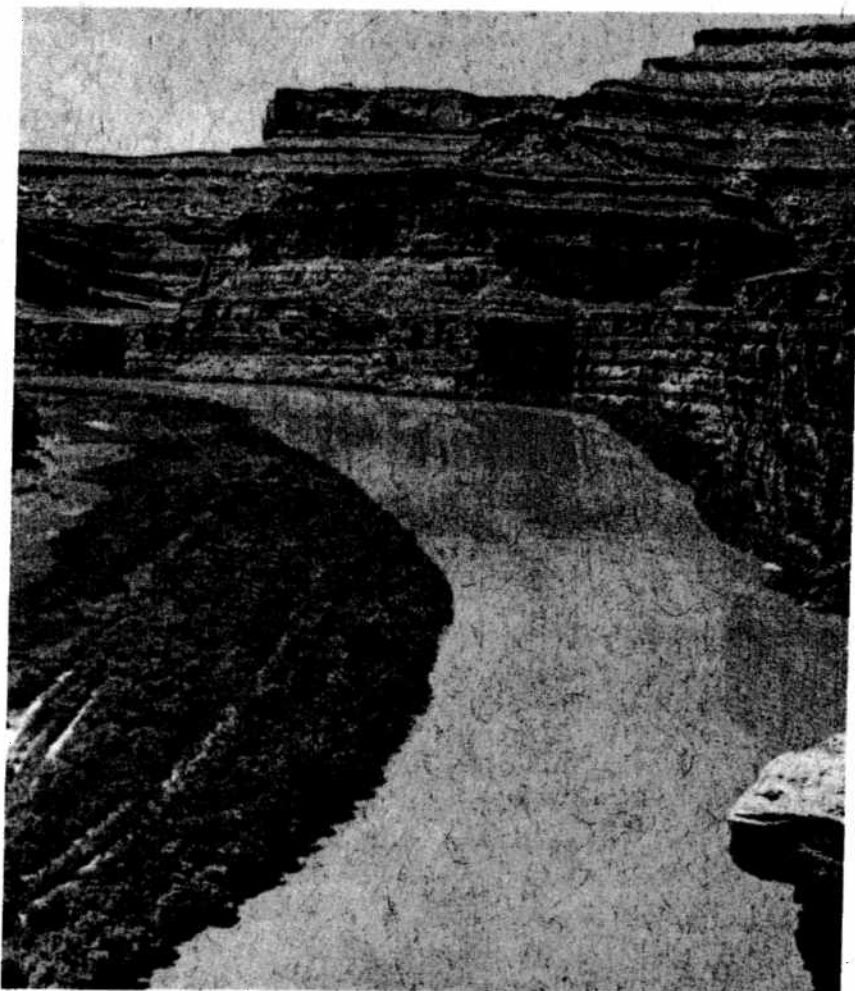
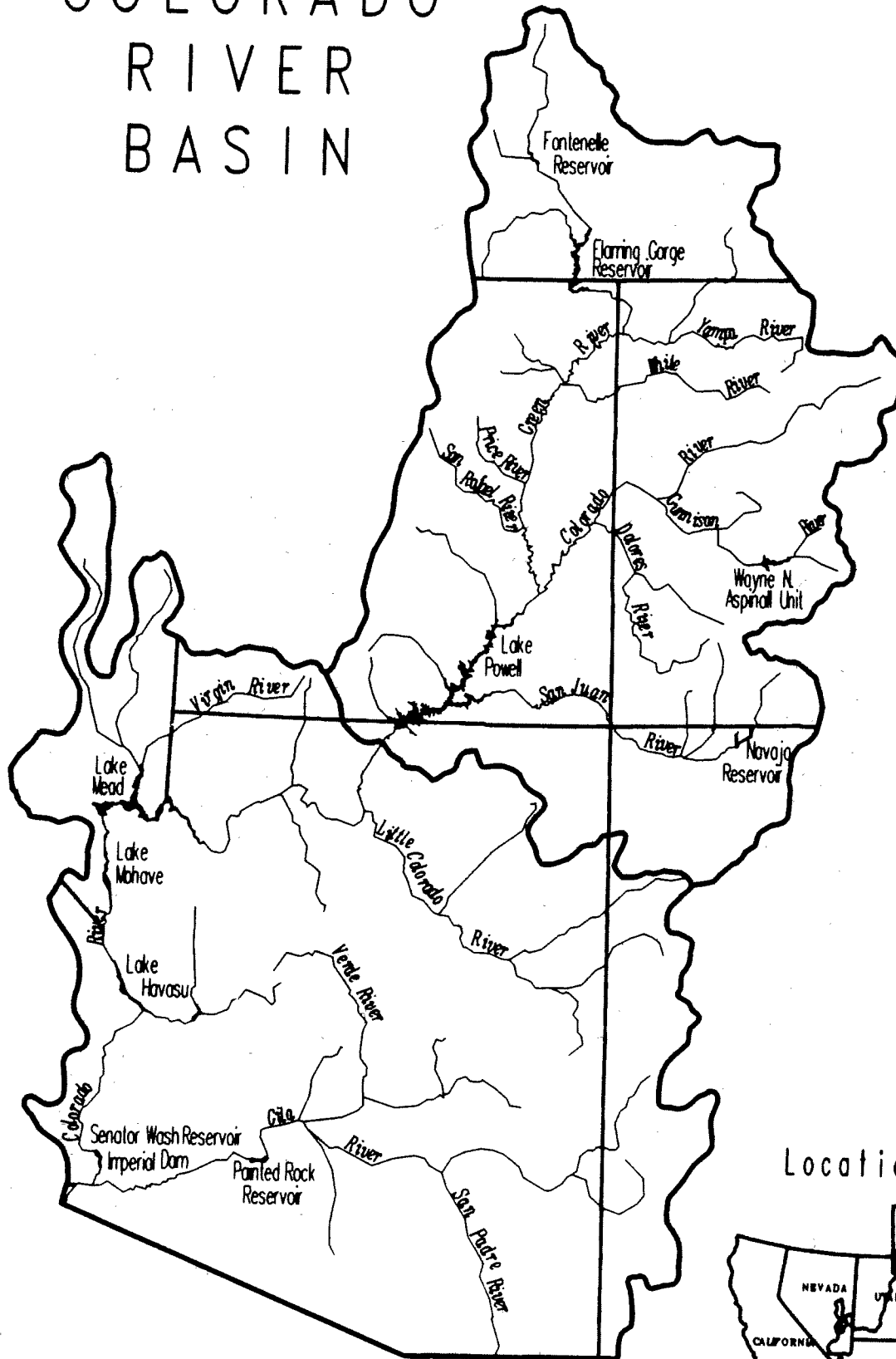


OPERATION OF THE COLORADO RIVER BASIN 1992
PROJECTED OPERATIONS 1993

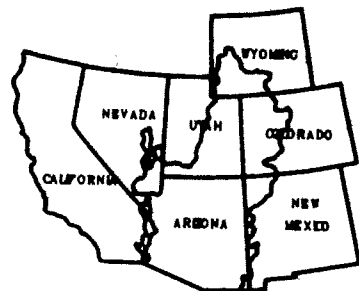


22nd ANNUAL REPORT

COLORADO RIVER BASIN



Location Map



CONTENTS

Introduction	1
Authority for Report	1
Actual Operations Under Criteria - Water Year 1992	2
Projected Plan of Operation - Water Year 1993	
Determination of "602(a) Storage"	3
Mexican Treaty Obligations	3
Projected Plan	4
Upper Basin Reservoirs	
Fontenelle Reservoir (Green River)	5
Flaming Gorge Reservoir (Green River)	7
Wayne N. Aspinall Unit - Blue Mesa, Morrow Point, and Crystal Reservoirs - (Gunnison River)	9
Navajo Reservoir (San Juan River)	11
Lake Powell (Colorado River)	13
Lower Basin Reservoirs	
Lake Mead (Colorado River)	15
Lake Mohave (Colorado River)	17
Lake Havasu (Colorado River)	19
Reservoir Operations	21
Flood Control	22
Beneficial Consumptive Uses	
Upper Basin Uses and Losses	23
Lower Basin Uses and Losses	23
Water Use by States	24
Power Operations and Major Maintenance Activities	
Upper Basin - Colorado River Storage Project	25
Lower Basin	27

United States
Department of the Interior
Bureau of Reclamation

January 1993

Prepared pursuant to the Colorado River
Basin Project Act of 1968
Public Law 90-537

Introduction

The operation of the Colorado River Basin during the past year and the projected operation for the current year reflect flood control, river regulation, beneficial consumptive uses, hydroelectric power generation, water quality control, enhancement of fish and wildlife, recreation, and Colorado River Compact requirements.

Storage and release of water from the Upper Basin reservoirs are governed by all applicable laws and agreements concerning the Colorado River, including the impoundment and release of water in the Upper Basin required by Section 602(a) of the Colorado River Basin Project Act of September 30, 1968 (Public Law 90-537). The operation of the Lower Basin reservoirs reflects Mexican Treaty obligations and Lower Basin contractual commitments.

Nothing in this report is intended to interpret the provisions of the Colorado River Compact (45 Stat. 1057), the Upper Colorado River Basin Compact (63 Stat. 31), the Water Treaty of 1944 with the United Mexican States (Treaty Series 994, 59 Stat. 1219), the United States/Mexico agreement in Minute No. 242 of August 30, 1973, (Treaty Series 7708; 24 UST 1968), the Decree entered by the Supreme Court of the United States in *Arizona v. California et al.* (376 U.S. 340), the Boulder Canyon Project Act (45 Stat. 1057), the Boulder Canyon Project Adjustment Act (54 Stat. 774; 43 U.S.C. 618a), the Colorado River Storage Project Act (70 Stat. 105; 43 U.S.C. 620), the Colorado River Basin Project Act (82 Stat. 885; 43 U.S.C. 1501), the Colorado River Salinity Control Act (88 Stat. 266; 43 U.S.C. 1951), or the Hoover Power Plant Act of 1984 (98 Stat. 1333).

Authority for Report

Pursuant to the Colorado River Basin Project Act (Public Law 90-537) of 1968, I am pleased to present to the Congress, and to the Governors of the Colorado River Basin States, the twenty-second annual report on the Operation of the Colorado River Basin.

This report describes the actual operation of the reservoirs in the Colorado River drainage area constructed under the authority of the Colorado River Storage Project Act, the Boulder Canyon Project Act, and the Boulder Canyon Project Adjustment Act during water year 1992, and the projected operation of these reservoirs during water year 1993, under the "Criteria for Coordinated Long-Range Operation of Colorado River Reservoirs," (Operating Criteria) published in the Federal Register June 10, 1970.

The Operating Criteria and Section 602 of Public Law 90-537 mandate consultation with representatives of the Governors of the seven Basin States and the Upper Colorado River Commission relative to annual plans for operation of the Colorado River reservoirs. The 1993 Annual Operating Plan (AOP) was prepared by the Bureau of Reclamation in consultation with the Governors' representatives of the seven Basin States, the Upper Colorado River Commission, and others.

Manuel Lujan, Jr., Secretary
United States Department of the Interior

Actual Operations Under Criteria - Water Year 1992

Water year 1992 can be characterized by a wide variation in water supply conditions within the basin. Basinwide precipitation during 1992 was almost 90 percent of average with tributary river basin precipitation ranging from 60 to 150 percent of the 25 year average. Although precipitation was nearly normal basinwide, it did not translate into normal snowpack or runoff. In early fall of 1991, snowpack levels were well above average throughout the basin. As the snow accumulation season continued, a pattern of southerly storms developed. This left the northern portion of the basin with extremely low snowpack levels, and the southern portion of the basin with slightly above normal levels.

Unregulated inflow into Lake Powell was only 4.2 million acre-feet or 52 percent of average during April through July 1992. This resulted in the continued drawdown of the Colorado River System reservoirs. The October 1, 1992, Colorado River system vacant space was 19.7 million acre-feet. Aggregate Colorado River live storage at the end of the year was 41.2 million acre-feet. Aggregate storage decreased in water year 1992 by 1.0 million acre-feet. This large vacant space is a result of the lowest 6 consecutive years of inflow on record (1987 through 1992) into Lake Powell. During this drawdown period, all deliveries of water to meet

obligations pursuant to "The Law of the River" have been maintained.

Total releases from Glen Canyon Dam (deliveries from the Upper Basin to the Lower Basin) for water year 1992 were 8.23 million acre-feet. The 1992 operation plan allowed the water needs of the Lower Basin states to be satisfied, up to 7.5 million acre-feet of beneficial consumptive use, during the calendar year.

During water year 1992, Mexico received a total delivery of about 1,403,000 acre-feet at the Northerly International Boundary (NIB). Of the 1,403,000 acre-feet of Colorado River water reaching the NIB, about 343,000 acre-feet were delivered through the Pilot Knob Powerplant and Wasteway from the All-American Canal. An estimated 385,000 acre-feet were released through Laguna Dam. The remainder of the flow at the NIB was made up of return flows to the Colorado River below Laguna Dam.

Projected Plan of Operation - Water Year 1993

Determination of "602(a) Storage"

Section 602(a)(3) of the Colorado River Basin Project Act of September 30, 1968 (Public Law 90-537), stipulates that Colorado River water, which is not required to be released under article III(c) and III(d) of the Colorado River Compact, be stored in Upper Basin reservoirs to the extent the Secretary of the Interior (Secretary) finds such storage necessary to assure compact deliveries without impairment of annual consumptive uses in the Upper Basin.

Article II of the Operating Criteria provides that the annual plan of operation shall include a determination by the Secretary of the quantity of water considered necessary to be in Upper Basin storage as of September 30 of the current year.

This determination shall consider all applicable laws and relevant factors including, but not limited to, the following: (a) historic streamflows; (b) the most critical period of record; (c) probabilities of water supply; (d) estimated future depletions in the Upper Basin, including the effects of recurrence of critical periods of water supply; (e) the "Report of the Committee on Probabilities and Test Studies to the Task Force on Operating Criteria for the Colorado River," dated October 30, 1969, and such additional studies as the Secretary deems necessary; and (f) the necessity to assure that Upper Basin consumptive uses are not impaired because of failure to store sufficient water to assure deliveries under Section 602(a)(1) and (2) of Public Law 90-537.

Taking into consideration these relevant factors, the Secretary has determined that the active storage in Upper Basin reservoirs forecast for September 30, 1993, exceeds the "602(a) Storage" requirement under any reasonable range of assumptions which might be applied to those items previously listed. Therefore, the accumulation of "602(a) Storage" is not the criterion governing the release of water during the current year.

Mexican Treaty Obligations

Annual calendar year schedules of monthly deliveries of water in the limitrophe section of the Colorado River, allotted in accordance with the Mexican Water Treaty signed in 1944, are formulated by the Mexican Section and presented to the United States Section, International Boundary and Water Commission (Commission), before the beginning of each calendar year. Upon 30 days advance notice to the United States Section, Mexico has the right to modify, within the total schedule, any monthly quantity prescribed by the schedule by not more than 20 percent.

Based on the current water supply conditions, the United States will make scheduled deliveries of 1,500,000 acre-feet of Colorado River water to the Republic of Mexico in calendar year 1993. Representatives of the Republic of Mexico will be kept informed of operating schedules through the United States Section of the Commission.

Projected Plan

In addition to compliance with the Operating Criteria, several specific operating issues were addressed during the preparation of the annual operating plan for water year 1993. The operating issues addressed which are listed in no particular order of priority are: (1) meeting the reasonable beneficial Colorado River mainstream consumptive water uses in the Lower Division States as provided by the Operating Criteria, (2) the delivery of firm power in accordance with energy contracts, (3) minimum and specific releases for fish and wildlife and recreational purposes, (4) refilling of vacant system reservoir storage space, (5) compliance with the 1944 Mexican Water Treaty and Minute No. 242 of the IBWC, (6) complying fully with compact, decree, statutory, and water delivery obligations, and (7) other short- and long-term effects of 1993 water use decisions.

For 1993 operations, three reservoir inflow scenarios were developed and analyzed. The projected monthly inflows were based upon current hydrological conditions and the following assumptions: (1) probable maximum, based upon the annual volume of inflow which would be exceeded about 10 percent of the time, (2) most probable, based upon annual volume of inflow which would be exceeded about 50 percent of the time; and, (3) probable minimum, based upon the annual volume of inflow which would be exceeded about 90 percent of the time. Each scenario was adjusted for current basin conditions; therefore, the magnitude of the three scenarios does not necessarily match the historical upper decile, mean, and lower decile inflows, respectively. The National Weather Service's computer model, known as the Extended Streamflow Prediction model (ESP), uses current basin conditions as well as historical data to predict a range of possible future stream flows. Although there is a wide confidence band associated with stream flow forecasts made a year in advance, the data are valuable in analyzing the possible impacts on project uses and purposes. The inflow volumes resulting from these assumptions were used as input data in Reclamation's monthly reservoir operation planning computer model, which is used to plan reservoir operations for the upcoming 12-month period.

At several locations in the Colorado River Basin, minimum instream flow levels have been established which preserve the

present aquatic resources downstream of certain Colorado River Basin dams. The construction and operation of dams in the basin have had both positive and negative effects on aquatic resources. Controlled cool water releases from dams in the Colorado River Basin have provided for increased productivity of some aquatic resources and the development of significant sport fisheries. However, the same releases could be detrimental to endangered and other native species of fishes.

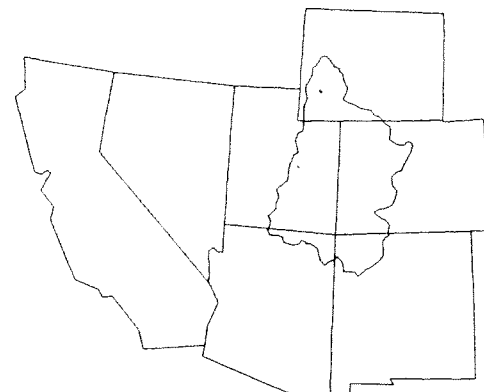
Section 7 consultations were continued in 1992 on the operation of the Aspinall Unit on the Gunnison River and the Animas La-Plata Project on the San Juan River (which affects the operation of Navajo Reservoir). These, along with the ongoing Section 7 consultation on Flaming Gorge and the interim flow restriction on releases from Lake Powell, will continue in water year 1993. Studies associated with these consultations will be used to better understand the flow related needs of the endangered and other native species of fish.

Modifications to planned operations may be made based upon changes in forecasted conditions. However, because of the Recovery Implementation Program for Endangered Fish Species in the Upper Colorado River Basin, Section 7 consultations, and other downstream concerns, modification to the monthly operation plans are no longer primarily forecast based. Decisions on spring peak releases and downstream habitat target flows must be made midway through the runoff season. Reclamation and the Fish and Wildlife Service will initiate meetings with interested parties, including representation of the basin states, to facilitate the decisions necessary to finalize site specific operations plans. All operations will be undertaken subject to the primary water storage and delivery requirements established by the Law of the River.

There is a reasonable expectation that mainstem consumptive use in the Lower Division States will not exceed 7.5 million acre-feet in 1993. It is therefore expected that all reasonable beneficial consumptive use needs of the Lower Colorado mainstem users will be met in 1993.

UPPER BASIN RESERVOIRS

FONTENELLE RESERVOIR (GREEN RIVER)



Water Year 1992

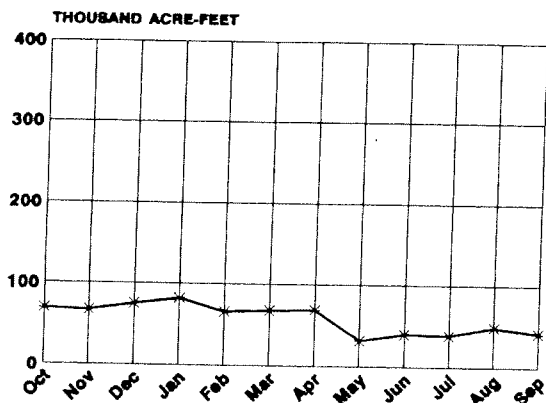
Water year 1992 marked the third full year of normal operations for Fontenelle Reservoir since the construction of a concrete cutoff wall to reduce seepage through the dam. The concrete cutoff wall is performing satisfactorily, as seepage past the dam has been reduced considerably.

The April through July runoff into Fontenelle Reservoir was 269,000 acre-feet which was 32 percent of average. This is approximately the same runoff that was experienced in 1977, the previous record low runoff year. Inflow for the entire 1992 water year was 558,000 acre-feet, 47 percent of average. The

total release from Fontenelle Dam for water year 1992 was 688,000 acre-feet.

Peak inflow into Fontenelle Reservoir was 2,400 cubic feet per second on May 28, 1992. Even though releases were made at near minimum levels commencing in April 1992, and remained at this level through the remainder of water year 1992, Fontenelle was approximately 20 feet short of filling in 1992. Approximately 27,000 acre-feet of water bypassed the turbines.

ACTUAL RELEASES 1992



FONTENELLE RESERVOIR

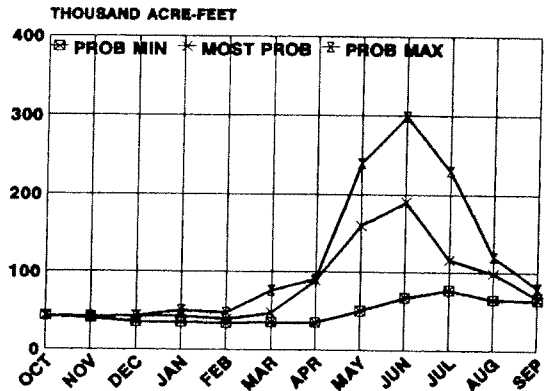
Reservoir	Acre-feet	Elevation, feet
Storage Capacity	344,834	6506
Rated Head	233,789	6491
Minimum Power	194,962	6485
Surface Area, full		8,058 Acres
Reservoir Length, full		18 Miles
Powerplant		
Number of Units		1
Total Capacity		10,000 KW

Water Year 1993

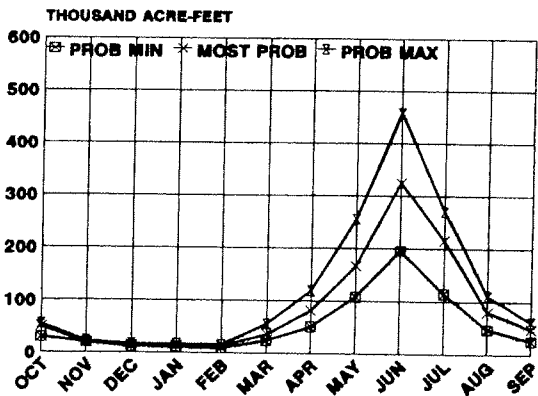
Since the mean annual inflow of 1.2 million acre-feet far exceeds the storage capacity of 345,000 acre-feet, there is little chance that the reservoir will not fill during water year 1993. In order to minimize the high releases that occur in the spring and to ensure that the reservoir fills, it will be drawn down to an appropriate level this winter, probably to minimum pool elevation (6463 feet) which corresponds to a volume of 93,000 acre-feet.

To meet the previously stated operation objectives, a constant release of approximately 500 to 600 cubic feet per second will be made through the fall and winter months. Releases at this level will provide an appropriate level of reservoir drawdown for the 1993 runoff season, while ensuring that downstream water rights including municipal and industrial needs are met. The reservoir is expected to fill in the summer of 1993.

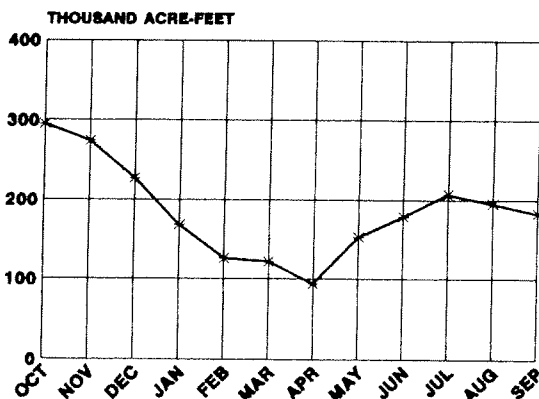
PROJECTED RELEASES 1993



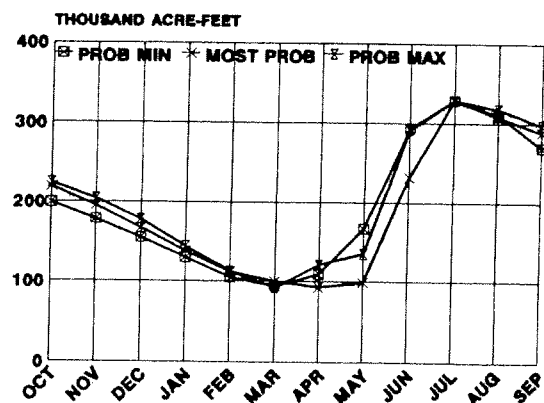
PROJECTED INFLOW 1993



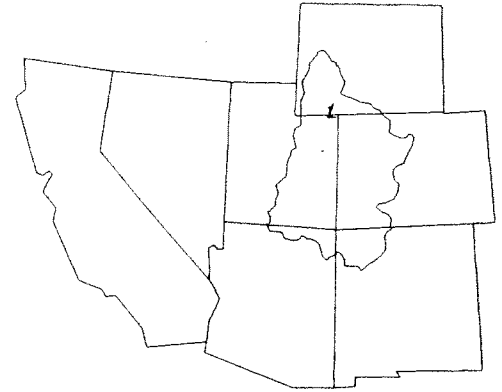
ACTUAL STORAGE 1992



PROJECTED STORAGE 1993



FLAMING GORGE RESERVOIR (GREEN RIVER)



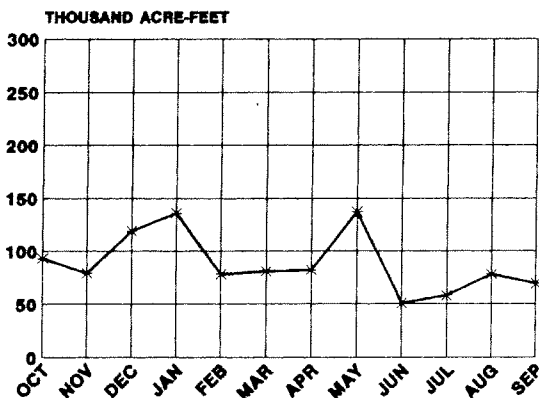
Water Year 1992

The elevation of Flaming Gorge Reservoir at the beginning of water year 1992 was 6031.1 feet with 3,389,300 acre-feet of live storage (90 percent of capacity). At the end of the water year, the elevation was 6023.6 feet. Live storage on September 30, 1992 was 3,106,204 acre-feet (83 percent of capacity).

As with other drainage areas in the Upper Colorado River Basin, precipitation in the Green River Basin was near normal, but the quantity of runoff was reduced due to the dry antecedent conditions of the basin. Unregulated inflow into Flaming Gorge Reservoir for water year 1992 was 772,000 acre-feet, 47 percent of normal. Actual regulated inflow was 851,000 acre-feet.

A Final Draft Biological Opinion (FDBO) from the Fish and Wildlife Service on the operation of Flaming Gorge Reservoir was issued in February of 1992. The FDBO outlined how the reservoir should be operated during the spring, summer, and early fall months in order to provide better habitat for endangered endemic species of fish. The FDBO requires 5 years of additional studies to determine the flow needs of the endangered fish during the spring and winter months. In 1992, Flaming Gorge was operated in accordance with the FDBO by making a 4,200 cubic feet per second release for 1 week in May and by maintaining a flow of between 1,350 and 1,800 cubic feet per second at the Green River near Jensen, Utah, gaging station during the summer and early fall.

ACTUAL RELEASES 1992



FLAMING GORGE RESERVOIR

Reservoir	Acre-feet	Elevation, feet
Storage Capacity	3,749,000	6040
Rated Head	1,062,000	5946
Minimum Power	233,000	5871
Surface Area, full		42,020 Acres
Reservoir Length, full		91 Miles

Powerplant

Number of Units	3
Total Capacity	108,000 KW

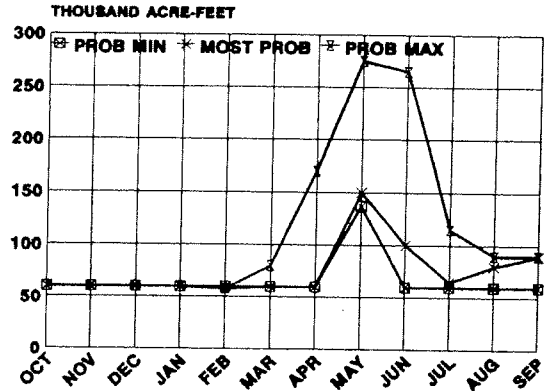
Water Year 1993

The Green River below Flaming Gorge Dam has been determined to be habitat of Colorado Squawfish. Restrictions on releases from Flaming Gorge Reservoir have been implemented to improve habitat conditions for young Colorado Squawfish. During water year 1993, release restrictions, as recommended by the U.S. Fish and Wildlife Service, will be maintained.

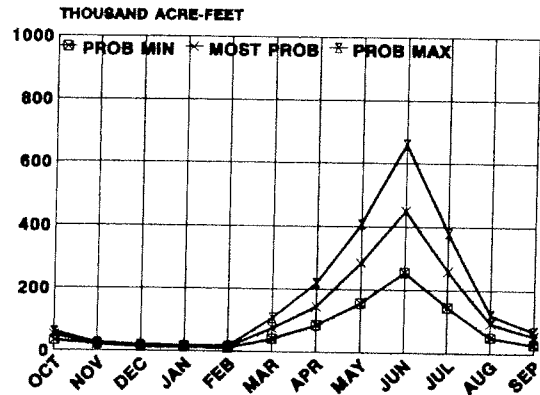
In water year 1993, Flaming Gorge will be operated according to the FDBO. This operation will include high spring releases to coincide with the peak flow of the Yampa River and low stable flows between 1,100 and 1,800 cubic feet per second near the Jensen, Utah, gaging station during the summer and fall months.

Flaming Gorge is not expected to fill in 1993 except under the probable maximum inflow scenario. Under the most probable inflow scenario, Flaming Gorge is expected to gain storage but will still be approximately 6 feet short of filling.

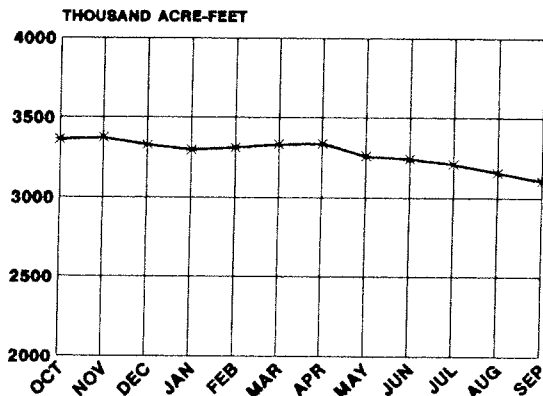
PROJECTED RELEASES 1993



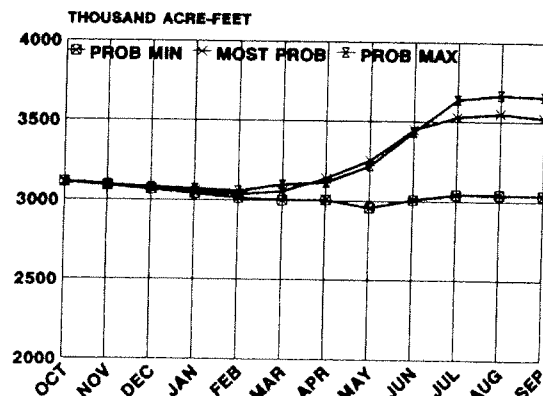
PROJECTED UNREGULATED INFLOW 1993



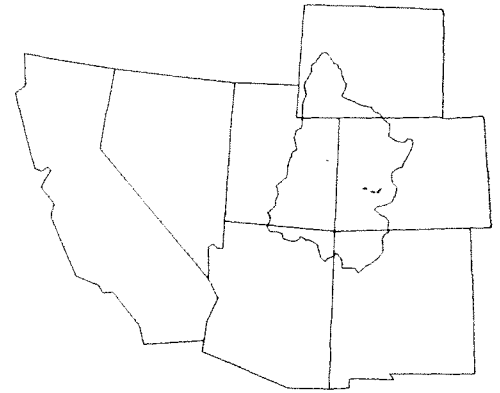
ACTUAL STORAGE 1992



PROJECTED STORAGE 1993



WAYNE N. ASPINALL UNIT BLUE MESA, MORROW POINT, AND CRYSTAL RESERVOIRS (GUNNISON RIVER)



Water Year 1992

The Wayne N. Aspinall Unit, is comprised of Blue Mesa, Morrow Point, and Crystal Reservoirs. Blue Mesa provides nearly all of the long-term storage for all three powerplants. Morrow Point provides peaking power, and thus has highly variable releases. The primary function of Crystal Reservoir is to regulate the variable Morrow Point releases. Live storage capacities for Morrow Point and Crystal Reservoirs are 117,000 and 17,500 acre-feet respectively.

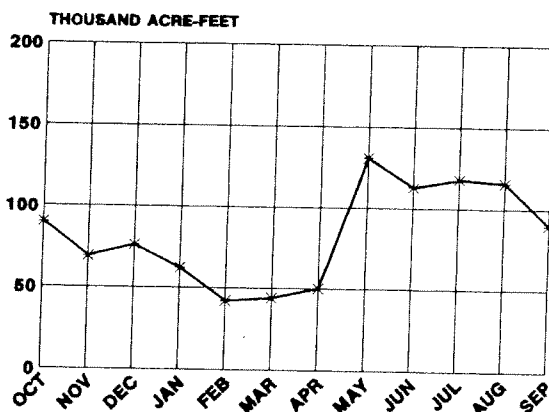
April through July unregulated runoff into Blue Mesa Reservoir was 467,000 acre-feet, or 60 percent of average. The total unregulated inflow for water year 1992 inflow was 705,000 acre-feet, or 65 percent of average. The peak regulated inflow to Blue Mesa was 6,300 cubic feet per second on June 4, 1992. Releases from Blue Mesa Reservoir totaled 791,500 acre-feet for the water year.

Morrow Point Reservoir was operated between elevations 7151 and 7158 feet. Side inflow to Morrow Point Reservoir for water year 1992 was 82,800 acre-feet. A total of 875,000 acre-feet was released during the water year, with all but 5,000 acre-feet passing through the powerplant. Total releases from

Crystal Reservoir for water year 1992 was 1,006,000 acre-feet, of which 50,000 acre-feet bypassed the powerplant.

Section 7 consultation with the Fish and Wildlife Service on the operation of the Aspinall Unit was continued in 1992. As a result, Reclamation and the Fish and Wildlife Service developed a 5 year plan of study to assess the effects of various reservoir release patterns on fish habitat, reproduction success, and possible re-introduction of endangered fish into the Gunnison River. Studies began during the spring of 1992. The plan recommends that through 1996, peak spring flows in the Gunnison River at the Whitewater gage should be 2,000 to 5,000 cubic feet per second for 1 year; 5,000 to 10,000 cubic feet per second for 1 year; above 12,000 cubic feet per second for 2 years; and above 15,000 cubic feet per second for 1 year (basically, 2 years of relatively low flows and 3 years of relatively high flows). Peak flows will be timed to coincide with peaks on the Colorado River, most likely to occur between May 15 and June 15. A gradually descending limb of the hydrograph will be followed by lower stable flows the remainder of the year. Gunnison flows during 1992 were in the low range and will be counted as one of the two low years.

ACTUAL CRYSTAL RELEASES 1992



BLUE MESA RESERVOIR

Reservoir	Acre-feet	Elevation, feet
Storage Capacity	829,523	7519
Rated Head	249,395	7438
Minimum Power	81,070	7393
Surface Area, full		9,180 Acres
Reservoir Length, full		24 Miles

Powerplants (Blue Mesa, Morrow Point, & Crystal)

Number of Units	5
Total Capacity	208,000 KW

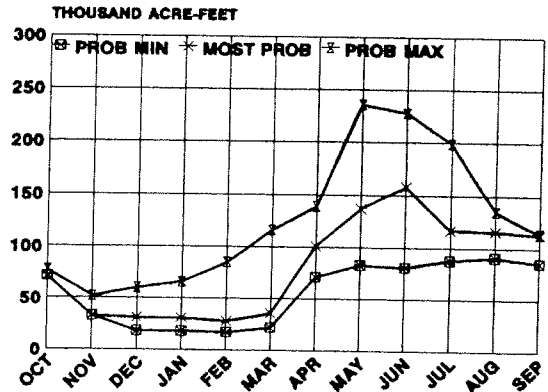
Water Year 1993

By December 1992, Blue Mesa Reservoir will be drawn down to at least an elevation of 7490.0 acre-feet in order to minimize icing problems in the Gunnison River. Blue Mesa will continue to be drawn down through April of 1993 to the level that will accommodate the most probable inflow scenario and accomplish the release objectives with a minimum of powerplant bypasses. Under all but the most adverse inflow scenarios, Blue Mesa is expected to fill in the summer of 1993. The filling of the reservoir next year will insure that reasonable specific releases required to study the protection and improvement of habitat for endangered fish can be made. The forecasted runoff during the spring of 1993 will be constantly monitored to achieve these objectives.

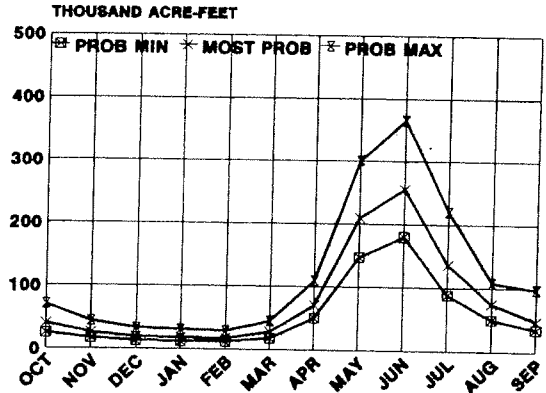
The minimum release objective of the unit is to meet the delivery requirements of the Uncompahgre Valley Project and to keep a minimum of 300 cubic feet per second flowing through the Black Canyon of the Gunnison National Monument. To protect the blue ribbon trout fishery in the Black Canyon and maximize recreation potential, releases during 1993 will be carefully planned to minimize large fluctuations in the daily and monthly flows.

Assuming most probable inflow conditions, releases from Crystal Reservoir will range from 1,200 cubic feet per second to the maximum capacity of 4,200 cubic feet per second.

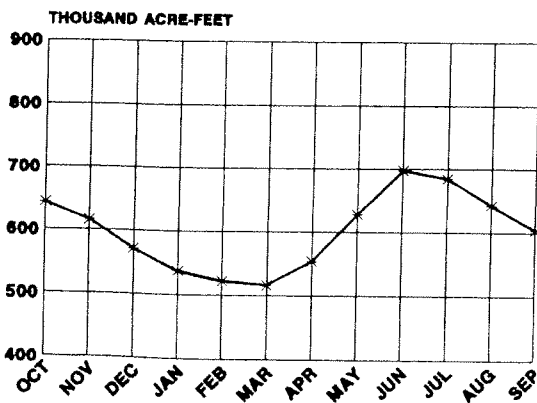
PROJECTED CRYSTAL RELEASES 1993



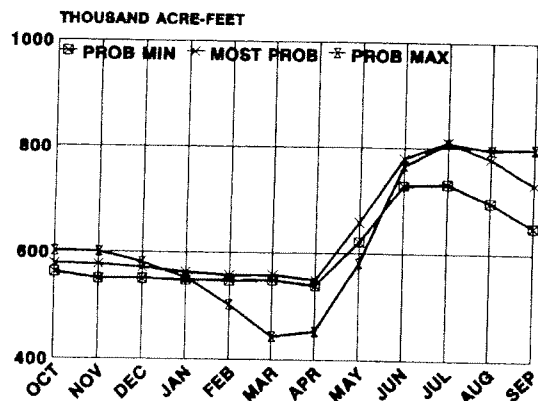
BLUE MESA UNREGULATED INFLOW 1993



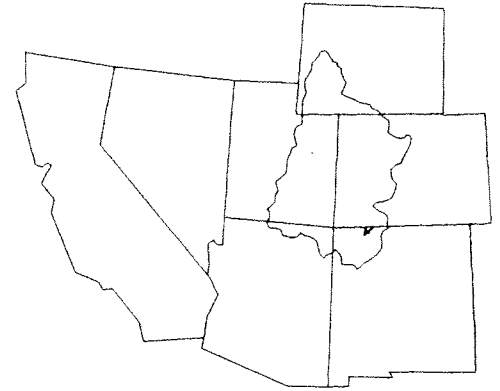
ACTUAL BLUE MESA STORAGE 1992



PROJECTED BLUE MESA STORAGE 1993



NAVAJO RESERVOIR (SAN JUAN RIVER)



Water Year 1992

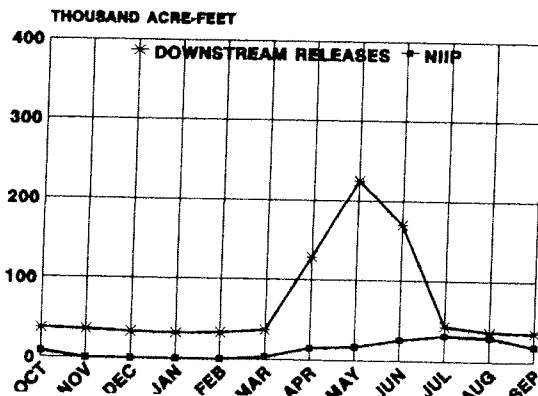
The elevation of Navajo Reservoir at the beginning of the water year was 6077.7 feet with 1,585,800 acre-feet of live storage (93 percent of capacity). At the end of water year 1992, the elevation was 6077.2 with 1,579,351 acre-feet of live storage (93 percent of capacity).

As with other drainage areas in the Upper Colorado River Basin, precipitation in the San Juan Basin was near normal. Actual inflow to Navajo Reservoir for water year 1992 was 1,026,000 acre-feet, 107 percent of normal. Peak inflow into Navajo Reservoir occurred on April 1, 1992 at 6,200 cubic feet per second. The reservoir reached a peak elevation of 6,081.6 feet on April 16, 1992.

The 1992 April through July runoff was 685,000 acre-feet or 103 percent of average. Navajo Reservoir filled in April 1992 and releases of 4,000 cubic feet per second were made in order to bypass the larger than expected April inflow.

Section 7 consultation with the Fish and Wildlife Service for the construction of the Animas La-Plata Project was completed in 1992. A seven year study to evaluate alternative operations of Navajo Reservoir to benefit endangered fish were outlined in the Final Draft Biological Opinion. In accordance with this seven year study, spring operations of Navajo were modified in 1992 and large releases of up to 4,500 cubic feet per second were made in order to study the effect of large spring flows on the spawning success of Colorado River squawfish. After the completion of the large spring releases, flows were reduced to approximately 600 cubic feet per second. The objective is to maintain a minimum release of 500 cubic feet per second from the reservoir to meet downstream water rights and to preserve the blue ribbon sport fishery located immediately downstream of the reservoir.

ACTUAL RELEASES 1992



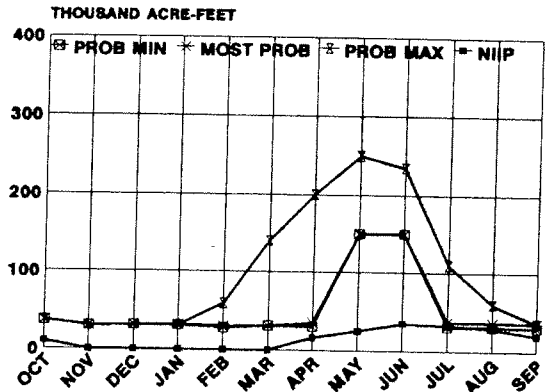
NAVAJO RESERVOIR

Reservoir	Acre-feet	Elevation, feet
Storage Capacity	1,696,400	6085
Inactive Storage	660,500	5990
Surface Area, full		15,610 Acres
Reservoir Length, full		33 Miles

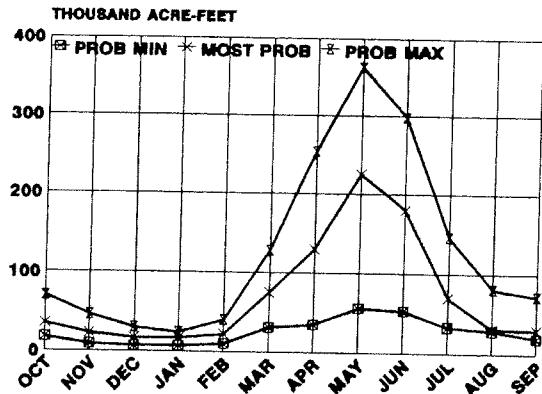
Water Year 1993

In 1993, Navajo Reservoir is expected to be 3 feet short of filling under the most probable inflow scenario. Releases from the reservoir will be held near 500 cubic feet per second through the fall and winter months and large releases will be made in May and June in order to provide better spawning conditions for endangered Colorado River squawfish located in the San Juan River. Additionally, specific releases will be made from the reservoir in order to study habitat requirements of the squawfish.

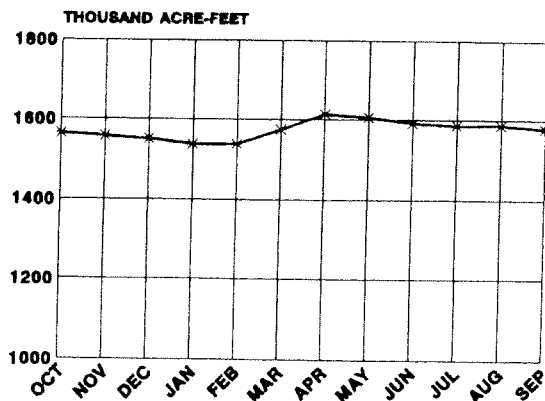
PROJECTED RELEASES 1993



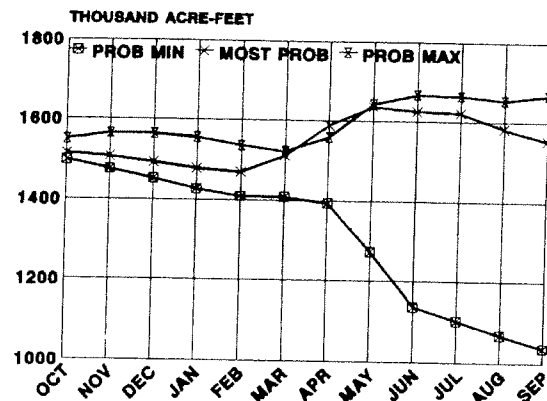
PROJECTED INFLOW 1993



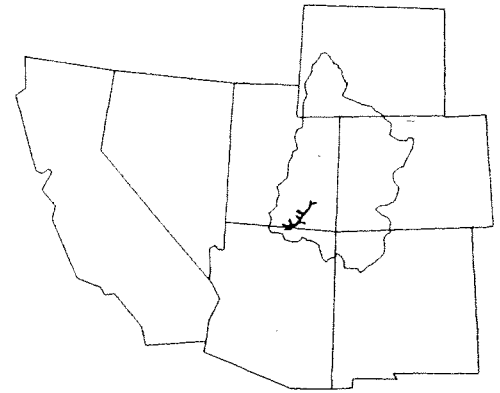
ACTUAL STORAGE 1992



PROJECTED STORAGE 1993



LAKE POWELL (COLORADO RIVER)



Water Year 1992

Lake Powell, which is impounded by Glen Canyon Dam, is operated as part of the Colorado River Storage Project (CRSP) in accordance with governing compacts and laws to provide conservation storage, river regulation, power generation, recreation, and fish and wildlife enhancement.

Lake Powell began water year 1992 at elevation 3628.5 feet with a live content of 14,694,700 acre-feet (60 percent of capacity). April through July unregulated inflow to Lake Powell was 4,199,000 acre-feet (52 percent of average). Total unregulated inflow into Lake Powell in water year 1992 was 7,202,000 acre-feet, only 61 percent of the 11,900,000 acre-feet unregulated average. Actual regulated inflow for water year 1992 was 7,657,000 acre-feet. Regulated inflow to Lake Powell peaked at 32,000 cubic feet per second on June 1, 1992.

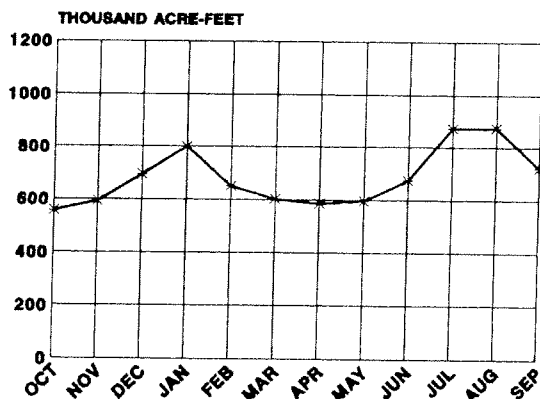
Beginning on August 7, 1991, test interim minimum and maximum releases and controlled fluctuations were established below Glen Canyon Dam, pending development

and implementation of the interim criteria on November 1, 1991. The interim criteria are intended to reduce the effects of power operations on downstream natural resources until the Glen Canyon Environmental Impact Statement is completed. Lake Powell has a minimum objective annual release of 8,230,000 acre-feet, as set forth in the Operating Criteria. The delivery of the 8,230,000 acre-feet, coupled with continued below normal inflow, reduced live storage at the end of water year 1992 to 14,085,100 acre-feet (58 percent of capacity). The reservoir elevation on September 30, 1992 was 3623.0 feet, 77 feet below the maximum pool elevation of 3700 feet.

The years 1987 through 1992 have been the lowest 6 consecutive years of inflow into Lake Powell on record. Maintaining the minimum release objective of 8,230,000 acre-feet annually from Lake Powell as set forth in the Operating Criteria during these years has reduced the reservoir storage by 9,800,000 acre-feet.

Water Year 1993

ACTUAL RELEASES 1992



LAKE POWELL

Reservoir	Acre-feet	Elevation, feet
Storage Capacity	24,322,000	3700
Rated Head	9,428,000	3570
Minimum Power	4,126,000	3490
Surface Area, full		161,390 Acres
Reservoir Length, full		186 Miles

Powerplant

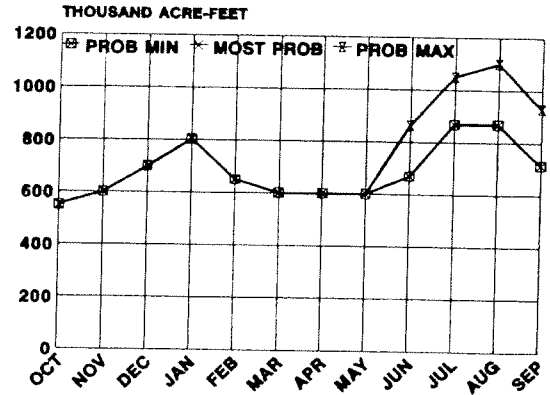
Number of Units	8
Total Capacity	1,247,000 KW

Because the level of Lake Powell has dropped considerably since 1987, the risk of releases greater than powerplant capacity during water year 1992 is negligible. Reservoir storage is projected to continue to decline through the fall and winter, reaching a seasonal low in March 1993 of about 90 feet from full at 12,800,000 acre-feet.

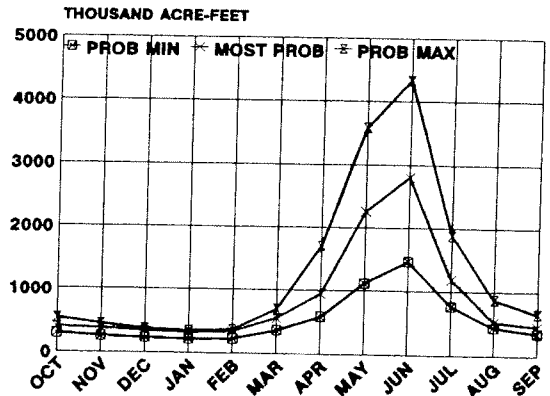
During water year 1993, the minimum release objective of 8.23 million acre-feet as set forth in the Operating Criteria will be met. Under most probable inflow conditions, the reservoir will only recover to a level about 63 feet from full or 15.7 million acre-feet. Due to the extended drought, it will take approximately 10 years of average inflow to refill the reservoir.

During water year 1993, the interim flow restrictions placed on the releases from Glen Canyon in 1992 will continue. These interim flow restrictions are based on the best technical information available and are designed to minimize any damage to downstream resources until a Record of Decision is made on the Glen Canyon Environmental Impact Statement (GCEIS) some time in 1994.

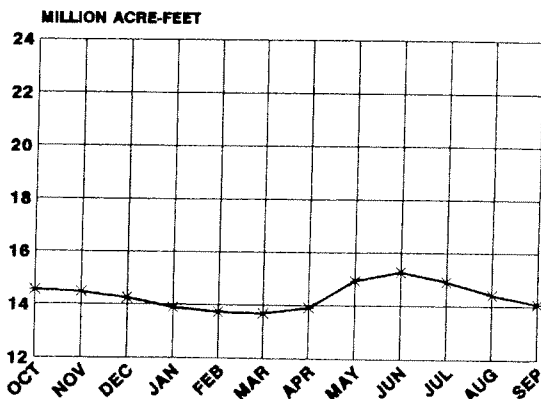
PROJECTED RELEASES 1993



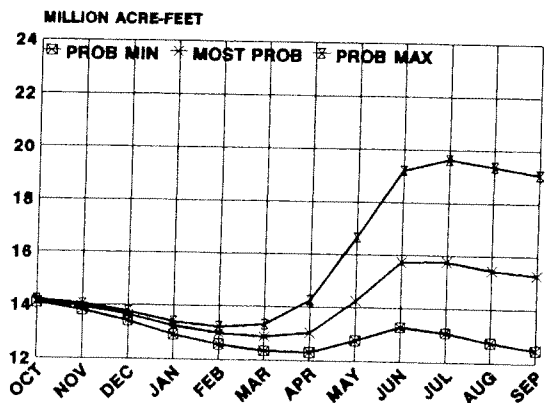
PROJECTED UNREGULATED INFLOW 1993



ACTUAL STORAGE 1992

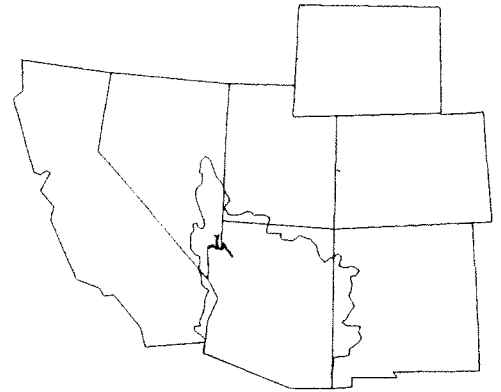


PROJECTED STORAGE 1993



LOWER BASIN RESERVOIRS

LAKE MEAD (COLORADO RIVER)



Water Year 1992

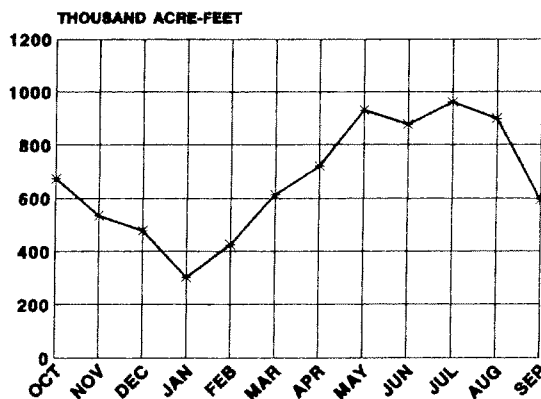
At the beginning of water year 1992, Lake Mead, impounded by Hoover Dam, had a water surface elevation of 1173 feet and an active storage of 19,233,000 acre-feet. During the winter months, the water level decreased below 1172 feet until early December and rose above 1179 feet until the end of April 1992. The water level then declined reaching a low elevation of 1173.4 feet in the third week of August, with an active storage of 19,281,000 acre-feet.

During the water year, releases were made to meet downstream water use requirements in the United States and Mexico, programmed levels of Lake Mohave and Havasu, and net transit losses which include river and reservoir evaporation, uses by phreatophytes, changes in bank storage, unmeasured inflows, and diversions to the Las Vegas, Nevada area via the Robert B. Griffith Water Project. The total

release from Lake Mead through Hoover Dam during the water year 1992 was approximately 8,007,000 acre-feet. All of the amount passed through the turbines for power production.

In addition, 280,000 acre-feet were diverted from Lake Mead by the Project. At the end of the water year, Lake Mead had a water surface elevation of 1174.4 feet and an active storage of 19,416,000 acre-feet which reflects an increase in storage during the water year of 183,000 acre-feet. On September 30, 1992, the active storage of Lake Mead was 5,331,000 acre-feet greater than the active storage in Lake Powell.

ACTUAL RELEASES 1992



LAKE MEAD

Reservoir	Acre-feet	Elevation, feet
Storage Capacity	27,377,000	1229
Rated Head	13,653,000	1123
Minimum Power	10,024,000	1083
Surface Area, full		162,700 Acres
Reservoir Length, full		115 Miles

Powerplant

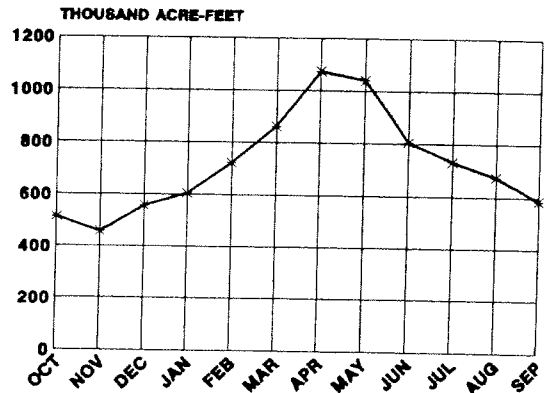
Number of Units	17
Total Capacity	1,964,500 KW

Water Year 1993

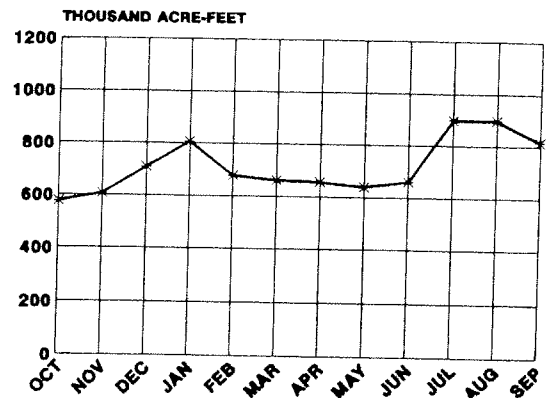
Under most probable inflow conditions during the 1993 water year, the Lake Mead water level is expected to be drawn down to elevation 1167 feet at the end of June 1993. At that level, the lake will have in active storage approximately 18.5 million acre-feet. During water year 1993, a total of approximately 8.6 million acre-feet is scheduled to be released from Lake Mead under most probable conditions, all passing through the powerplant.

The outlook for lowest and highest monthly releases of 1993 will be about 460,000 acre-feet and 1,070,000 acre-feet, respectively. Drawdown, during the peak large mouth bass spawning period in April and May, is planned to be near the limits of decline recommended in a July 1982 final report by the Arizona Game and Fish Department and the Nevada Department of Wildlife. That report summarized results of a 5 year study and recommended a drawdown rate of less than 2 inches per day.

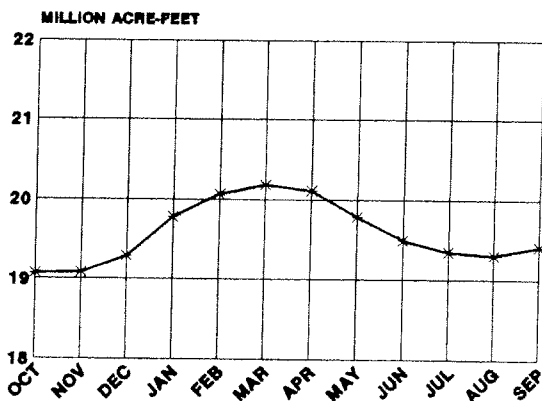
MOST PROBABLE RELEASES 1993



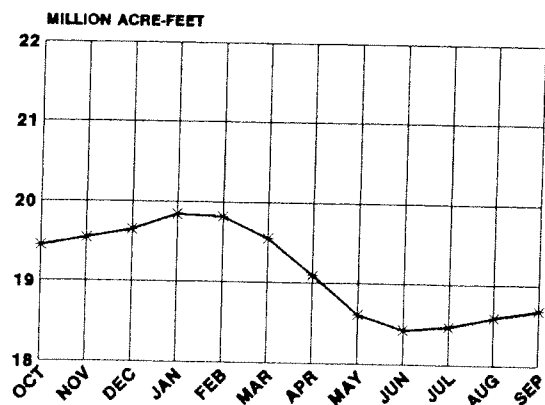
MOST PROBABLE REGULATED INFLOW 1993



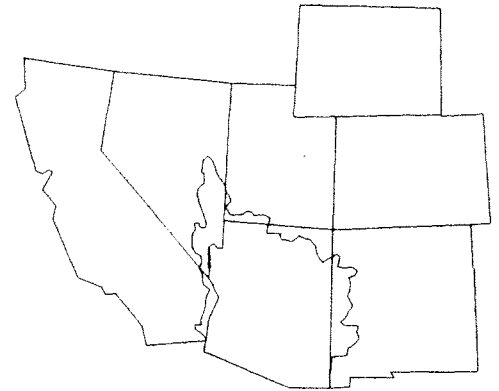
ACTUAL STORAGE 1992



MOST PROBABLE STORAGE 1993



LAKE MOHAVE (COLORADO RIVER)



Water Year 1992

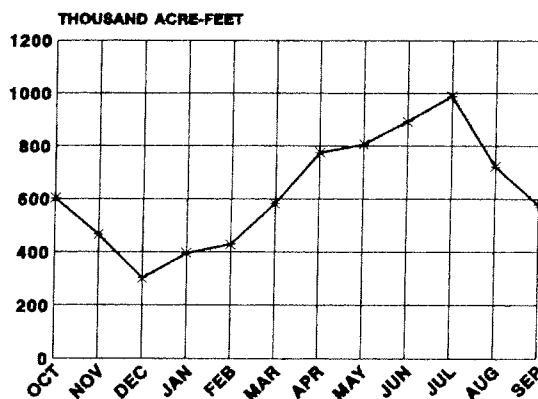
At the beginning of water year 1992, the water surface elevation of Lake Mohave, which is impounded by Davis Dam, was 638.3 feet, with an active storage of approximately 1,571,000 acre-feet.

During the month of December, 1991, Pacific storms brought unusual high amounts of precipitation to the Lower Basin causing water orders below Parker Dam to cut back in order to keep the flow of water to Mexico as low as possible. The water surface elevation of Lake Mohave rose to 646.0 with a surface content of 1,782,000 acre feet by the end of December 1991. The water level of Lake Mohave was regulated as needed between elevation 646.4 feet and 635.6 feet during the remainder of the year. The reservoir ended the water year at

an elevation of 640.2 feet, with 1,623,000 acre-feet in active storage.

Lake Mohave releases were made for downstream water use requirements, including diversions by users in the vicinities of Laughlin, Nevada; Bullhead City, Arizona; and Needles, California, by The Metropolitan Water District of Southern California (MWD), the Central Arizona Project (CAP), and the users downstream from Parker Dam. During the water year, total releases of approximately 7,540,000 acre-feet were made at Davis Dam, all of which passed through the turbines for power production. Of that amount, approximately 1,184,000 acre-feet were then pumped from Lake Havasu by MWD, and 522,000 acre-feet were pumped for the CAP.

ACTUAL RELEASES 1992



LAKE MOHAVE

Reservoir	Acre-feet	Elevation, feet
Storage Capacity	1,810,000	647
Rated Head	1,188,000	623
Minimum Power	217,500	570
Surface Area, full		28,200 Acres
Reservoir Length, full		67 Miles
Powerplant		
Number of Units		5
Total Capacity		240,000 KW

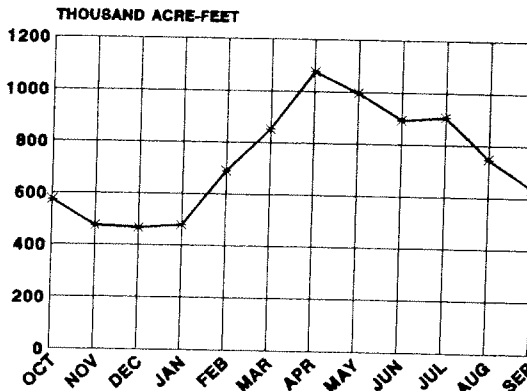
Water Year 1993

Under most probable inflow condition, the water level of Lake Mohave is scheduled to reach an elevation of about 643 feet by the end of February, 1993 and then remain at that elevation until the end of April. The reservoir will gradually drop to an elevation of approximately 631 feet by the end of the water year.

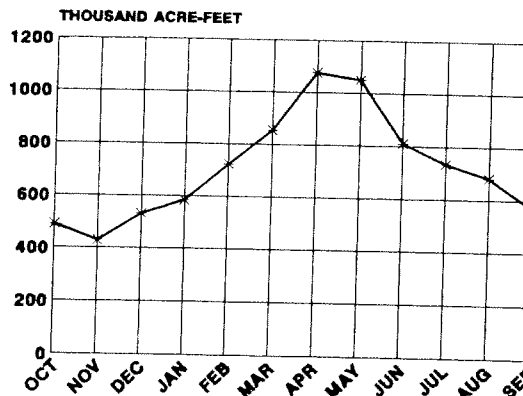
Accomplishments of the Native Fish Work Group

From earlier meetings involving the Bureau of Reclamation, Fish and Wildlife Service, National Park Service, Arizona Game and Fish Department, Nevada Department of Wildlife, and Arizona State University, a Management/Research Plan identified endangered species objectives, methodologies, and coordinated the berm modification at Yuma Cove creating a razorback sucker spawning cove in Lake Mohave. In January 1992, Yuma Cove was stocked with 90 spawning razorback suckers for "on-site" production. Over 200 young suckers produced at Yuma Cove were moved to a larger rearing facility at Davis Cove and allowed to grow, free of predation, to a length of 12 inches before being released into Lake Mohave. The goal for the next 5 years is to produce and release a minimum of 10,000 razorback suckers measuring at least 12 inches in length into Lake Mohave to augment the existing aging population, which is expected to die off in the next 10 years.

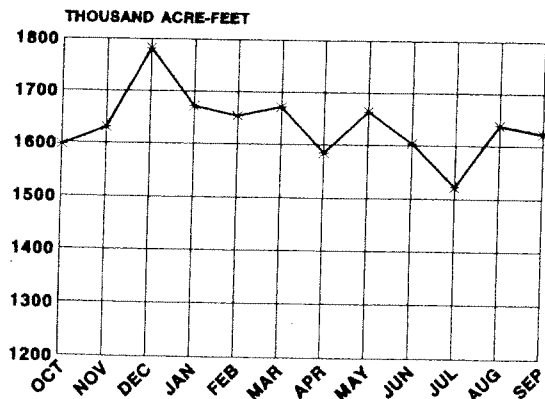
MOST PROBABLE RELEASES 1993



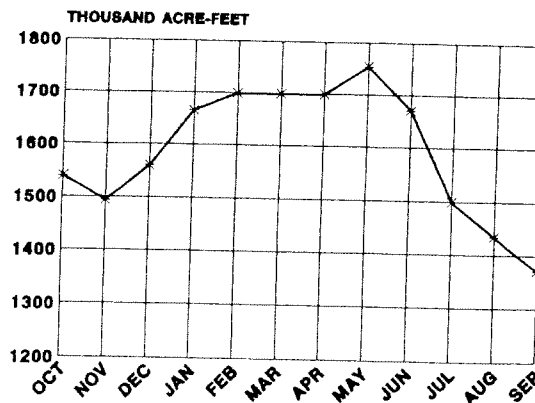
MOST PROBABLE REGULATED INFLOW 1993



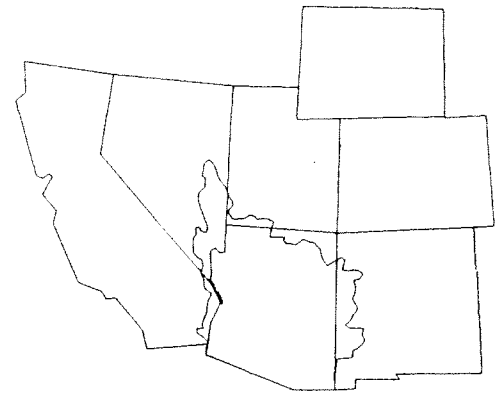
ACTUAL STORAGE 1992



MOST PROBABLE STORAGE 1993



LAKE HAVASU (COLORADO RIVER)



Water Year 1992

At the beginning of water year 1992, the water level of Lake Havasu, impounded by Parker Dam, was at an elevation of about 447 feet with an active storage of approximately 556,000 acre-feet. The reservoir was regulated between elevations 446 feet and 449 feet through April providing vacant space for runoff from the drainage area between Davis and Parker Dams. The water level was then raised to an elevation of 450 feet in early May with an active storage of about 610,000 acre-feet. At the end of the water year, Lake Havasu was at an elevation of about 446.3 feet with an active storage of 548,000 acre-feet.

During the water year, approximately 6,035,000 acre-feet were released at Parker Dam, all of which passed through the turbines for power production. In addition to the releases from Parker Dam, approximately 1,184,000 acre-feet were diverted from Lake Havasu by The Metropolitan Water District of Southern California. Diversions from Lake Havasu for the Central Arizona Project were 522,000 acre-feet during the water year.

Space in the top 10 feet of Lake Havasu (about 180,000 acre-feet) is reserved by the United States for control of floods and other uses, including river regulation. Normally, only about the top 4 feet, or 77,000 acre-feet of space, have been

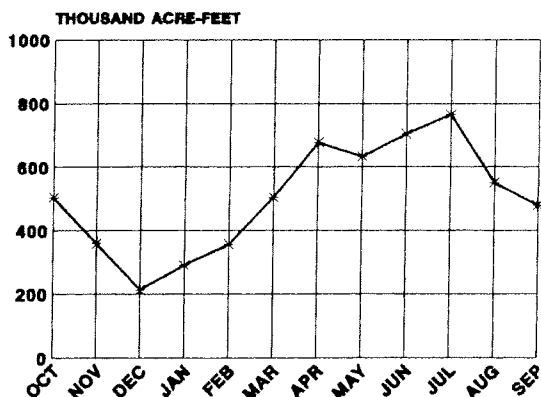
used for this purpose since the Alamo Reservoir on the Bill Williams River has been in operation.

Central Arizona Project - New Waddell Dam Operations

A key feature of the Central Arizona Project (CAP) is New Waddell Dam and Reservoir. This reservoir is located just northwest of the Phoenix metropolitan area and will serve as the primary regulatory storage facility for the CAP. Colorado River water will be pumped into and released from the reservoir via the Waddell Pumping-Generating Plant (P-G Plant). The P-G Plant consists of four 2-speed pump generator units and four adjustable-speed pumping units. New Waddell Dam and P-G Plant will allow CAP to pump and store Colorado River water in the Phoenix area during the winter months when energy and water demands are low, and then release for delivery in the summer months when energy and water demands are high.

The dam and P-G Plant are scheduled to be fully operational in 1995, with initial pump tests and reservoir filling beginning in the fall of 1992. All eight units are scheduled to be operational by the end of August 1993. Current projections indicate that CAP's use could increase by approximately 400,000 to 500,000 acre-feet as a result of filling New Waddell reservoir during calendar year 1993.

ACTUAL RELEASES 1992



LAKE HAVASU

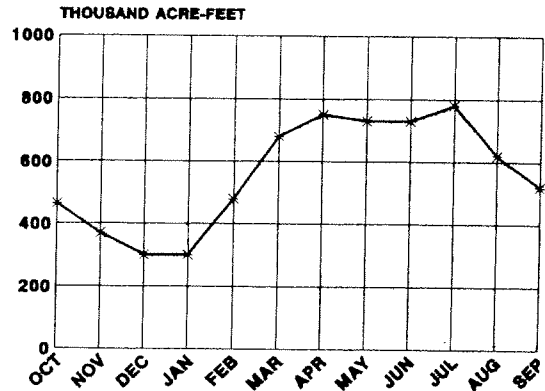
Reservoir	Acre-feet	Elevation, feet
Storage Capacity	619,400	450
Rated Head	619,400	450
Minimum Power	439,400	440
Surface Area, full		20,400 Acres
Reservoir Length, full		35 Miles
Powerplant		
Number of Units		4
Total Capacity		120,000 KW

Water Year 1993

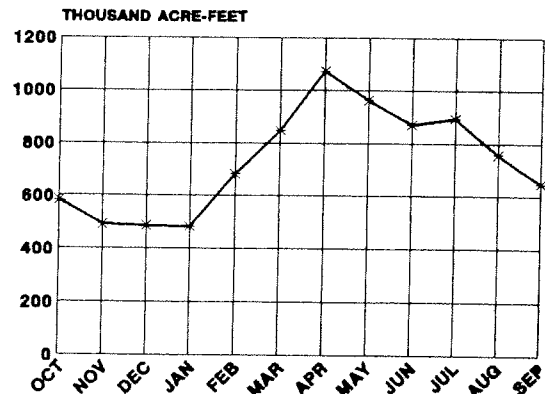
Both Lakes Havasu and Mohave are scheduled to be drawn down in the fall and winter months to provide storage space for local storm runoff and will be filled in the spring to meet higher summer water needs. This drawdown will also correspond with maintenance at both Davis and Parker Powerplants which is scheduled for September through December. The normal filling pattern of these two reservoirs coincides well with the fishery spawning period.

Lake Havasu is scheduled at the highest levels consistent with the requirements for maintaining reservoir regulation space. A yearly low elevation of approximately 446 feet is scheduled for October through February to provide storage space for local storm runoff. The yearly high of about 450 feet is scheduled in the spring to meet higher summer water needs. During water year 1993, a total of approximately 6.7 million acre-feet is scheduled to be released from Lake Havasu to meet all downstream requirements. All of that amount is scheduled to pass through the Parker Powerplant.

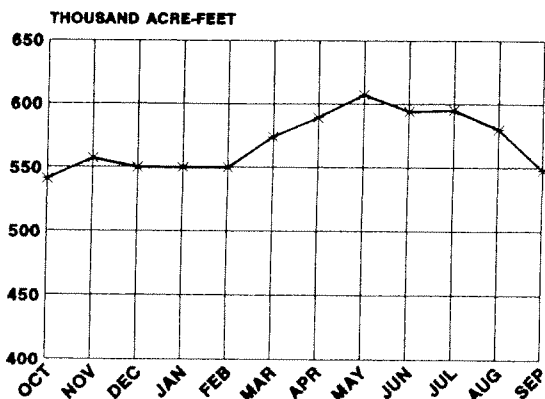
MOST PROBABLE RELEASES 1993



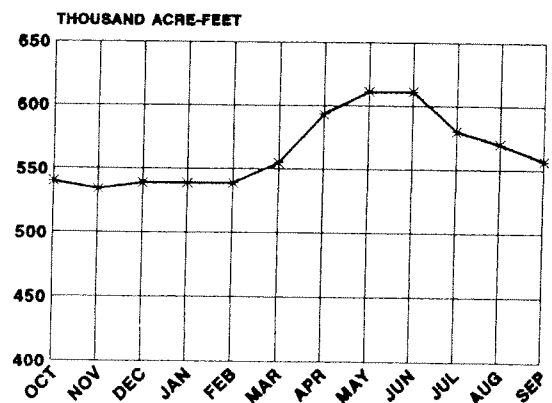
MOST PROBABLE REGULATED INFLOW 1993



ACTUAL STORAGE 1992



MOST PROBABLE STORAGE 1993



Reservoir Operations

At several locations in the Colorado River Basin, minimum instream flow levels have been established which preserve the present aquatic resources downstream of certain Colorado River Basin dams. Controlled cool water releases from dams in the Colorado River Basin have provided for increased productivity of some aquatic resources and the development of significant sport fisheries. However, the same releases could be detrimental to endangered and other native species of fishes. Section 7 consultations were continued in 1992 on the operation of the Aspinall Unit on the Gunnison River and the Animas LaPlata Project on the San Juan River (which affects the operation of Navajo Reservoir). These, along with the ongoing Section 7 consultation on Flaming Gorge and the interim flow restriction on releases from Lake Powell, will continue in water year 1993. Studies associated with these consultations will be used to better understand the flow-related needs of the endangered and other native species of fish.

Daily releases are provided from the storage reservoirs in the Lower Basin to meet the needs of water user agencies, for river regulation, and as needed for flood control. When possible, all water passes through the powerplant units. The daily releases are regulated on an hourly basis to balance the power needs of the hydroelectric power customers, the flow needs of endangered species of fish and recreational needs. In general, controlled releases allow for an extended recreation season, and reduce the high flow periods in May and June. Water years 1987 - 1992 have been dryer than normal and a return to more normal reservoir inflow levels in future years will provide increased benefits to fish, wildlife and recreation uses.

The runoff into Lake Powell for water year 1992 continued to be well below normal for the sixth straight year. Unregulated

inflow into Lake Powell was 61 percent of normal for water year 1992. Unregulated inflows for water years 1988, 1989, 1990 and 1991 were 70 percent, 54 percent, 46 percent and 71 percent of normals respectively. Storage in Lake Powell and Lake Mead is down significantly. The October 1, 1992, vacant space in these two reservoirs is approximately 18.2 million acre-feet. This vacant space has resulted from six successive years of low inflow and the requirement to maintain the minimum deliveries to meet obligations pursuant to "The Law of the River".

Operational objectives at and below Laguna Dam are to reregulate releases from Imperial Reservoir to conserve water, control sediment, and maintain the river channel. Storage above Laguna Dam in the reservoir, in surcharge, and in bank storage provides for controlled flows in the river at Yuma and the Northerly International Boundary. When combined with downstream drainage, Laguna releases provide a continuous live stream for recreation and fish and wildlife. On a few occasions each year, higher releases from Laguna Reservoir, caused by rainstorms or user rejected water orders, are used to maintain river channel capacity. This occasional practice reduces channel maintenance expense without impairment to water conservation or power production.

Based on existing reservoir conditions and river regulation operations below Hoover Dam, the total 1993 delivery to Mexico is scheduled to be a treaty delivery of 1,500,000 acre-feet for the calendar year. In addition, approximately 140,000 acre-feet of drainage waters are expected to bypass to the Gulf of California via the Bypass Drain during calendar year 1993. This bypass channel was constructed pursuant to provisions of Minute No. 242 of the International Boundary and Water Commission.

Flood Control

Lake Mead is operated in accordance with updated flood control regulations which are specified in the Field Working Agreement between Reclamation and the Corps of Engineers, signed in 1982. The regulations stipulate the minimum release levels needed from Lake Mead to route the reasonable maximum inflow. The reasonable maximum inflow is the estimated inflow volume that, on the average, will not be exceeded 19 out of 20 times. This volume is derived by adding an "uncertainty" term to the most probable runoff forecast. In 1983, unusual hydrometeorological events resulted in unprecedented large forecasting errors. Subsequent reassessment of the estimate of the "uncertainty" term led to adoption of larger values for use in determining the reasonable maximum inflow in 1984 and thereafter.

Due to the amount of vacant storage space in Colorado River reservoirs, no flood control releases are anticipated in 1993, but in future years, as Lake Mead refills and flood control releases are again required by the Hoover Dam Flood Control Regulations, consideration will be given to making those releases over the fall and winter months to avoid high flow rates during the January to July runoff season. This distribution of water reduces the chance of bypassing hydroelectric powerplants below Hoover Dam and avoids the adverse impacts of higher flood control releases on fish and wildlife, recreation, water quality, and river stabilization.

Routine maintenance of bankline protection facilities were carried out during water year 1992. As in the previous years, greater than normal bankline repair was necessitated in part by increased wave action from boating and other recreational river traffic. During water year 1992, the river channel in the Lower Basin has remained in good balance, neither aggrading nor degrading significantly in any particular reach.

Total Colorado River reservoir system storage at the start of water year 1992 was approximately 42.2 million acre-feet and about 41.2 million acre-feet at the end of the water year, representing a 1.0 million acre-foot decrease in total remaining available reservoir space.

Alamo Dam on the Bill Williams River and Painted Rock Dam on the Gila River (in the Lower Basin) received minor flood inflow during water year 1992. During water year 1993, the Corps of Engineer flood control facilities Painted Rock and Alamo Reservoirs are expected to be operated in coordination with Reclamation project releases and in accordance with established flood control criteria to maximize the available flood control space in their respective reservoirs.

Beneficial Consumptive Uses

An extensive discussion of consumptive uses is treated in detail in Reclamation's "Colorado River System Consumptive Uses and Losses Report, 1981-1985." This report is prepared jointly by the Upper and Lower Colorado Regional Offices. The report presents estimates of the consumptive uses and losses from the Colorado River System for each year from 1981 through 1985. The table on the following page was created using the data from the Consumptive Uses and Losses Report (June 1991). The table summarizes annual water use from the system by States, including water use supplied by ground-water overdraft. Work is now taking place to compile the 1986-1990 report. For the 1986-1990 report new techniques will be utilized to compute consumptive uses and losses. The new report will use Geographic Information Systems, Remote Sensing and Image Processing to determine irrigated acres, crop types and to compute the consumptive uses of these crops. It is expected that the 1989-1990 report will be completed in 1994.

Upper Basin Uses and Losses

The three largest categories of consumptive use and losses in the Upper Colorado River Basin are agricultural uses within the basin, transbasin diversions to adjacent drainages, and evaporation losses from the major reservoirs. Estimated evaporation losses were about 592,000 acre-feet from Upper Basin reservoirs in water year 1992. In water year 1991, 746,244 acre-feet were diverted for use in adjacent drainages. The total for transbasin diversions in water year 1992 has not yet been tabulated but the figure is expected to be similar to the 1991 total.

Lower Basin Uses and Losses in the United States

During water year 1992, an estimated 6.0 million acre-feet of water were released from Lake Havasu (Parker Dam) to meet the requirements for water deliveries at Imperial Dam, as well as those of the Colorado River Indian Reservation near Parker, Arizona, the Palo Verde Irrigation District near Blythe, California, other miscellaneous users along the river, and transit losses between Parker Dam and Imperial Dam.

The major water diversions above Parker Dam were by The Metropolitan Water District (MWD) of Southern California and the Central Arizona Project (CAP). MWD pumped approximately 1,187,000 acre-feet from Lake Havasu during

water year 1992, and approximately 522,000 acre-feet were pumped for the CAP.

Releases of approximately 7.5 million acre-feet were made from Lake Mohave during water year 1992, to provide for releases to meet minimum downstream needs in the United States at Parker Dam; to supply diversion requirements of MWD and CAP, miscellaneous contractors, and other users; to offset evaporation and other transit losses between Davis and Parker dams; and to maintain the scheduled levels of Lake Havasu.

During water year 1992, releases of approximately 8.0 million acre-feet were made from Lake Mead at Hoover Dam. These releases regulate the levels of Lake Mohave, provide for the small users on that reservoir, and provide for releases at Davis Dam to meet needs in the United States. In addition, 280,000 acre-feet were diverted from Lake Mead for use by the Lake Mead National Recreation Area; Boulder City; Basic Management, Inc.; and contractors of the Colorado River Commission of Nevada. Of the diversions from Lake Mead, approximately 160,000 acre-feet were consumptively used and the remainder returned to Lake Mead. Total releases and diversions from Lake Mead during water year 1992 were 8,290,000 acre-feet.

For water year 1993, a total release of 6.7 million acre-feet from Lake Havasu is projected, including consumptive use requirements in the United States below Parker Dam, transit losses and regulation in the river between Parker Dam and the Mexican Border, and treaty deliveries to Mexico.

It is expected that MWD will divert 1,300,000 acre-feet by pumping from Lake Havasu during water year 1993. Similarly, the CAP is expected to pump approximately 750,000 acre-feet. Consumptive uses by small users, river losses or gains, and reservoir losses between Davis Dam and Parker Dam are projected to be a net loss of 35,000 acre-feet.

There are no major users between Hoover Dam and Davis Dam. During water year 1993, diversions from Lake Mead are projected at 310,000 acre-feet. Evaporation from Lake Mead is projected to be about 800,000 acre-feet and net gain between Glen Canyon Dam and Lake Mead is expected to be about 800,000 acre-feet.

Water Use by States and Water Passing to Mexico

Water use by states, basins, and tributaries¹

(1,000 acre-feet)						
State	1981	1982	1983	1984	1985	Average 1981-85
Arizona	6,167	5,143	4,237	5,041	4,838	5,085
California	4,839	4,349	3,953	4,679	4,710	4,506
Colorado	2,086	2,106	1,920	1,865	1,994	1,994
Nevada	350	352	339	355	373	354
New Mexico	342	425	425	417	401	402
Utah	782	746	718	762	879	777
Wyoming	341	330	346	307	336	332
Other ²	1,598	1,403	1,896	1,197	1,783	1,575
Total						
Colorado River Basin . . .	16,505	14,854	13,834	14,623	15,314	15,025
Water Passing to Mexico						
Treaty	1,751	1,495	1,646	1,694	1,671	1,652
Minute 242	131	146	166	138	131	142
Excess Releases	2,115	176	7,970	15,160	11,594	7,403
Total						
Water Passing to Mexico . .	3,997	1,817	9,782	16,992	13,396	9,197
Total - Colorado River System and Water Passing to Mexico						
	20,502	16,671	23,616	31,615	28,710	24,222

NOTE:

¹The above states' uses are onsite consumptive uses and losses and include water uses satisfied by groundwater overdrafts.

²Represents main stem reservoir evaporation in the Upper Basin and main stem reservoir evaporation and channel loss below Lee Ferry in the Lower Basin.

Source - "Colorado River System Consumptive Uses and Losses Report, 1981-1985 (June 1991)"

Power Operations and Major Maintenance Activities

Upper Basin - Colorado River Storage Project

During water year 1992, work was performed to uprate Unit 2 at Flaming Gorge and Unit 1 at Morrow Point. Unit 2 at Morrow Point is scheduled for uprating during water year 1993. Seal rings on Unit 3 at Glen Canyon were replaced in water year 1992. Seal rings on Unit 4 at Glen Canyon are scheduled to be replaced in water year 1993.

The following table summarizes CRSP power generation for fiscal year 1991. A breakdown by percent of power sources, disposition, and revenues for fiscal year 1991 is shown on the opposite page. Summaries for CRSP generation, purchases, disposition, and revenues from power operations for fiscal year 1992 have not yet been tabulated.

CRSP Power Generation

Water Year 1991

Sources of Energy	Kilowatt-hours
Net Generation	
Blue Mesa	234,907,000
Crystal	142,117,000
Flaming Gorge	303,363,000
Fontenelle	61,758,000
Glen Canyon	3,634,447,000
Morrow Point	<u>287,812,000</u>
Sub-total-	
Net Generation	4,664,404,000
Miscellaneous	Kilowatt-hours
Purchases	1,486,000,000
Interchange Receipts	450,000,000
Energy Charges	
to Transmission	
Service Customers	<u>19,596,000</u>
Sub-total-Miscellaneous	<u>1,955,596,000</u>
Total Energy From	
All Sources	6,620,000,000
Disposition of Energy	Kilowatt-hours
Firm Energy Sales	5,538,235,000
Nonfirm Energy Sales	
Emergency	
Fuel Replacement	
(Oil Conservation)	278,891,000
Interchange Deliveries	171,120,000
System Losses	<u>631,754,000</u>
Total Energy Distributed	6,620,000,000

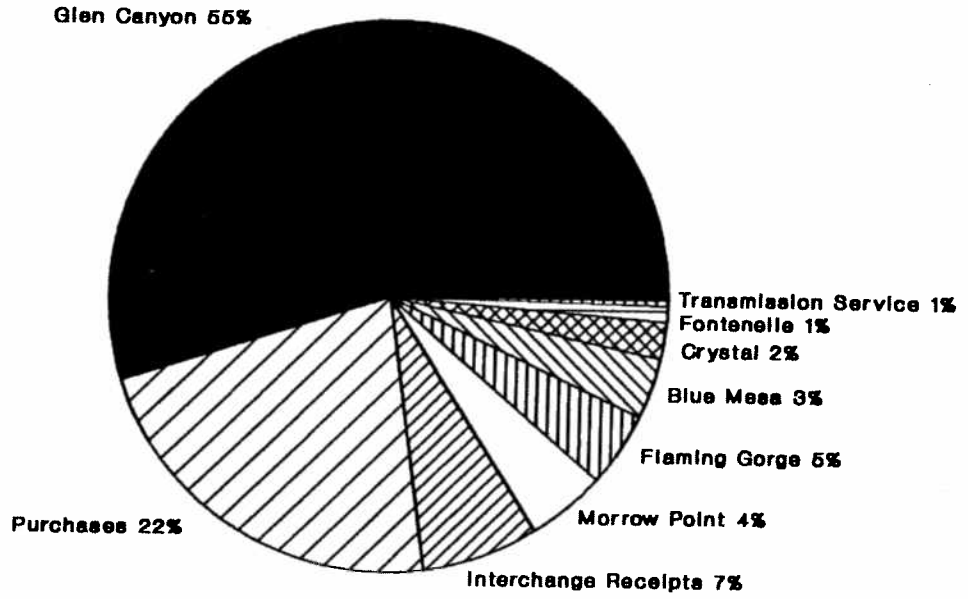
Revenue	Dollars
Firm Power Sales	\$ 84,237,761
Non Firm Power Sales	
Emergency	
Fuel Replacement	
(Oil Conservation)	4,699,771
Reserve Capacity	0
Parker-Davis Project	
Firming	0
Transmission Service	7,059,790
Rental of Substation Facilities	187,562
Miscellaneous Revenue	<u>64,168</u>
Total Gross Revenue	\$ 96,249,052

Water Year 1992

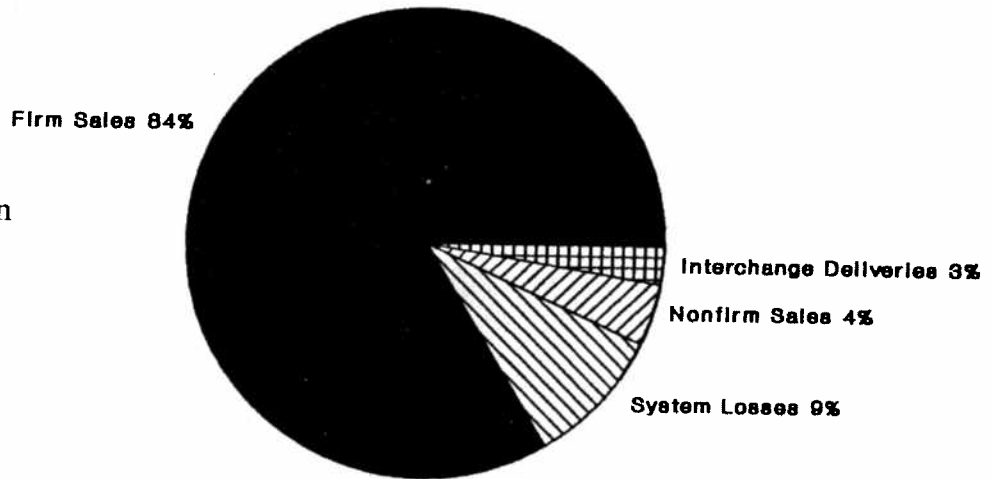
(Projected)	Kilowatt-hours
Estimated Firm Energy Sales	5,733,587,000
Estimated Nonfirm Sales	200,000,000
Estimated Purchases	1,367,783,000
Estimated Peaking	
Capacity Sales (Per Month)	
Winter 1991-92	0
Summer 1992	0
Estimated Revenue	\$ 115,545,782

Colorado River Storage Project Power Operations
 (Water Year 1991)

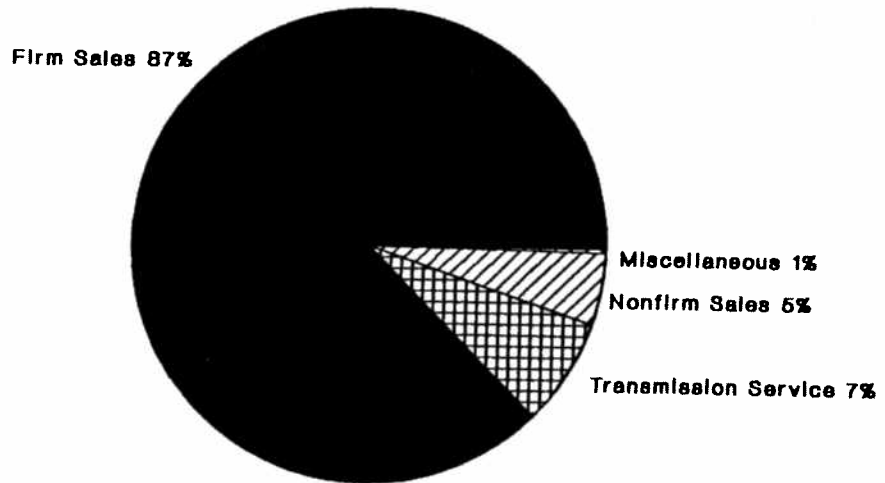
Energy Sources



Energy Disposition



Revenue



Power Operations [Cont.]

Lower Basin

Water Year 1992

On June 1, 1987, the United States assumed operation and maintenance responsibility of Hoover Powerplant and associated switching stations, after the 50-year contract with operating agents (The City of Los Angeles and its Department of Water and Power, and Southern California Edison Company, Ltd.) expired. The "General Regulations for Generation and Sale of Power in Accordance with the Boulder Canyon Project Adjustment Act", promulgated on May 20, 1941, provided the basis for computation of charges for electrical energy generated at Hoover Dam through May 31, 1987. The Department of Energy Organizational Act of 1977 transferred the responsibility for the power marketing and transmission functions of the Boulder Canyon Project from the Bureau of Reclamation (Reclamation) to the Western Area Power Administration (Western). The power marketing functions of Western include the responsibility for promulgating charges for the sale of power. The construction, power generation, operation, maintenance, and replacement responsibilities associated with the Hoover Powerplant and appurtenant works remained with Reclamation.

Marketing of Parker-Davis power and operating the transmission system are the responsibility of Western. Reclamation continues to operate and maintain the dams and their powerplants, a function of the Lower Colorado Dams Project Office.

Davis and Parker Powerplants continue to be operated by remote control from Western's Supervisory Control and Data Acquisition (SCADA) computer system located at their Phoenix Area Office. The SCADA system monitors and remotely controls the powerplant generating units to adhere to water schedules provided by Reclamation's water scheduling branch located at the Lower Colorado Dams Project, Hoover Dam. Routine maintenance was performed at Davis and Parker powerplants.

The total energy delivered to the Hoover contractors during the 1992 fiscal year (October 1, 1991 through September 30, 1992) was 3,716,512,000 kilowatt-hours. Of that amount, the Schedule A contractor received 3,086,942,000 kilowatt-hours and the Schedule B contractor received 629,570,000 kilowatt-hours. Schedule C contractor received no deliveries in the 1992 operating year.

In fiscal year 1992, one generating unit, A8, at Hoover Powerplant was uprated. This increased the usable capacity by 11.5 megawatts and brought the total plant capacity to 1964.0 megawatts. Of the 17 generating units at Hoover powerplant, 14 have been uprated.

Three generating units remain to be uprated. Unit A3 is in the process of being uprated and is scheduled to be completed in January, 1993. Unit A4 is scheduled for completion in March 1993. Unit N8 is scheduled for completion in January 1993. The total Hoover Powerplant capacity, at the completion of uprating, is estimated to be a maximum of 2,074 megawatts. Principal work under the contract includes conducting a study of each existing generator's design, furnishing and installing necessary new components, and modifying the generator's, as required, to accomplish the proposed uprating. The objective is to uprate the generators by the optimum amount, based on water availability and economic feasibility. Studies show that sufficient water, head, and turbine capacity are available to produce significantly more generator output than the existing generator ratings will allow.

Water Year 1993

In operation studies of Lake Mead and Lake Powell for the operating year which ends September 30, 1993, the amount released at Hoover Dam have been projected to satisfy both downstream water requirements, including diversions by The Metropolitan Water District and the Central Arizona Project while also complying with the overall requirements to meet Compact, flood control, and operating criteria release provisions. The water scheduled to be released will generate Schedules A and B energy. The estimated monthly Hoover releases during water year 1993 total 8.6 million acre-feet. It is estimated that generation from these Hoover releases will result in delivery to the approved contractors of approximately 3.9 billion kilowatt-hours of electrical energy.

Normal routine maintenance at Hoover Powerplant has been scheduled around the uprating program outages, and upon completion of the uprating program in March of 1993 maintenance will return to a more normal schedule. The four main penstocks are scheduled for inspection and repair during the next 2 years.

The Hoover Uprating Program was authorized by the Hoover Powerplant Act of 1984 (ACT), which finalized an historic three-State agreement on the marketing of Hoover power after the original contracts terminated on May 31, 1987. The Act also requires that the Hoover Uprating Program be undertaken with funds advanced by the non-Federal purchasers of Hoover power.